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BASIC CHARACTERISTICS OF COMPETITIVE RELATIONS IN THE AFTER-SALES MARKET OF MOTOR VEHICLES IN SERBIA

Osnovna obeležja konkurentskih odnosa na posleprodajnom tržištu motornih vozila Srbije

Abstract

The aftermarket (guarantees, services, sales and use of replacement parts and accessories) is characterized by a large number of users on the demand side, while acquisition of this type of product is treated as capital procurement (purchase of cars, trucks, buses, etc.). Capital procurement is symbolized by large expenditures, a relatively long shelf life, as well as a significant share of maintenance costs, namely servicing the products at the expense of the buyer, etc. After-sales servicing and the supply of spare parts provided by individual manufacturers are important elements when deciding on the purchase of a vehicle. However, it is difficult for consumers to foresee the cost of total purchase (the price of the primary product and the total cost of post-sales services over the period of use), since vehicles are consumed for a long period of time after the purchase (and expiration of the warranty period) which includes a large number of regular servicing and emergency repairs. Accordingly, the primary goal of this paper is to deepen the knowledge and analysis of the basic features of this market, which is significant for the budget of a large number of users, since the previous information on the topic is extremely limited. In addition, the analysis of the structure and the main actors (authorized and independent service providers) and their competitive relations is of great importance for all drivers of motor vehicles, as it can assist them in planning and budgeting not just of repairs but also the purchase of motor vehicles, and accordingly reduce the risk of poor decisions related to the purchase of primary products and selecting providers of after-sales service during the period of use of the product.

Keywords: *aftermarket, motor vehicle, competition, automotive, Serbia*

Sažetak

Tržište posleprodajnih usluga (garancije, servisne usluge, promet i korišćenje rezervnih delova) karakteriše veliki broj korisnika na strani tražnje, dok se nabavka ove vrste proizvoda tretira kao kapitalna nabavka (kupovina automobila, teretnog vozila, autobusa i dr). Kapitalnu nabavku odlikuje veliki novčani iznos, relativno dug rok trajanja proizvoda, kao i značajno učešće troškova održavanja, odnosno servisiranja proizvoda u budžetu kupca i sl. Postprodajne usluge servisa i nabavke rezervnih delova koje pružaju pojedini proizvođači važni su elementi prilikom odlučivanja o kupovini nekog vozila. Međutim, potrošačima je teško da sagledaju cenu ukupne nabavke (cenu primarnog proizvoda i ukupne troškove postprodajnih usluga u toku perioda korišćenja), s obzirom na to da se vozila koriste u dugom vremenskom periodu nakon kupovine (i isteka garantnog roka) što uključuje veliki broj redovnih servisa i vanrednih popravki. Shodno tome, primarni cilj ovog rada je produbljivanje saznanja i analiza osnovnih obeležja ovog tržišta, značajnog za budžet velikog broja korisnika, jer su dosadašnja saznanja o njemu izuzetno ograničena. Uz to, analiza strukture i glavnih aktera (ovlašćenih i samostalnih servisera) i njihovih konkurentskih odnosa od velikog je značaja za sve vozače motornih vozila jer im može pomoći prilikom planiranja i budžetiranja ne samo popravki već i kupovine motornih vozila i smanjiti rizik od pogrešno donetih odluka vezanih kako za kupovinu primarnog proizvoda tako i za izbor pružaoca posleprodajnih usluga u toku perioda korišćenja motornih vozila.

Ključne reči: *posleprodajno tržište, motorna vozila, konkurencija, autoindustrija, Srbija*

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Introduction

Aftermarkets (secondary markets) can be defined as markets for complementary products (secondary products) which are usually purchased subsequent to the purchase of another, related product (primary product) [7], [13]. Over the past few decades, as a result of altered customer demand, as well as of increased competition and diminishing profit margins, the aftermarket business has gained strategic importance for numerous industries. The aftermarket services stabilize long-term revenues of firms, enhance customer satisfaction, but also offer a vital strategic weapon in a competitive environment. For these reasons, an increasing number of firms acknowledged aftermarkets as an abundant source of revenue and profit.

The aftermarket is reasonably different from the "classic" market of products and (some other type of) services, for several reasons:

- The aftermarket is significantly determined by the primary market, since the change in volume and structure of the automotive market remarkably influences the movement in the relevant secondary, post-sales market of motor vehicles;
- The position of the suppliers in the primary market greatly influences the intensity of competitive relations and, consequently, the level of product prices in the post-sales services market and other competition parameters. However, there is a possibility that suppliers who do not hold a dominant position in the primary market and operate at different levels of the production and sales chain by using certain non-price or price factors, significantly affect the intensity of competition in the aftermarket, by applying different marketing strategies aimed at linking the buyer of the primary product with after-sales services, provided by the OEM and/or their distributors and servicers;
- Many suppliers operate simultaneously in the primary and secondary markets, achieving a significantly higher level of profit in secondary market, and creating recommendations for entry of competitors to the primary or secondary market.
- The automotive aftermarket represents an important subsystem of the overall services market. The United States automotive aftermarket is estimated to be worth \$318.2 billion (2013), contributing with more than 2.3% to GDP. The aftermarket employs 4.2 million people who work at manufacturers, distributors, retailers and repair shops [2]. In Western Europe, over 848 thousand companies that employ 4.7 million people operate in various segments of this market, and the market generates significant revenues, which even exceed revenues from the sales of new vehicles. Here, producers report that 67% of their revenue comes from the aftermarket, while 33% is related to the sales of new vehicles. At the same time, it is considered a very lucrative activity (the so-called cash cow) for motor vehicle manufacturers, where producers achieve high profit rates [33, p. 7].

In the Republic of Serbia, the automotive aftermarket involves a large number of economic entities (over 2,000 companies and a number of entrepreneurs dealing with servicing and trading in spare parts). It is considered as a complex, fragmented and often non-transparent market. A significant number of servicemen (and self-employed handyworkers) operate in the gray area, and according to the results of the conducted survey, the quantity of spare parts that are marketed through gray channels and mostly come from car wastes is not negligible. Therefore, it is very difficult to precisely determine the dimensions of this post-sales market, as well as the business methods and behavior of all relevant actors.

The automotive aftermarket (guarantees and services concerned with the manufacturing, remanufacturing, distribution, retailing and installation of all vehicle parts, chemicals, equipment and accessories) in Serbia, or its competitive relations, have not been the subject of a more detailed analysis so far, and therefore the information about this market is extremely limited. As it is an unexplored market, whose characteristics preoccupy the majority of drivers, the authors of the paper believe that examination of the basic dimensions, structure, characteristics and current problems in the automotive aftermarket is significant both for the actors and for the state that should promote responsible behavior of all participants in this market through appropriate legal regulations. Therefore, the fundamental aim of the research is to identify specific market structure, the behavior of market players and the types of relations between them, as well as the analysis of the factors affecting the after-sales service and customer satisfaction.

Literature review

Given its size and growth prospects, it is surprising that the automotive aftermarket has so far been explored in a relatively small number of studies and scientific papers. Contrary to other main business processes, the aftermarket has long been treated by business literature without the attention it deserves [4], [23]. However, a number of studies have recently investigated the increasing importance and role of aftermarket services from various perspectives.

Different authors point out that aftermarket services have occurred as a major source of competitive maneuvering, so companies struggle for competitive advantages with their after-sales service portfolio to differentiate their offer from the competitors [31], [40]. In addition, it is denoted that the after-sales activities are recognized as a primary source of revenue, profit and competitive advantage for many industries [30]. The provider can ensure product functionality and thereby customer satisfaction by offering different aftermarket services, and therefore they can establish sustainable relationships with customers and contribute significantly to customer satisfaction [22]. This may lead to a fruitful relationship between the provider and the customer over time, hence securing more transactions [3].

A certain number of studies that were devoted to the automotive aftermarket has mainly focused on adequate service portfolios for particular products or market segments and aftermarket management [9], [24], as well as spare parts logistics and inventory management [38]. In their research, Domazet and Simeunović (2015) aimed to determine the importance of the criteria that motor vehicle users choose as the starting point for selecting the insurance company. The results of their research showed that the proximity of technical inspection and repair services of motor vehicles, together with the price, is one of the most important criteria for the selection. Furthermore, the focus of a certain number of studies has been on the critical factor of a company's success [19], particularly on spare parts supply, optimal warranty periods, components which should be included or excluded from the warranty, approaches to better utilize the benefits of the replacement parts business, analysis of supply strategies, optimal final order quantities, and so forth.

A large number of papers on the topic of after-sales services market was dedicated to the analysis of various phenomena in the automotive industry. Ehinlanwo and Zairi (1996) performed a study on the concept of motor vehicles after-sales services implemented in Germany and it was conducted by benchmarking four key players including Fiat AG, Nissan Deutschland, Toyota GmbH and Ford Werk AG. They explained the necessary factors responsible for contributing to the after-sales sector in marketing of motor vehicles.

Certain authors [29] have dealt with the practice of durable goods manufacturers who are trying to keep the post-sales services market exclusively for themselves by charging higher prices for their products and services. In doing so, they pointed out that customers are often ready to pay higher prices for repairs and services if they have the benefit of acquiring a high-quality and long-lasting replacement part. It is also observed that the restriction of competition in the automotive aftermarket can strengthen competition in the primary product market [28]. In contrast to the end customers, who are often short-sighted and do not take into account the costs of maintenance and repairs when purchasing consumer durables, manufacturers regularly calculate profit from the sales of primary products and profit from maintenance and repair services. In conditions of strong competition in this market, they may be willing to lower the price of the primary product if they estimate that the lost profit from the sales will be compensated by the profit from the services provided in the secondary market. According to Dombrowski and Engel (2014), the automotive market is presently undergoing a remarkable change – moving from the conventional internal combustion engines to electric mobility. All the various stakeholders operating in the field of the automotive aftermarket will be influenced by this change.

Last but not least, numerous researchers have concentrated on the legal aspects of aftermarkets. The 1992 "Kodak decision" by the US Supreme Court raised several questions about aftermarkets, and especially about the circumstances under which behavior by the OEMs can have anticompetitive effects [17], [21].

In legal literature, particular attention was drawn to the issue of restrictions in vertical agreements related to competition and the welfare of consumers. By imposing vertical restraints, the manufacturer achieves economic benefits in the form of sales growth, providing additional services for customers and promotional efforts. Bork (1993) argued that vertical agreements are eligible for restricting competition between the distributors of the same brand (intrabrand competition), but that they have no effect on the competition between distributors of different brands (interbrand competition). The OEM thus limits the freedom of the distributor to independently determine the price of its product in further sales or narrows the number of distributors in a particular territory, thereby eliminating competition among the distributors of its brand. The ability of the manufacturer to charge a higher price and achieve greater profit depends on its exposure to the competition of manufacturers of other brands, that is, the power of the interbrand competition.

Finally, in Serbian scientific and managerial literature little attention has been devoted to automotive aftermarket. There is a huge gap between the importance of the aftermarket business for an increasing number of companies and scientific literature dealing with aftermarkets and strategic positioning of its players. In particular, to the best of our knowledge, no publication exists which inspects the Serbian motor vehicle aftermarket competition relations. Although primarily focusing on the aspect of regulatory conventions in the competition protection segment, the study titled Aftermarkets[2], prepared in 2016 for the needs of the Commission for Protection of Competition, provided the analysis of the key dimensions and issues of household appliance and automotive aftermarkets.

Data and methodology

In order to obtain a clear picture of the size and structure of the automotive aftermarket in Serbia and its competitive relations, the research was conducted with a combination of desk, field and expert research methods.

Desk research included the collection and analysis of aggregate data relevant to the after-sales services market, as well as the analysis of the legal framework in Serbia and the EU regulating the aftermarket. The basic sources of aggregate data and information for the preparation of the study were: data from the Serbian Business Registers Agency on the number of participants in the market based on their main activity, as well as the entry and exit of participants in this market and their ownership structure; data from the Ministry of Finance – Customs Administration on import and export of relevant types of products (motor vehicles, best-selling white goods, replacement parts); data from the Ministry of Internal Affairs of the Republic of Serbia, Traffic Police Directorate on the number, structure and age of motor vehicles registered in the territory of the Republic of Serbia; data from the Ministry of Trade of the Republic of Serbia on the sales of white goods and consumer complaints in the motor vehicle and white goods sector; data from the Statistical Office of the Republic of Serbia on production of goods, import and export of motor vehicles and household appliances; data of the Serbian Chamber of Commerce, Trade Association, Commission for Protection of Competition and publicly available data on the Internet.

Field research was carried out in the period from February to May 2017, covering a survey of 68 relevant market participants who belonged to different segments of the automotive aftermarket (importers/distributors of motor vehicles, authorized motor vehicle servicers, independent motor vehicle servicers, motor vehicle spare parts retailers, consumer associations). In selecting companies for the sample of the field research, the basic criteria were: generated income, number of employees, significant share in import, wholesale and retail of motor

2 The results of the research presented in the study Aftermarkets (2016), whose creators are the authors of this paper, are used exclusively as a secondary data source, while the field research conducted in 2017 resulted in the original research data presented in this paper.

vehicles replacement parts. In addition to registered businesses for the listed activities, the sample includes business entities registered as entrepreneurs involved in the servicing of motor vehicles, who represent significant market entities. The survey was carried out on the basis of semi-structured questionnaires, with, in individual cases, a personal interview on the characteristic problems in this segment of the market. After completing all the interviews, the analysis was conducted based on data and cross-case analysis. Research results are presented in the following section of the paper.

Results and discussion

Basic characteristics of the automotive aftermarket in Serbia

There are several reasons why the aftermarket is reasonably different from the "classic" market of products and other types of services. Namely, the after-sales services market correlates to a large extent with the primary market (e.g. change in the volume and structure of motor vehicles sales significantly determines the movements in the relevant, secondary, aftermarket of these products). In addition, the position of the suppliers in the primary market greatly influences the intensity of competitive relations and, consequently, the level of product prices and other parameters of competition in the automotive aftermarket.

The characteristics of the automotive aftermarket are determined by a number of primary market factors. This primarily refers to: the volume and structure of sales of new motor vehicles, the size and structure of certain types of registered motor vehicles, the age structure of registered motor vehicles and the structure of rolling stock by individual brands of registered motor vehicles, trends in the development of new types of vehicles, the average number of kilometers traveled during the year and alike.

The characteristics of the key factors determining the size and structure of the automotive aftermarket in the Republic of Serbia are as follows:

- In the structure of the fleet of registered motor vehicles in the Republic of Serbia (in 2015, a total of 2,262,323 units), passenger cars dominate with over 80% of share. Therefore, it can be concluded that this segment has a dominant impact on the size and structure of the total motor vehicles after-sales market in Serbia.
- In the 2011-2015 period, there was a trend of growth in the number of registered motor vehicles (in 2015, 13.7% more motor vehicles were registered in the Republic of Serbia in comparison with 2011). The increased number of registered motor vehicles is primarily due to increased sales of used vehicles. Due to such trends in sales, the age structure of registered motor vehicles in the Republic of Serbia is very unfavorable. Referring to the fleet of registered vehicles in the Republic of Serbia, the share of newer motor vehicles (those up to 5 years old), which determines the size and structure of the vehicle aftermarket in the guarantee period, is barely 6.5% (and even lower for passenger vehicles – only 5.6%).
- In the 2011-2015 period, the total sales of new passenger cars in the Republic of Serbia amounted to 118,682 units. The best-selling brands of passenger cars in this period were, according to the number of vehicles sold, Fiat with a share of 17.1% in total sales, Škoda with a share of 15.5%, VW with a share of 7.7% and Hyundai with a share of 7.0%. The above data indicate that interbrand competition is very intensive in the primary market (new passenger cars sales market).
- When it comes to the total number of sold motor vehicles of all their brands, none of the passenger vehicles manufacturer groups associated through joint ownership on the global level recorded a market share of more than 30% (VW group: Škoda, VW, Audi, Seat, Porsche; Fiat group: Fiat, Alfa Romeo, Jeep, Lancia, Chrysler; Renault/Nissan group: Renault, Dacia, Nissan, Infiniti; PSA group: Citroën, Peugeot; Toyota group: Toyota, Lexus; GM group: Opel, Chevrolet; Hyundai Motor Company group: Hyundai, Kia; BMW group: BMW, Mini).
- The Herfindahl-Hirschman Index (calculated on the basis of the physical volume of sales of individual brands of new passenger cars) is 713. However, the degree of market concentration could be different if

such a market was segmented into narrower markets. Particularly, if the Herfindahl-Hirschman Index was calculated on the basis of the physical volume of sales of individual brands of new passenger car manufacturers that are globally connected by common ownership, it would be 1,448, which is a sign that it is a moderately concentrated market (Commission for Protection of Competition of the Republic of Serbia, 2016).

- The age structure of registered motor vehicles in the Republic of Serbia is very unfavorable, given that the structure of the fleet is dominated by vehicles older than 10 years. Newer motor vehicles, up to 5 years old, which define the size and structure of the vehicle aftermarket in the guarantee period, is 6.5% in total (5.6% as for passenger vehicles). Average age of registered motor vehicles in the EU (28) is 9.7 years [1, pp. 7-15].
- Observed per individual brands of vehicles, a large number of different brands of vehicles are present in the Republic of Serbia, none of which has a high share (over 25%). The most common brands, per individual types of motor vehicles, are the following: passenger cars: VW 14.56%, Opel 12.53%, Zastava 11.91%, Fiat 10.34%; trucks: Mercedes 15.36 %, Fiat 12.96%, Zastava 9.91%; buses: Mercedes 15.93%, Ikarbus 13.12%, Iveco 6.11%; mopeds: Tomos 16.37%, Piaggio 9.68%, Peugeot 8.53%; motorcycles: Yamaha 16.92%, Honda 15.41%, Suzuki 12.43%, Piaggio 11.17%.

Table 1: Age structure of registered road motor vehicles and trailers in 2015 in the Republic of Serbia[1)] -in percentages-

Vehicle type	Age of motor vehicles in years				
	0-5	6-10	11-15	16-25	over 26
Passenger cars	5.6	15.8	38.5	22.4	17.8
Trucks	10.2	23.0	30.5	16.2	20.1
Buses	14.2	19.5	34.0	15.0	17.3
Mopeds	29.0	40.3	13.1	11.2	6.4
Motorcycles	6.4	28.3	22.3	29.4	13.6
Trailers	8.7	11.1	8.9	11.2	60.1
Working vehicles	9.9	13.4	13.2	18.0	45.4
Total	6.5	16.6	35.2	21.1	20.6

Source: Ministry of Internal Affairs of the Republic of Serbia
1) All vehicles that had a valid registration certificate in any period of the reporting year, were included. Vehicles with temporary license plates, police vehicles, Serbian military vehicles, diplomatic and vehicles of foreign missions are not included.

Different perspectives of certain key stakeholders

Different actors (stakeholders) involved in the automotive aftermarket in Serbia have different interests. An analysis of the economic aspects of establishing a network of official distributors of replacement parts and services, from the perspective of the manufacturer/importer or representative/distributor and consumer's angle can be summarized as follows:

Perspective of the manufacturer/importer or representative and authorized servicers/official replacement part dealers:

- After-sales services are a legal obligation, an important marketing mix instrument, and therefore motor vehicle manufacturers, or their distributors, are making significant efforts to organize their own network of authorized servicers and spare part dealers. By doing this, producers of primary products want to ensure quality in the use of their products and to preserve the reputation of the brand;
- The service providers network, as well as the amount of servicing costs, of certain manufacturers and importers of motor vehicles plays an important role in the sales of motor vehicles. It is especially important in various forms of fleet sales of passenger vehicles, where buyers – legal entities, try to (unlike most private entities) challenge the total cost of procurement (the price of the primary product and the costs of post-sales services during the warranty period);
- As a rule, the dimensioning and territorial structuring of the network of authorized service providers is carried out by importers (general distributors) in cooperation with manufacturers. The status of an authorized service provider grants greater safety in the performance of activities and procurement of replacement parts under more favorable conditions (rebates and bonuses);
- Authorized service providers focus more on the strategy of ensuring good relations with producers/agents and meeting customers' requirements than on achieving short-term savings in their business;
- In the after-sales market of motor vehicles there is a very intense price and non-price competition

between authorized service providers/official dealers of replacement parts and independent service providers and stores with conventional (not original) spare parts. In addition, authorized service providers point out that the greatest problem in their business is the unfair competition of repairers operating in the gray area and offering cheap, low-quality spare parts (which are not controlled by anyone).

Perspective of the consumer:

- Consumers are interested in getting as high quality of service as possible at the lowest possible price, and the key consumer satisfaction factor in the motor vehicle after-sales market in Europe is the price/quality ratio;
- As a rule, during the warranty period and in the period when their vehicles are newer, users of motor vehicles are more oriented toward the purchase of original spare parts and servicing their vehicles at authorized service providers. However, as time passes, they are increasingly focusing on independent service providers and the purchase of parts that are not genuine;
- After-sales servicing and the supply of spare parts from individual manufacturers are an important, but apparently not a crucial element in deciding on the purchase of a vehicle. It is often difficult for consumers to foresee the total cost of procurement (the price of the primary product and the total post-sales services expenditure during the time of use), since vehicles are used for a long period of time after the purchase (and after expiration of the warranty period). This is illustrated in the data obtained from the Ministry of Trade on consumer complaints related to motor vehicles [25]. Out of the 818 complaints received between January 2015 and April 2016, only 6, i.e. 0.7%, refer to service providers (mainly due to refusal to repair within the warranty period because the vehicle buyers had previously "done something" in an unauthorized service shop);
- In the Republic of Serbia, if they want their warranty to be valid, consumers can service and repair motor vehicles within the warranty period only with authorized service providers and can use for the repair only original spare parts. That produces a strong impact on the level of competition in this market segment. In the EU, after the adoption of the Regulation on Vertical Agreements 330/2010, Block Exemption Regulation 1400/2002 and Block Exemption Regulation 461/2010, customers have been given the freedom to choose where they will maintain their vehicles in the warranty period, which eliminated many earlier restrictions and increased competition intensity.

Basic characteristics of competitive relations in the automotive aftermarket in Serbia

Business entities engaged in the maintenance and repair of motor vehicles in the Republic of Serbia, as well as other European countries, can be classified into two groups of service networks, whose position in the market and mode of operation differs:

- authorized service providers,
- independent service providers.

Authorized service providers (OES - Original Equipment Service) – It is estimated that there are about 300-320 authorized service providers for various brands of passenger cars in the Republic of Serbia. The largest number of authorized service providers (over 85%) simultaneously deals with the sales of new (and used) passenger cars, while only about 15% are registered exclusively for maintenance and repair services. Authorized service providers also sell original spare parts, which they purchase from a general importer/distributor or directly from a vehicle manufacturer.

Service providers must meet a range of conditions to be included in a network of authorized service providers of certain motor vehicle brands, with the conclusion of contracts with the general importer/distributor for one plus one year or for an indefinite time in accordance with the precisely specified clauses. Regionally, providers of certain passenger vehicles brand services in the warranty period are mainly located in Belgrade, Novi Sad and Niš, and rarely in Subotica, Šabac, Čačak, Užice, Kragujevac and other cities and towns. The density of the network of service providers who perform the service in the guarantee period is, with the exception of Belgrade, low. This particularly applies to South and Eastern Serbia, where the nearest authorized servicers are located at a distance of more than 100 km.

Independent service providers (IAM – Independent Aftermarket) – The number of independent service providers is significantly higher, and their structure is very diverse. It is estimated that there are 1,500 to 1,600 independent repairers in the Republic of Serbia, out of which about 1,000 are mechanic workshops (which perform a wide range of maintenance and repair services for various brands), about 180-200 tire service shops, 170-180 car tinsmiths, about 200 service shops for oil and filters replacement, around 40 service providers for sales and installation of auto glass and 50 others**.**

Unlike authorized service providers that mainly deal with maintenance and repair for only one brand of vehicles (brands of one group of manufacturers), independent service providers are, as a rule, oriented toward a wide range of different brands of motor vehicles. Independent service providers purchase original spare parts in different ways, primarily depending on how the sales of these parts of a particular vehicle brand is organized. In certain cases, procurement is done directly from the general importer/distributor, but more often through authorized dealers (servicers)[3]. Most replacement parts used by independent service providers are acquired through major wholesalers that are specialized in this area and offer a wide range of parts (e.g. Wagen International, SANEL, Kit Commerce, Euro 07, Nikom, Delmax d.o.o., Shopgroup d.o.o., Gazelakomerc d.o.o., Simplex d.o.o.), or from a very large number of small trading companies[4].

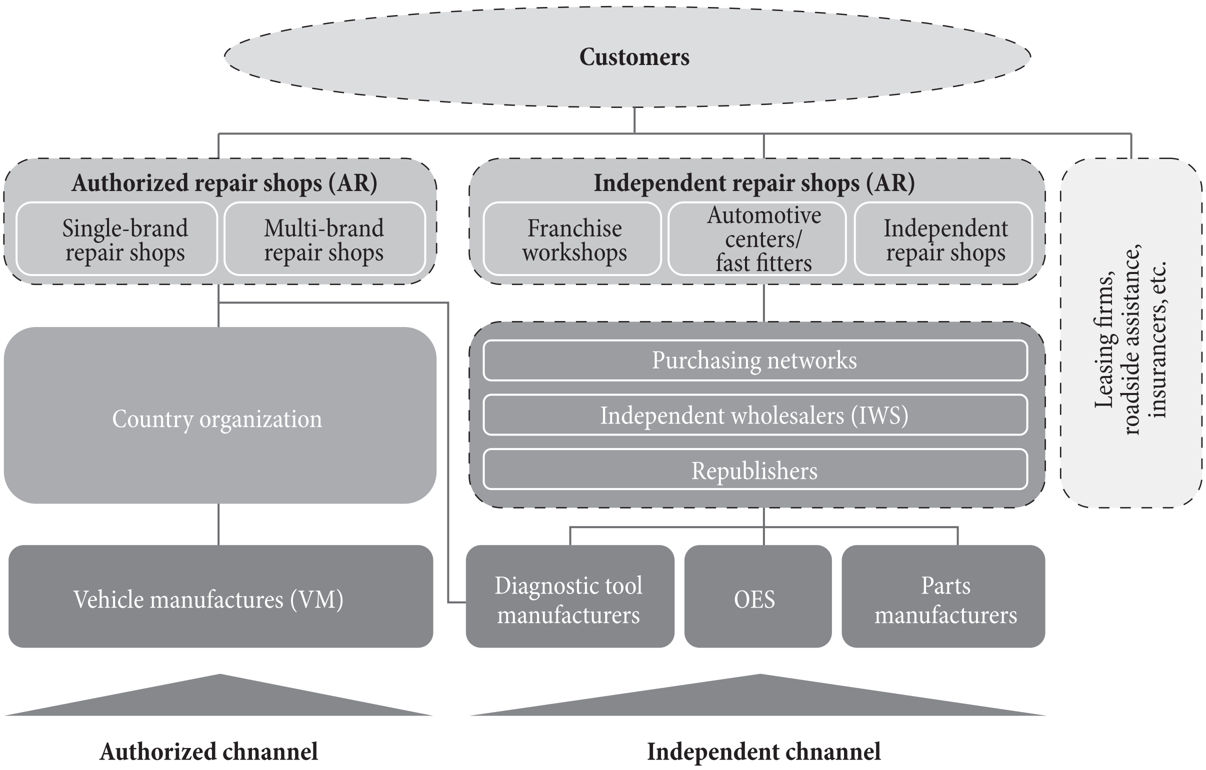
There are differences in the assessment of the work performance of these two groups of service providers in Serbia. According to the results of the surveys conducted, the key performance indicators of authorized service providers (OES) and independent service providers (IAM) in reference to consumers is as follows:

Typically, there are different estimates regarding the performance of the work on the part of authorized and independent service providers respectively. Particularly,

3 Source: Surveys

4 In the EU, most replacement parts distributors are small enterprises (93.7%), medium (5.6%), while only 0.7% are large companies [34].

Figure 1: Structure of the automotive aftermarket in the EU



Source: [35, p. 8.

Table 2: Performance ratings of authorized and independent service providers in the automotive aftermarket (1-unsatisfactory, 5-excellent)

	Authorized service providers	Independent service providers
Price/quality ratio	3.95	3.65
Competency/Reliability	4.28	2.57
Possibility of installing different types of replacement parts	2.25	4.25
Time required for service/repair	3.16	3.27
Time required for scheduling of service/repair	3.75	2.88
Kindness	4.46	3.18
Accessibility (geographical)	3.85	3.40
Price of replacement parts	3.24	3.64
Price of man-hour	3.98	3.65
Special services	4.15	3.17
Customer satisfaction assessment	3.43	3.25

Source: Authors' survey

authorized service technicians offer very poor ranking when evaluating independent service providers on the quality of their work, competence and ability to provide special services. Authorized service providers evaluate positively the possibility of installing different types of replacement parts offered by independent service providers, and consequently the cost of these parts. On the other hand, independent service providers point out that the price and quality of the work ratio of independent servicers is at a higher level than with the authorized service providers (which charge significantly more for replacement parts, while the cost of man-hour is higher). Additionally, independent service providers emphasize that the time needed for servicing or repair is significantly shorter and that geographical accessibility is better because there are more independent than authorized service providers. They also point out that consumers in the automotive aftermarket are more satisfied with them, compared to the authorized service providers (primarily because of the higher prices of replacement parts and labor costs, but also the time needed for repair).

According to the results of the conducted survey, the respondents (authorized distributors) estimated that the market share of the official authorized service providers in the segment of post-sales services is about 45%, while

Table 3: Estimation of the automotive aftermarket structure by authorized distributors of replacement parts in%

	Authorized service providers	Independent service providers
Total (100%)	45.00	55.00
Regular maintenance (servicing)	46.00	54.00
Repairs	55.00	45.00
Other	82.00	18.00

Source: Authors' survey

the average participation of independent service providers is 55%, although it is slightly different when it comes to repairs and regular maintenance (Table 3). In addition, the results of the survey show that servicing and repair of products within the guarantee period participate with 57% in the structure of revenues of authorized service providers generated in 2015, while the share of revenues generated outside the warranty period is slightly lower and is 37% on average. The share of revenues from regular maintenance and repairs of motor vehicles during the guarantee period in total revenues of independent service providers in 2015 is 50% on average, with the same share outside the warranty period.

According to the results of the survey, it can be concluded that the automotive aftermarket in Serbia is extremely competitive, because a large number of actors – about 2,000 authorized and independent service providers operate in it, while none of them, individually, hold a significant market share. This is confirmed by the results of the conducted surveys, whereby the majority of respondents (100% of authorized distributors, 67% of authorized service providers and 75% of motor vehicles replacement part dealers surveyed) estimated that the level of competition in this segment of the market is high. At that, it is especially important to point out to the problem of unfair competition (non-registered companies and servicers), who, given that they do not report taxes and perform activities on the street, offer their services at comparatively significantly lower prices than independent, and especially than the authorized service providers.

Bearing in mind the characteristics of the primary market (sales of motor vehicles in the Republic of Serbia), it can be concluded that interbrand competition in the market of post-sales services of motor vehicles (competition between manufacturers of different brands and their distributors) is intense. This is why manufacturers and general representatives of certain brands and their distributors are stimulated to offer high quality of service and installation of replacement parts to end customers, despite the fact that they charge a high price on the basic product.

A somewhat different situation is observed in intrabrand competition (competition among distributors/service providers/dealers of replacement parts of the same brand). Manufacturers and general agents impose certain restrictions when it comes to servicing vehicles within the warranty period. These limitations are justified only if they ensure the quality of the after-sales service, but are not justified if this prevents independent manufacturers and servicers of replacement parts to enter the market, because they can offer spare parts of the appropriate quality, that is, the required quality of the service and repair.

Servicing in the warranty period – Restriction issue

Pursuant to the Law on Obligations, the Law on Consumer Protection (as well as the contracts with manufacturers), all purchasers of passenger cars have the right to a 24-month warranty (starting from the date of delivery of the vehicle to the buyer). Commonly, all manufacturers/dealers provide longer-term warranty for color (36 months or more), anti-corrosion protection (8 years and more), and so forth.

Some manufacturers, or their dealers, offer even longer warranty periods to the buyers of new passenger cars (e.g. Dacia for 36 months or 100,000 km, VW, Škoda and Audi for 48 months or 120,000 km, Hyundai, Toyota for 5 years with unlimited mileage, and Kia for 7 years or up to 150,000 km without restrictions on mileage in the first 3 years) or provide the possibility of purchasing an extended warranty[5] under favorable conditions. In the period from 2011 to 2015, out of the total number of new passenger cars sold, around 40-42% were with a two-year warranty, 11-13% with a three-year warranty, about 30% with a four-year warranty, and 14 -16% with a warranty of five years or more.

The warranty implies that repairs and replacement of parts are performed exclusively in authorized service shops[6]. Regardless of the scope of work performed, the right to warranty is lost if the repair and/or service is carried out in unauthorized service shops or outside the service network. In the Republic of Serbia, if consumers want to claim their warranty during the warranty period, servicing and repair of motor vehicles can be performed only with the authorized service providers, and only original spare parts can be installed, which has a strong effect on the level of competition in this market segment. In the EU, following the adoption of the Regulation on Vertical Agreements 330/2010, Block Exemption Regulation 1400/2002 [37], as well as Block Exemption Regulation 461/2010 [5, 11], consumers have been given the freedom to choose where they will maintain their vehicles within the warranty period, which eliminated many earlier restrictions and increased the intensity of competition.

The structure of replacement parts installation and price differences

One of the key issues in the automotive aftermarket which significantly affects the level of competition is the question of replacement parts and their installation. An investigation for the Directorate-General (DG) for Competition of the European Commission suggests that only 20-25% of all replacement parts are produced by motor vehicle manufacturers, while 75-80% are provided by other suppliers [36].

In the EU, original replacement parts are more expensive than those that are not original. In addition to the quality of these parts, this is largely due to the marketing policy of the motor vehicle manufacturers' market, which relies on the differentiation strategy (unlike other

5 The longer duration of the warranties provided by vehicle manufacturers that are used to gain competitive advantage, undoubtedly offer great benefits to motor vehicle owners. However, some independent service providers suggest that it is a form of binding the consumer to perform servicing and repair of vehicles only at authorized service providers for an extended period of time and to use only original replacement parts for this purpose.

6 Observed per individual brands of passenger vehicles, the number of repairers who perform servicing during the warranty period is as follows: Škoda 25, Fiat 17, VW 16, Dacia 17, Hyundai 9, Ford 7, Opel 10, Renault 15, Toyota 9, KIA 8, Peugot 10, Audi 5, BMW 6.

manufacturers that rely primarily on cost-benefit strategy and lower prices). Original parts can only be purchased from the general importer or its authorized dealer (service provider), but there is also a wide range of parts whose characteristics correspond to the original and meet the warranty requirements (e.g. Bosch, Duracell, Febi, Luk, Mann, Narva, SKF, Valeo etc.). It is important to note that the conducted research has not recorded entry barriers related to the provision of technical information related to the purchase of original spare parts. Namely, in the conducted surveys, there are no evidenced restrictions by means of which manufacturers/importers, or representatives, can obstruct the access to the replacement parts that independent service providers need in order to equally compete in the provision of service. On the other hand, only authorized service providers (which have access to special databases, whose employees go through specialized training in order to be able to use them) possess detailed instructions on correct implementation of on-board repairs and debugging specific failures on certain types of vehicles.

The structure of the replacement parts installation is different depending on the type of service. Although the scope of the survey was limited, according to the results, it can be noticed that authorized motor vehicle service providers are much more focused on the installation of original replacement parts than the independent servicers. Intensive circulation of used parts of unknown origin and questionable quality is being highlighted as one of the key issues of the domestic automotive aftermarket.

There are great differences in terms of characteristics of replacement parts that are on offer in the Serbian market. Some of them are produced by the same manufacturers that produce parts for the first installation in motor vehicles and which are of the exact same quality as the original replacement parts (with the exception that they do not have a manufacturer's brand). But a significant share of these parts (in the European market mainly made in Turkey, China or by small local manufacturers) do not possess the characteristics that match the quality of the original replacement parts. In addition, the installation of parts that correspond only to the prescribed physical sizes and are of extremely poor quality (which are sold and installed as replacement) and for which there is a short warranty period (expires after a maximum of 6 months) is not a rare case.

There is a significant difference in the labor price of technicians during the warranty period (with authorized service providers) and a technician who is servicing the product after the expiration of the warranty period (with independent service providers).

According to surveys, there is also a large difference between the price of original spare parts and those that are not original. Considering the estimates provided by the respondents, the price of original replacement parts is on average higher by more than 110% than the conventional, not genuine parts (with this difference ranging from a very wide range of 20% to up to 4 times[7]). There is also a great difference in the price of work between authorized and independent service providers. According to the survey, the cost of man-hour at authorized service providers is on

7 Parts that are cheaper than the genuine ones can not, as a rule, be compared with the original ones in terms of quality and reliability, and yet car owners have often chosen the installation of such parts due to acceptable prices and their poor material status.

Table 4: Structure of the replacement parts installation in 2015 – Authorized and independent motor vehicle service providers (% of total procurement)

Authorized service providers	Original replacement parts	Replacement parts that are not original replacement parts
1. Total	83.00	17.00
2. Regular maintenance (servicing)	84.00	16.00
3. Repairs	78.00	22.00
Independent service providers	Original replacement parts	Replacement parts that are not original replacement parts
1. Total	50.00	50.00
2. Regular maintenance (servicing)	34.00	66.00
3. Repairs	58.00	42.00

Source: Authors' survey

average 80% higher than the price of a service technician who is servicing the product after the expiration of the warranty period (with this difference ranging from 10% to 2.5 times).

Service providers justify the difference in labor costs during the warranty period by the significantly higher investment in standards required by manufacturers (facilities, tools, training, information systems), as well as by the fact that many servicers who service the product after the expiration of the warranty period operate in the gray or black area of the market (meaning that they only partially record and account for parts and employees, do not provide fiscal accounts and do not pay the prescribed taxes and contributions).

Differences in the prices of services of authorized and independent service providers are much higher than in the EU, where they range from 15-20% [8]. However, it should be noted that authorized service providers often carry out individual actions whereby vehicle servicing prices, for a certain period, or for certain types (e.g. for vehicles older than four or five years) are significantly more favorable and almost identical to the prices in independent service providers.

Conclusion

The results of the conducted research on the automotive aftermarket in the Republic of Serbia indicate the following:

- Regarding the intensity of competition, the majority of respondents (100% of authorized distributors surveyed, or 67% of authorized service providers and 75% of surveyed dealers for motor vehicles replacement parts) find that the level of competition in the market is high. At the same time, the key problems that the main stakeholders are facing on the supply side in the domestic market of post-sales services for motor vehicles are, first of all, the presence of unfair competition, as well as the intensive circulation of parts of unknown origin and unverified quality. In addition to the abovementioned, among other things, the respondents also noted the drop in the purchasing power of end consumers, i.e. the decrease in sales margins.
- Regarding the market structure, the respondents estimated that the revenues of authorized service providers in the total generated income in the automotive aftermarket averaged at 45%, that is, the share of independent service providers in total revenues is somewhat higher and amounts to 55%.
- According to the structure of revenues of authorized service providers generated in 2015, servicing and repair of products within the guarantee period participates with 57%, while the share of revenues generated outside the warranty period is slightly lower and it is on average 43%.
- The share of revenues from regular maintenance and repair of motor vehicles in the warranty period in the total generated income in 2015 with independent service providers is 50% on average, approximately the same as during the warranty period.
- On average, 83% of authorized service providers surveyed use only original spare parts while servicing and repairing motor vehicles, which is 33% more compared to the frequency of use of genuine spare parts by the independent service providers.

The challenges in the area of competitive relations in the post-sales services market arise if interbrand competition (competition between manufacturers of different brands and their distributors) is not strong enough, that is, if the manufacturer of a particular brand has a significant market share in comparison with producers of competing brands. In such a case, the manufacturer of certain brands and its distributors are not sufficiently stimulated to offer high-quality service and installation of replacement parts to end customers, despite the fact that they charge a high price for the basic product. Bearing in mind the basic characteristics of the primary market in Serbia, it can be concluded that interbrand competition in the automotive aftermarket is intense and that no significant issues are noticed.

The potential problem in the area of competitive relations in this segment of the market is reflected in the constraints of intrabrand competition (competition between distributors/servicers/replacement part dealers of products of the same brand). The manufacturer is in a position to impose restrictions on distributors in respect of the terms of their contracts with authorized service providers and spare part dealers, obliging them to install/sell the OEM parts only. Restrictions of this kind are justified only if they provide a higher quality of the after-sales service. Otherwise, they represent a serious distortion of competitive market behavior, since the entry of independent manufacturers of spare parts and repairers in the market is therefore restricted, although they could offer replacement parts of the appropriate quality and the required grade of service and repairs.

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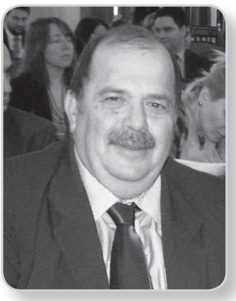

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