Article

Framework on Performance Management in Automotive Industry: A Case Study

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Abstract: The purpose of this research is to identify the risks and deficiencies that affect the performance of companies that provide vehicle after-sales services. Thus, this paper highlights the results of a comparative study based on a questionnaire conducted at the level of six brands in the automotive industry. A model was developed to investigate the factors that affect the global performance of the after-sales sector and the authenticity of the information related to the issue studied. Moreover, based on the collected data, this study evaluates the strategies related to performance management used by the organizations studied. In the end, even if the results showed a score of 81% on the questionnaire, we found that companies that provide vehicle after-sales services have not implemented and do not maintain totally the strategies related to performance management. Consequently, the need for change can be emphasized. Based on the analyzed data in the second part of the paper, we identified deficiencies and risks in terms of the organization, operation and management of the service units. These results confirm that the vehicle repair service has a significant influence on employee and customer satisfaction, on the quality of the vehicles repaired and the repair completion time.

Keywords: research; organizational performance; quality; excellence; performance criteria

1. Introduction

This long transition period, without a consistent strategy and plan through which the world economy has passed (Staš et al. 2015), has affected all areas of activity, and the vehicle industry is no exception. According to statistical research (Tigist and Nicolescu 2018), the number of cars has increased from year to year and the need for vehicle maintenance and repair services has increased in line with this phenomenon.

Currently, in order to survive on the market, it is necessary for these companies to improve their competitiveness (Johannsen 2013; Lee and Seo 2017) in order to perform and even to achieve excellence (Molina-Azorín et al. 2009). Improving the quality of repair services, managing the process for transformation and adaptation, as well as rigorous management, are the key elements in meeting customer requirements. According to Chelcea S., for the automotive services sector, these requirements mean quality orientation and involve Total Quality Management tools and methods (Chelcea 2001). Similar ideas have been presented by the authors Adèr et al. (2008), Chardine-Baumann and Botta-Genoulaz (2014), Fechete (2016) and Nenadál et al. (2018).

Despite the appearance of more and more small- and medium-sized companies for vehicle after-sale services, many previous studies have focused on large companies. In consequence, this study proposes a framework to help companies that provide vehicle after-sale services to grow in order to survive in this competitive environment (Jeong et al. 2016;

Najwa et al. 2019; Roth and Manor 2009; Werner-Lewandowska and Golinska-Dawson 2021; Wismantoro et al. 2019; Young et al. 2017).

For several years now, in the vehicle after-sale sector, a decrease in the overall performance has been observed at the national level. The problems and challenges faced by these companies indirectly and implicitly affect customers and employees. These companies are aware that quality repair services led customers to loyalty and redemption, but they nevertheless cannot achieve success if they do not take into account the needs of all stakeholders in the design and delivery of services (Ling et al. 2016).

In these conditions, in order to determine the elements that lead to the unsatisfactory overall performance of companies within the vehicle after-sale services sector, the purpose of this research is to assess the current state of the implementation of the strategies related to performance management and to identify the main challenges that these organizations are facing. Process management aims to monitor and control the processes defined in an organization (ISO 9001:2015 2005). Quality management practices, effectively supported by top management, lead to process efficiency (Nguyen et al. 2018). Performance management may include essential elements and management practices to achieve the set objectives (Molina-Azorín et al. 2009; To et al. 2018). Understanding and managing the correlated processes within a management system supports an increase in an organization's efficiency, effectiveness and resources economy, the final aim being to obtain the desired results (ISO 9001:2015 2005).

Determining the elements that lead to unsatisfactory overall performance, as well as the main challenges faced by these vehicle after-sale services organizations, is a fundamental strategy, bringing important benefits to the organizations studied in terms of time optimization, cost reduction (Malevskaia-Malevich and Leonov 2018) and improvements in general activity (Medne and Lapina 2019).

The current study carries out the performance evaluation of vehicle after-sale services using data from the six main car brand companies in Romania. More precisely, for each car brand company presented in this study, we consider all their after-sales service divisions in the Bucharest area.

We use a comparative methodology in the research, because this approach is an effective tool for analysis that serves as a starting point for the detailed examination of the similarities and differences between the comparative assessment group and the specific group (Proksch et al. 2019).

In the first step, the literature and the market are reviewed and a model of the strategies related to performance management is developed. In the second step, after analyzing the products, services and business, the organizations are selected and grouped based on their competence and the conditions in the foreign market. In the third step, based on the types of organizations previously identified, the working hypotheses are set and the questionnaire is prepared and distributed. In the fourth step, the comparative analysis is performed based on the data collected. The fifth step represents discussions of the results and conclusions on the research. The results of the research will serve to formulate recommendations and strategic directions for improving vehicle repair services.

This research has not only theoretical significance but also positive practical significance that will provide vehicle repair services organizations with a good framework to identify the causes underlying business dysfunctions.

The remainder of the paper is organized as follows: presents the literature review, describes the research methodology, presents the data analysis, explains the results and provide comments on the results and conclusions.

2. Literature Review

In recent years, the business performance and sustainability interdisciplinary research has been increasingly expanded (Mitchell and Jolley 2001). However, the automotive industry and the vehicle after-sale services sector has not been systematically explored yet.

In today's economy, the business environment is becoming increasingly aware of the need for sustainability management that aims at the simultaneous achievement of social, environmental and economic performance (EFQM 2020). Performance evaluation is essential for any organization in the automotive industry in managing operations as it provides a way to improve operations for business sustainability.

Sustainability performance is seen as a result of sustainability management. Sustainability performance is defined as "the performance of a company in all dimensions and for all motor factors" (Schaltegger and Wagner 2006). In 2014, Chardine-Baumann E. defined sustainability performance as "the combination of economic, social and environmental performance" (Chardine-Baumann and Botta-Genoulaz 2014). Isaksson (2006) and Siva et al. (2016) presented similar ideas.

In recent decades, the methods used for collecting information regarding key performance indicators have included performance reviews, interviews, questionnaires and surveys or benchmarking (ISO/TR 10014:2021 2021; Hong and Kim 2020; Hong et al. 2020; ISO 9004:2018 2005; Khoshkangini et al. 2020). However, studies related to the performance of vehicle after-sale services are very limited in past research.

The outputs of analysis can be used for internal (between activities and processes) or external (between other organizations) benchmarking to show the trends over time (ISO 9004:2018 2005).

Starting from existing research in similar fields (Akhmetshin et al. 2019; Draghici et al. 2014; Liu et al. 2017; Yee et al. 2013) and quality management guidelines (ISO 10006:2005 2017; ISO/TR 10014:2021 2021), this study focuses on internal management, with an emphasis on process and service management, strategies, human resources, customer management and the results obtained.

Popescu et al. (2015) stated that "initiative, creativity, innovation, development of organizational capacity and risk-taking capacity are also attributes of progress capable of generating national wealth". The authors Parameshwaran and Srinivasan (2008), Olaru et al. (2014) and Nenadál et al. (2018) presented similar ideas.

Our research aimed to determine the factors that influence the performance of organizations (Okolnishnikova et al. 2018) and to evaluate the strategies related to performance management used by these organizations by proposing a framework. The study was conducted on a sample of six brands in the automotive industry. The analyzed industry is important both economically and socially and plays an important role in the daily life of the company, employees and customers.

3. Research Methodology

This paper is part of a larger study and is based on the current situation of the vehicle after-sale services sector in the automotive industry, which has reported that its overall performance is below target. These results are reflected in the low level of financial performance and customer and employee satisfaction.

In order to achieve the proposed goal, i.e., the identification of critical factors that affect business performance, several steps were completed (Jiang and Prabhu 2008; Mitreva et al. 2019). The specific steps were as follows: establishing the general topic, defining the research problem, setting the research objective, elaborating the question to be answered by the study, formulating the research hypotheses and testing the hypotheses, as shown in Figure 1.

Documentary research: The analysis of social documents is a method of observation that allows the interrogation of a variety of sources of information. The studied social documents were written (official records) and unwritten (news, information, newspapers, magazines).

Survey: The social survey is a statistical method and involves the collection of information related to stakeholders in order to identify relationships and the statistical distribution of elements of interest. The tool used in this method is the questionnaire.

Figure 1. Concrete steps in the elaboration of the study (developed by the author).

Given the current stage of the research, the basic tool used was the questionnaire. The reason behind the decision to apply the questionnaires was based on the idea that the information obtained is quantitative and qualitative and that stakeholders can express themselves directly. Moreover, by applying the questionnaires, it was possible to deepen aspects that could not be accessed through other sources.

From a sociological point of view, Chelcea (2004) offers a broader definition of the questionnaire as "a technique and, accordingly, an investigative tool consisting of a set of written questions and possibly graphic, orderly and psychological images, which, by being administered by the survey operators or by self-administration, determine the following answers from the respondents to be recorded in writing".

The questionnaire has advantages over the interview because it is cheap, contains standardized answers and requires little effort from the subjects. According to Catoiu (2002), the questionnaire represents "a formalized set of questions, designed to generate the data needed to achieve the objectives of a marketing research".

The objectives of the questionnaires applied to the vehicle repair service organizations were as follows:

- Identifying basic information related to the studied subject;
- Highlighting the relationship between performance and other variables;
- Verification of the authenticity of the information collected from the studied social documents: financial performance, results, management and organization, other problems faced by the organization.

3.1. Methodology

To achieve the research objectives, this study proposes a framework based on a questionnaire (Munn and Drever 2004), to help small and medium-sized companies with vehicle after-sale services to grow in order to survive in the competitive environment. The primary analysis of the applied questionnaires was characterized by the following elements:

- Information related to the studied problem—identification of the factors that influence the performance of organizations in the automotive sector;
- Sampling framework—at the headquarters of the car service organizations in Bucharest;
- Target group—managers;
- Sample—selection by statistical method based on reasoning—10 organizations, 10 managers;

- Time required for designing and testing the questionnaires—January–March 2018.

The questionnaire applied in the organization was prepared on the principle of sectioning and included two sections. The first section contained 36 questions subdivided into 7 sections (S1 to S7), which were further subdivided into 5 criteria (Q1 to Q5) covering the entire field of activity. This first part of the questionnaire contained questions regarding the strategies related to performance management. The second section contained an open-ended question, to which the respondent was allowed to formulate his answer, and focused on the declared problems of the organization.

The second stage in the design of the questionnaire is summarized in Figure 2.
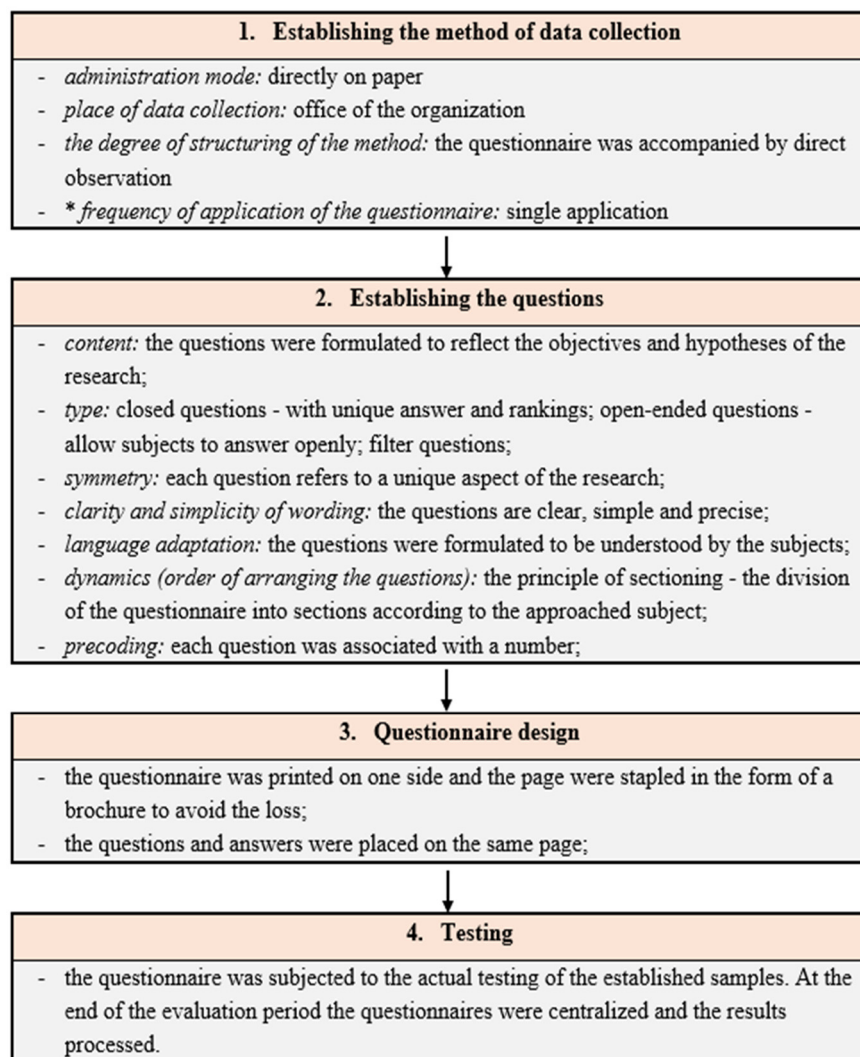
1. Establishing the method of data collection

- *administration mode:* directly on paper
- *place of data collection:* office of the organization
- *the degree of structuring of the method:* the questionnaire was accompanied by direct observation
- ** frequency of application of the questionnaire:* single application

2. Establishing the questions

- *content:* the questions were formulated to reflect the objectives and hypotheses of the research;
- *type:* closed questions - with unique answer and rankings; open-ended questions - allow subjects to answer openly; filter questions;
- *symmetry:* each question refers to a unique aspect of the research;
- *clarity and simplicity of wording:* the questions are clear, simple and precise;
- *language adaptation:* the questions were formulated to be understood by the subjects;
- *dynamics (order of arranging the questions):* the principle of sectioning - the division of the questionnaire into sections according to the approached subject;
- *precoding:* each question was associated with a number;

3. Questionnaire design

- the questionnaire was printed on one side and the page were stapled in the form of a brochure to avoid the loss;
- the questions and answers were placed on the same page;

4. Testing

- the questionnaire was subjected to the actual testing of the established samples. At the end of the evaluation period the questionnaires were centralized and the results processed.

Figure 2. Stages of designing questionnaires (Jiang and Prabhu 2008, Figure 4, p. 1584).

The questionnaire was structured according to strategies related to performance management, and the links between the analyzed criteria are presented in Figure 3.
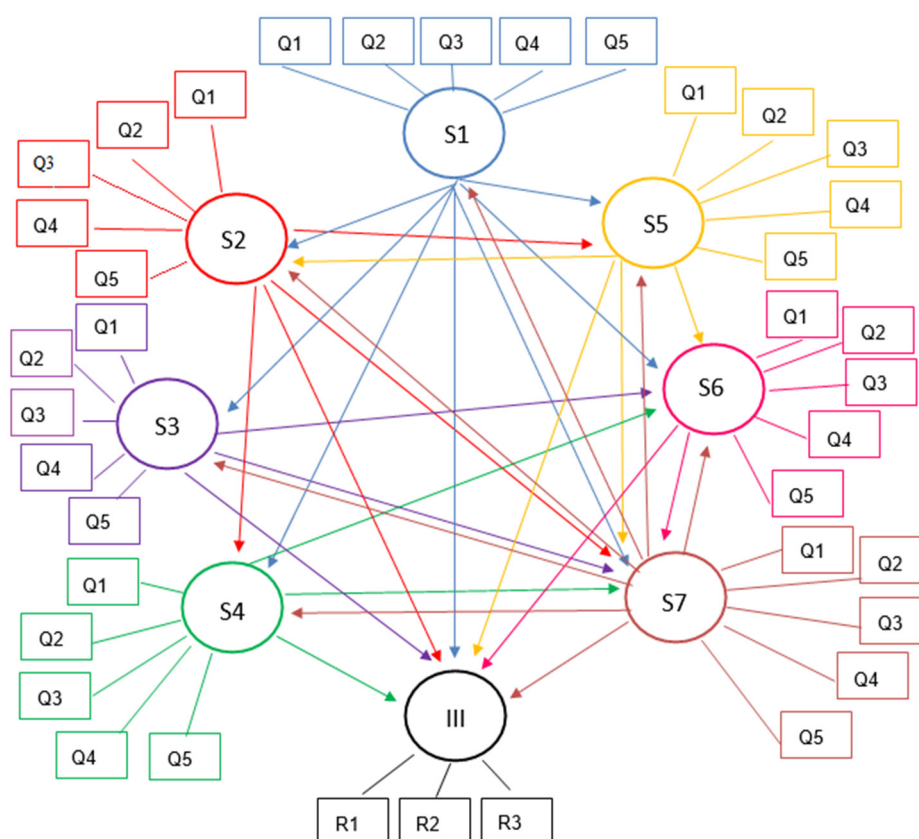
Figure 3. Links between the analyzed criteria.

Performance management strategies were as follows: Leadership (S1), Strategies (S2), Management Systems (S3), Customer Management (S4), Human Resources Management (S5), Risk Management (S6) and Results (S7).

Information on the evaluation rules for each section/criterion of questionnaire, as well as related to the awarding of the final score, can be found in Tables 1–3.

Table 1. Evaluation rules on Sections 1–6 of questionnaire.

Section (S)	Respondent Answer	Assessment	Scores
S1; S2; S3: 3.3 to 3.5; S4; S5; S6: 6.1; 6.3 to 6.5.	No	We do not perform this activity	0
	Partial	There is a plan for carrying out this activity	3
	Yes	We are implementing this activity	5
S3: 3.1	ISO 9001	Reference standard	10
	Other documents	Other quality requirements	5
	Not applicable	We are not implementing this activity	0
S3: 3.2	No	We are not implementing this activity	0
	Yes, ISO 9001 + 1 system	ISO 9001 + 1 system	5
	Yes, ISO 9001 + 2 systems	ISO 9001 + 2 systems	8
	Yes, ISO 9001 + 3 systems or more than 3	ISO 9001 + 3 systems or more than 3	10
S6: 6.2	No	We are not implementing this activity	0
	When changes are made to the premises that formed the basis for their establishment	We perform checks on the premises	3
	Yes	There is a well-established plan for carrying out this activity	5

Table 2. Evaluation rules on Section 7 of questionnaire.

Section (S)	Respondent Answer	Assessment	Scores
	No	The results are not measured, or the objectives have not been met	0
S7	Partial	Most of the objectives have been met	3
	Yes	The objectives have been met or even advanced	5

Table 3. Maximum score that can be obtained.

	S1	S2	S3	S4	S5	S6	S7
Total max/criteria	25	25	35	25	25	25	25
Total max/questionnaire				185			

Based on the study of these factors specific to each brand, the quality policy statements, as well as the data presented above, we could conclude that these organizations had certain general features in common:

- Companies were constantly expanding;
- They had a local presence and were some of the top brands in the automotive industry;
- They had policies regarding the implementation and maintenance of the integrated quality–security–environment management system;
- They had a vision, mission and objectives related to the performance, which were well-defined and oriented towards quality, security and the environment; continuous improvement; customers; employees; performance; risk; safety; social responsibility.

3.2. Hypotheses

The established hypotheses represent the core of research and are a powerful tool that guides the entire research. Summing up some definitions given by other authors, the hypothesis represents "a verbal sentence, derived from observations, theories or the results of other research on the relationship between variables" (Schwab 2005), "which is expressed in the form of a prediction regarding the relationship between the variables investigated" (Spector 2012; Wagner 2021) and which "can be tested empirically" (Liu et al. 2017).

Based on the statements of the cited authors, we can conclude that the hypotheses have the role of presenting concretely what we expect to be achieved in our research.

To validate the structural research model proposed in Figure 3, as well as to provide answers to the objectives of this research, the following research hypotheses were established:

Hypothesis 1 (H1). *For the studied organizations, in full expansion, only the implementation, certification and maintenance of management systems is sufficient.*

This hypothesis is related to the first section of the questionnaire, and this contained closed-ended questions, which required information on management and organization.

Hypothesis 2 (H2). *By implementing the questionnaire, we will identify deficiencies and risks.*

This hypothesis is related to the second section of the questionnaire, which contained an open-ended question: the respondent was asked to describe three issues faced in the service unit. Problems were presented in the order of processing the questionnaires, and, in the case of similar types of problems, a more comprehensive reformulation of the entire set of problems was chosen.

4. Data Analysis

As the present study aimed to determine the factors that influence the performance of vehicle after-sale service organizations, the questionnaires were distributed to selected organizations.

The response rate for the three questionnaires was calculated using the formula:

$$R = \frac{\text{Number of answers}}{\text{Number of questionnaires sent}} \times 100 \tag{1}$$

As can be seen in Table 4, managers answered in a proportion of 70%. If we look at the total number of potential respondents and the response rate, it can be concluded that the interest expressed by the respondents was high, which shows that the research method of applying face-to-face questionnaires was the most appropriate. This analysis is interpreted graphically in Figure 4.

Table 4. Questionnaire analysis.

Target Group	Number of Questionnaires Sent	Received Answers	Validated Answers	Canceled Answers *	Answers Received (%)	Validated Answers (%)	Canceled Answers * (%)
Managers	10	7	6	1	70	85.71	14.28

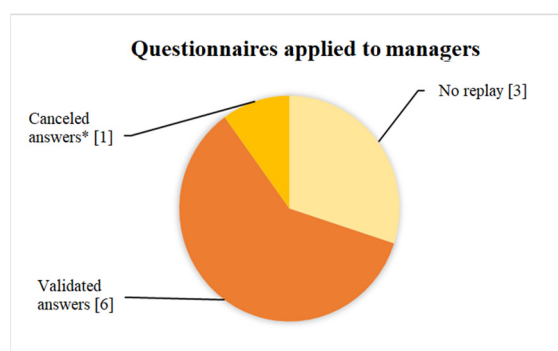* The cancellation was due to the absence/duplication of an answer to at least one of the questions.

Figure 4. Graphical analysis for the distribution of the questionnaire.

The six main car brands that completed the questionnaire are listed in Table 5. Both competitors and performance management strategies declared by them are listed in Table 6.

Table 5. Vehicle manufacturers.

No.	Manufacturers	Units Sold			
		2018	2017	2016	2015
1	Dacia	51,242	29,974	27,597	26,840
2	Group VW	14,601	9361	8339	7184
3	Renault	12,523	7708	6910	4900
4	Ford	9503	8043	6834	5749
5	Toyota	5179	3752	3089	2863
6	Mazda	2259	1897	1653	1467

Table 6. Romanian market companies operating in the field of car services.

No.	Manufacturers	Turnover (RON)		Strategies Related to Performance Management
		2018	**2017**	
1	Dacia	29,496,295.0	27,573,421.0	Customer Satisfaction, Quality, Process Improvement
2	Group VW	158,202,631.0	151,591,646.0	Environment, Customer Orientation, Compliance
3	Renault	188,319,360.0	154,096,604.0	Efficiency, Quality, Standardization, Environment
4	Ford	177,259,928.0	148,459,972.0	Human Resource Development, Clients, Quality, Eco, Social Responsibility
5	Toyota	152,051,923.0	12,785,133.0	Continuous Improvement, Customers, Employees, Risk, Safety, Environmental Quality, Efficiency
6	Mazda	733,006,910.0	70,358,697.0	Customer Satisfaction, Quality Environment Security, Processes, Technology

Table 7 presents the analysis of the answers received following the application of the questionnaires. The answers collected regarding the questions related to this hypothesis are lower.

Table 7. Answers collected regarding the questions related to Hypothesis H1.

Unit/Section	C1	C2	C3	C4	C5	C6	Total
S1	19	20	21	25	25	20	130
S2	18	21	20	18	25	20	122
S3	10	31	31	31	35	30	168
S4	21	21	25	21	25	21	134
S5	11	19	14	21	23	19	107
S6	23	23	23	19	23	23	134
S7	13	21	13	18	21	18	104
Total	115	156	147	153	177	151	

The comparison between the strategies related to performance management and the fulfillment percentages for each strategy are presented in Table 8.

Table 8. Percentage of achievement for the declared criteria.

No	Strategies Related to Performance Management	Percentage of Achievement of the Criteria (%)
1	Customer satisfaction	84%
	Quality	28.6%
	Process improvement	52%
2	Environment	88.6%
	Customer orientation	84%
	Conformity	84%
3	Efficiency	52%
	Quality—Environment	88.6%
	Standardization	80%
4	Human resource development	84%
	Clients	84%
	Quality Eco	88.6%
	Social Responsibility	72%
5	Continuous improvement	100%
	Customers	100%
	Employees	92%

Table 8. *Cont.*

No	Strategies Related to Performance Management	Percentage of Achievement of the Criteria (%)
	Risk and Safety	92%
	Quality and Environment	84%
6	Customer satisfaction	85.7%
	Quality—Environment	72%
	Security Processes	84%
	Technology	80%
	Global results	81%

The answers collected regarding the questions related to this hypothesis are centralized in Table 9.

Table 9. Answers collected regarding the questions related to Hypothesis H2.

No	Categories of Problems	No. of Appearances	Frequency (%)
1	Insufficient employee involvement	2	11.11
2	Lack of indicators on employee satisfaction	2	11.11
3	Negative feedback received from customers	3	16.67
4	Lack of integrated information systems	1	5.556
5	Employee motivation tools are limited	1	5.556
6	Large staff turnover	4	22.22
7	Long duration of solving service interventions	1	5.556
8	Lack of a program for the integration of ethnic minorities	1	5.556
9	Asynchronization of expenses with receipts	2	11.11
10	Lack of a program to attract young high school/college graduates	1	5.556
	Total:	8	100

5. Results

The results obtained in this research were previously centralized. This section contains the graphical representation of the results and their interpretation. Figure 5 shows the global scores obtained by each enterprise.

From Figure 5a, it can be seen that the lowest score was obtained by Competitor 1 and the highest score was obtained by Competitor 5. The fulfillment percentages for the questionnaire related to each competitor were as follows: Competitor 1—64.1%, Competitor 2—84.1%, Competitor 3—78.9%, Competitor 4—82.4%, Competitor 5—95.4% and Competitor 6—81.4%. The global percentage of achievement was 81%.

From Figure 5b, it can be seen that the lowest score was obtained for the seventh criterion and the highest score was obtained for the third criterion. The fulfillment percentages for each criterion were as follows: Section 1 (Management)—86.7%, Section 2 (Strategies)—81.3%, Section 3 (Management systems)—80%, Section 4 (Customer management)—89.3%, Section 5 (Employee management)—71.3%, Section 6 (Risk management)—89.3% and Section 7 (Performances and results obtained)—69.3%.

Starting from Figure 5, an in-depth analysis was performed for each competitor in terms of the sections and criteria. Figure 6 shows the total scores obtained on each section by the enterprises. Comparing the results with the maximum scores that could be obtained (presented in Table 3), we can see, for each competitor, in which section they obtained the lowest and the highest score.
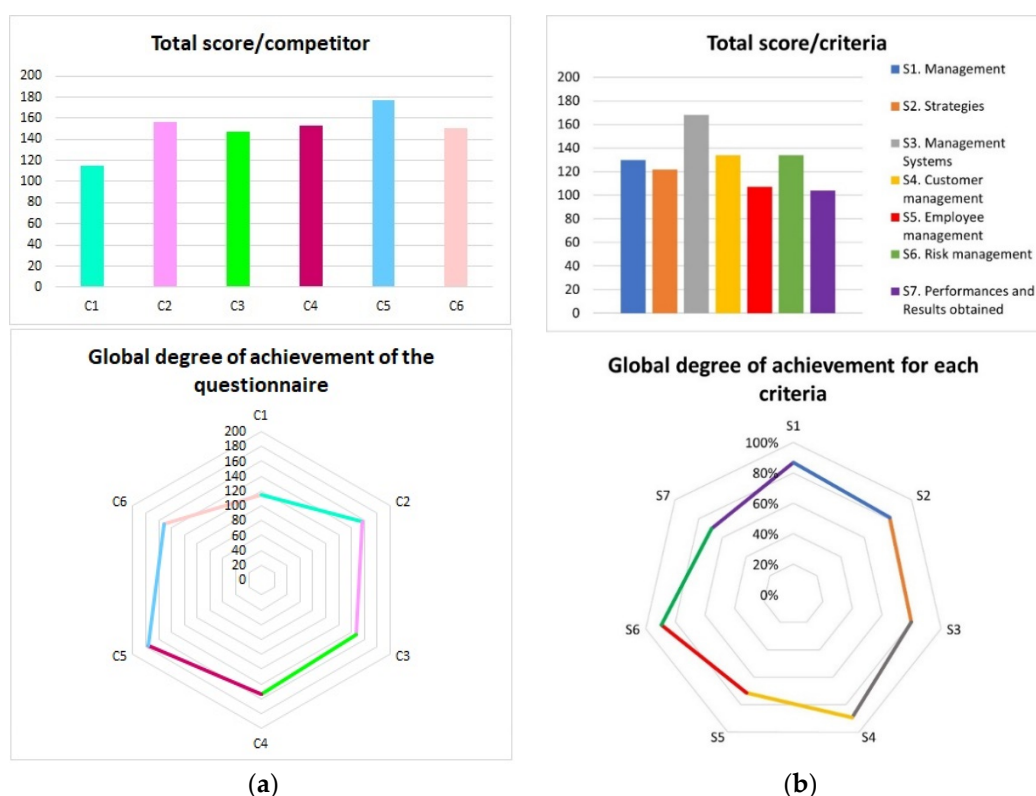
Figure 5. (**a**) Global scores obtained by each enterprise; (**b**) Global scores obtained for each criterion.
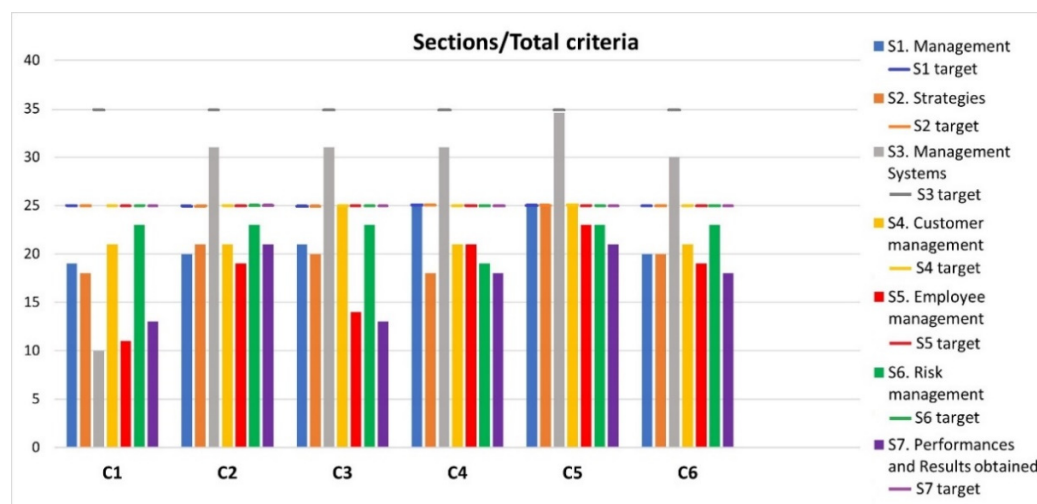

Figure 6. Total scores obtained in each section by the enterprises.

The lowest scores (weaknesses) obtained were as follows: Competitor 1—S3 (Management Systems), Competitor 2—S5 (Employee management), Competitor 3—S7 (Performances and results obtained), Competitor 4—S2 (Strategies) and S7 (Performances and results obtained), Competitor 5—S7 (Performances and results obtained), Competitor 6—S7 (Performances and results obtained).

The highest scores (strengths) obtained were as follows: Competitor 1—S6 (Risk management), Competitor 2—S6 (Risk management), Competitor 3—S4 (Customer management), Competitor 4—S1 (Management), Competitor 5—S1 (Management), S2 (Strategies), S3 (Management Systems) and S4 (Customer management), Competitor 6—S6 (Risk management).

Figure 7 shows the scores obtained by all competitors. Figure 7a shows the scores obtained by Competitor 1 in each section. We can see that the lowest score was obtained on S3 (Management Systems) and the highest score was obtained on S6 (Risk management). The fulfillment percentages for the questionnaire related to Competitor 1 were as follows: Section 1 (Management)—76%, Section 2 (Strategies)—72%, Section 3 (Management systems)—28.6%, Section 4 (Customer management)—84%, Section 5 (Employee management)—44%, Section 6 (Risk management)—92% and Section 7 (Performances and results obtained)—52%.
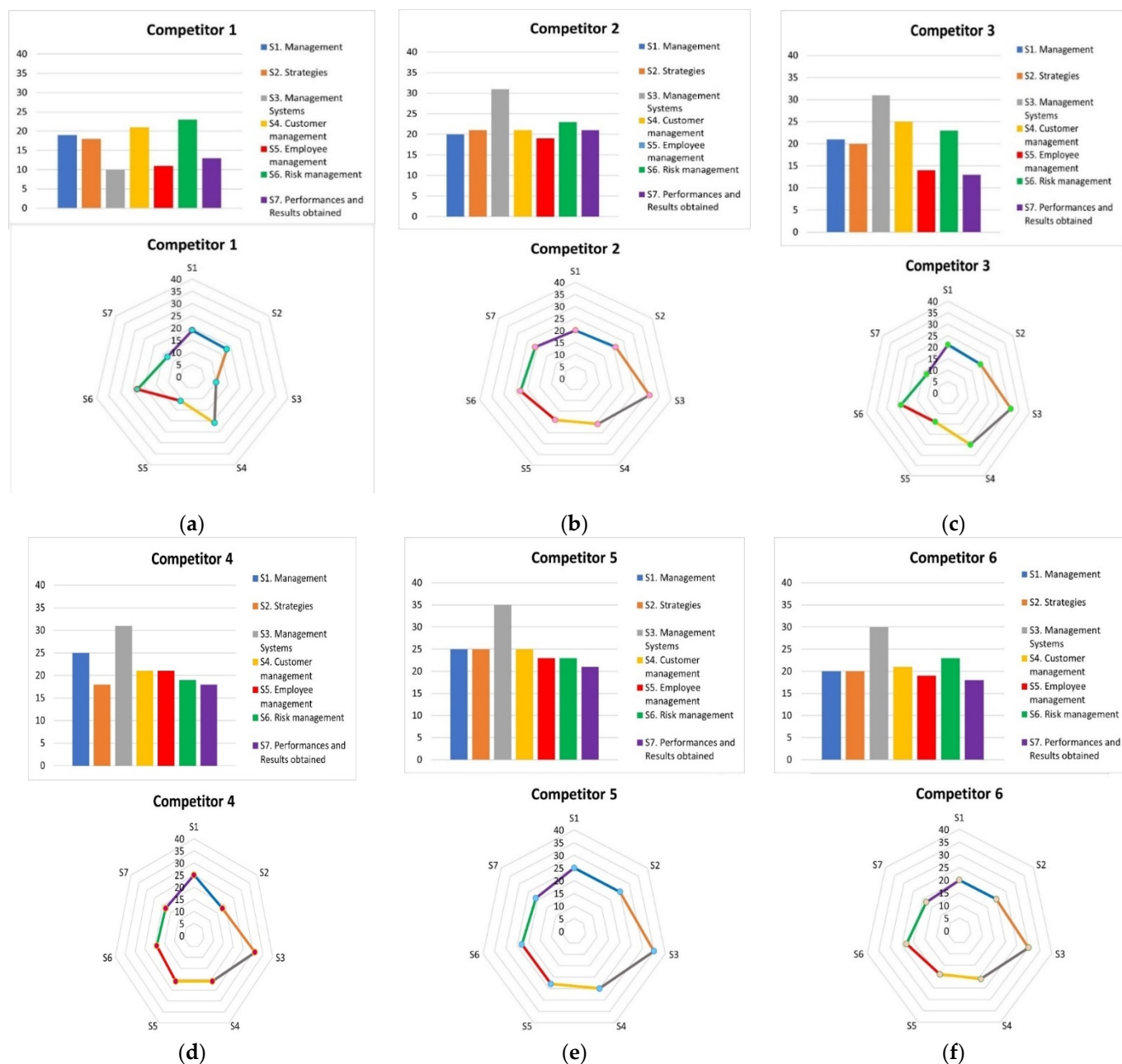
Figure 7. (**a**) Competitor 1 individual scores; (**b**) Competitor 2 individual scores; (**c**) Competitor 3 individual scores; (**d**) Competitor 4 individual scores; (**e**) Competitor 5 individual scores; (**f**) Competitor 6 individual scores.

Figure 7b shows the scores obtained by Competitor 2 in each section. We can see that the lowest score was obtained on S5 (Employee management) and the highest score was obtained on S6 (Risk management). The fulfillment percentages for the questionnaire related

to Competitor 2 were as follows: Section 1 (Management)—80%, Section 2 (Strategies)—84%, Section 3 (Management systems)—88.6%, Section 4 (Customer management)—84%, Section 5 (Employee management)—76%, Section 6 (Risk management)—92% and Section 7 (Performances and results obtained)—84%.

Figure 7c shows the scores obtained by Competitor 3 in each section. We can see that the lowest score was obtained on S7 (Performances and results obtained) and the highest score was obtained on S4 (Customer management). The fulfillment percentages for the questionnaire related to Competitor 3 were as follows: Section 1 (Management)—84%, Section 2 (Strategies)—80%, Section 3 (Management systems)—88.6%, Section 4 (Customer management)—100%, Section 5 (Employee management)—56%, Section 6 (Risk management)—92% and Section 7 (Performances and results obtained)—52%.

Figure 7d shows the scores obtained by Competitor 4 on each section. We can see that the lowest scores were obtained on S2 (Strategies) and S7 (Performances and results obtained) and the highest score was obtained on S1 (Management). The fulfillment percentages for the questionnaire related to Competitor 4 were as follows: Section 1 (Management)—100%, Section 2 (Strategies)—72%, Section 3 (Management systems)—88.6%, Section 4 (Customer management)—84%, Section 5 (Employee management)—84%, Section 6 (Risk management)—76% and Section 7 (Performances and results obtained)—72%.

Figure 7e shows the scores obtained by Competitor 5 in each section. We can see that the lowest score was obtained on S7 (Performances and results obtained) and the highest score was obtained on S1 (Management). The fulfillment percentages for the questionnaire related to Competitor 5 were as follows: Section 1 (Management)—100%, Section 2 (Strategies)—100%, Section 3 (Management systems)—100%, Section 4 (Customer management)—100%, Section 5 (Employee management)—92%, Section 6 (Risk management)—92% and Section 7 (Performances and results obtained)—84%.

Figure 7f shows the scores obtained by Competitor 6 in each section. We can see that the lowest score was obtained on S7 (Performances and results obtained) and the highest score was obtained on S6 (Risk management). The fulfillment percentages for the questionnaire related to Competitor 6 were as follows: Section 1 (Management)—80%, Section 2 (Strategies)—80%, Section 3 (Management systems)—85.7%, Section 4 (Customer management)—84%, Section 5 (Employee management)—76%, Section 6 (Risk management)—92% and Section 7 (Performances and results obtained)—72%.

Based on the data summarized in Table 9, the frequency of the main categories of problems faced by the enterprises could be represented. In Figure 8, they are grouped according to the frequency of occurrence.
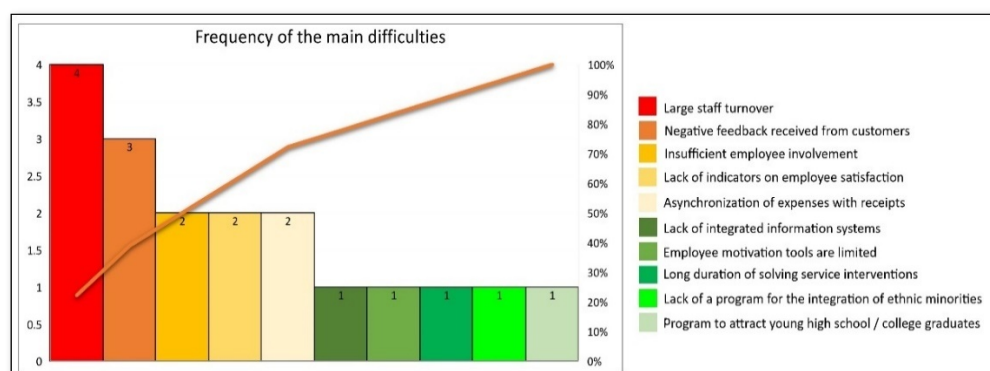

Figure 8. Frequency of occurrence by categories of difficulty.

6. Comments on the Results: Hypothesis Testing

6.1. Verification of Hypothesis H1

Based on the results reflected above, we find that Hypothesis H1 is not fully verified. More precisely, it is not enough to only implement one or more management systems to achieve excellence.

Additionally, if we consider the extent to which the criteria and sub-criteria of the questionnaire are met, an imbalance is found and there is a decrease in the percentages of fulfillment for several criteria, which will be analyzed in the following. For the quick and correct identification of the questions, they were coded. The coding of the questions contained information related to the question number and the questionnaire to which it belonged, being designed as follows:

*QnMQ—the coding of the questions contains information related to the number of the question and the questionnaire name, where "n" represents the number of the question in the questionnaire addressed to managers (MQ)

The management criteria results are presented in Figure 9. The percentage of fulfillment was 76.7%. The answers to the Q2MQ and Q3MQ questions are highlighted, where the management supports and motivates its employees and promotes an open dialogue at a percentage of 66.7%, while the answers to the Q4MQ* question show that only 50% of the organizations are known and appreciated for social involvement.
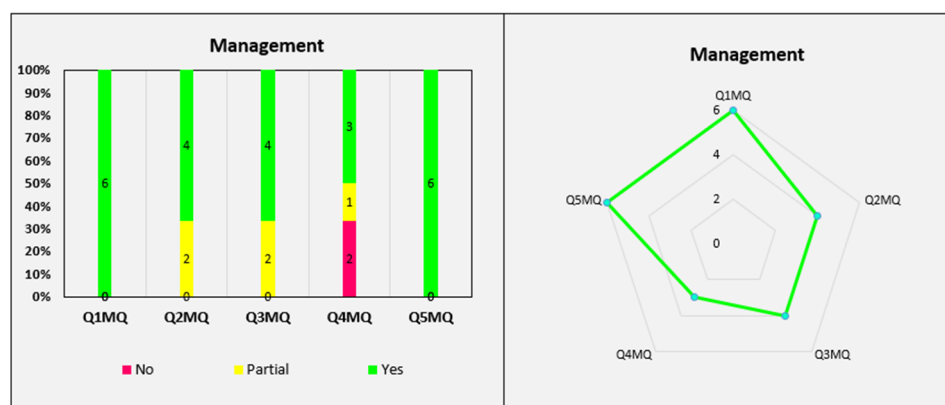

Figure 9. Answers regarding the management criteria.

The strategy criteria results are shown in Figure 10. The fulfillment percentage was 73.3%. The answers to questions Q8MQ and Q9MQ were noted, where a percentage of 33% of managers stated that the policy and strategy were not reviewed periodically and the strategy was not communicated to the organization's departments. Less than 25% stated that they partially implemented the Q8MQ and Q9MQ criteria.
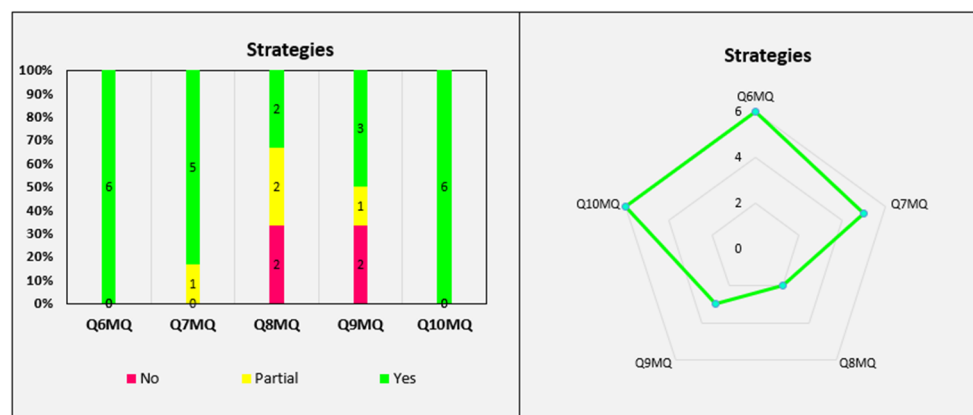

Figure 10. Answers regarding the strategy criteria.

The category of management systems criteria results is presented in Figure 11. The fulfillment percentage of the category was 55.6%. The answers to questions Q14MQ and Q15MQ were noted, where 16.7% of managers stated that there was no integrated approach to the improvement of the mechanisms in place, nor did they provide assurances that the integrity of the SMI would be maintained in the event of change. A percentage higher than 27.8% stated that they partially implemented the Q13MQ, Q14MQ and Q15MQ criteria.
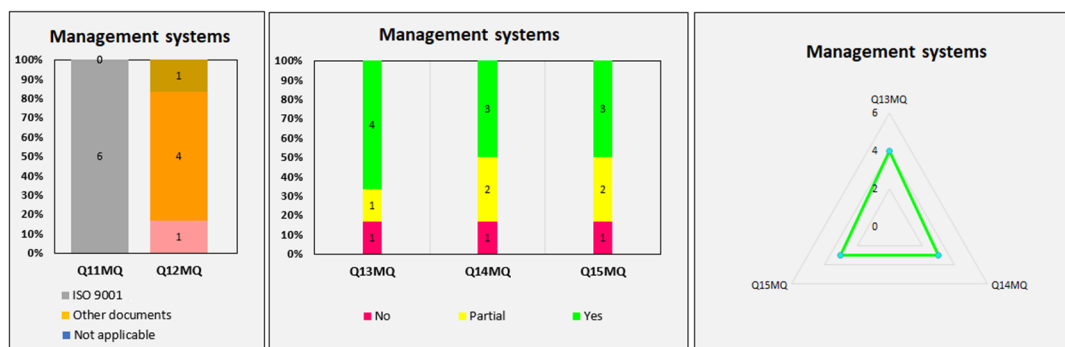
Figure 11. Answers regarding the management systems criteria.

The customer management criteria results are presented in Figure 12. The fulfillment percentage was 76.7%. The answers to the Q16MQ question were noted, where 3.3% of managers claimed that the organization did not develop and maintain long-term partnerships with customers, while a further 20% of managers stated that they partially implemented the Q19MQ and Q20MQ criteria.
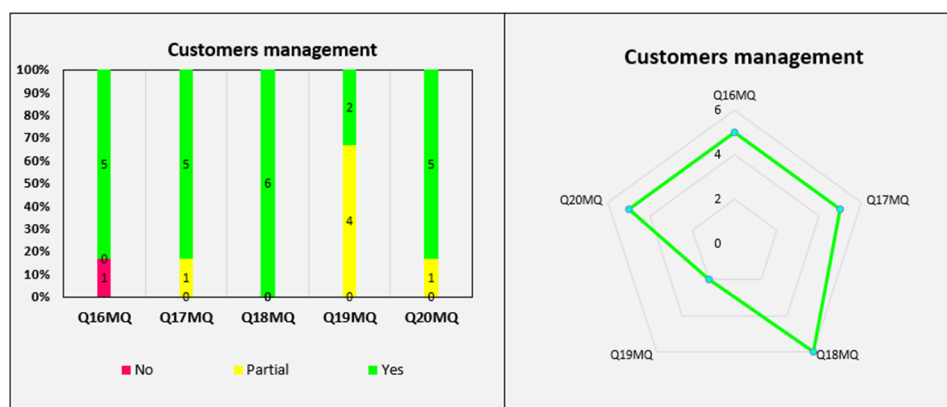

Figure 12. Answers regarding the customer management criteria.

The employee management criteria results are presented in Figure 13. A very important aspect in the analysis of employees' responses shows a percentage of fulfillment of the category of only 43.3%. Most of the managers, namely 46.7%, stated that they partially implemented the following criteria: setting and evaluating the individual objectives for each employee (Q22MQ); identifying, analyzing and establishing the needs for improving the professional training of employees in order to perform their duties (Q23MQ); carrying out professional development programs (Q24MQ) and establishing indicators for measuring customer satisfaction (Q25MQ).

The risk management criteria results are presented in Figure 14. The fulfillment percentage of the category among the studied organizations was 87.5%. A further 12.5% of managers claimed that the relevance of the indicators associated with the objectives was partially re-evaluated. A very important aspect in the analysis of the answers was that, in only 16.7% of the organizations, the specific objectives were re-evaluated periodically.
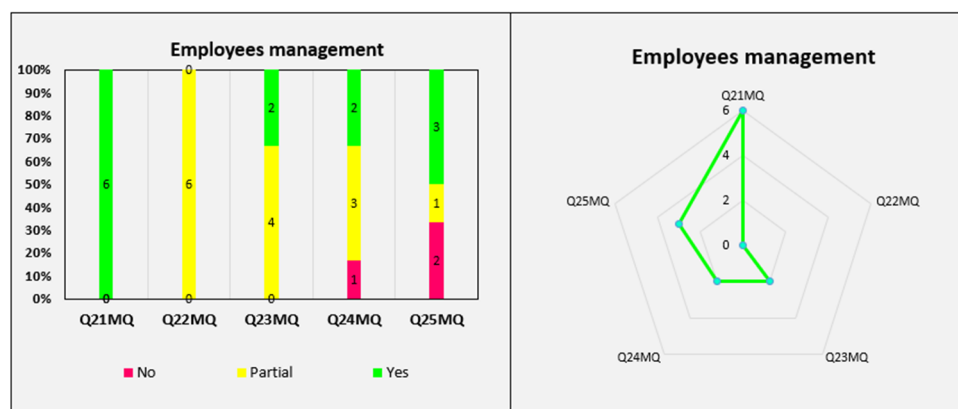
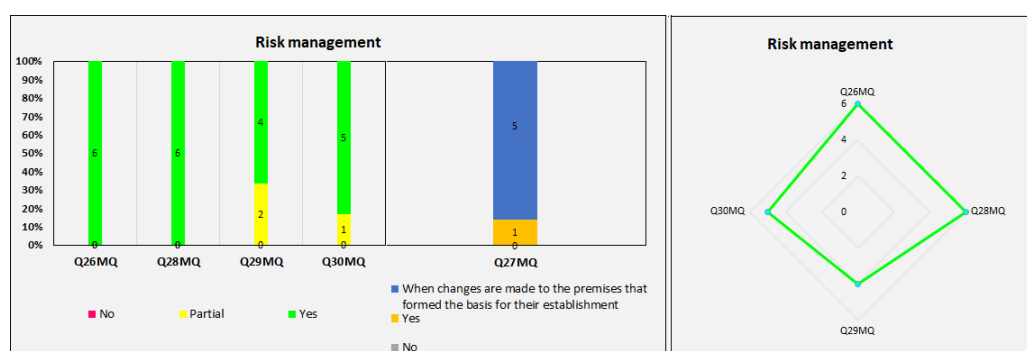**Figure 13.** Answers regarding the employee management criteria.

Figure 14. Answers regarding the risk management criteria.

The performance and results obtained are shown in Figure 15. The fulfillment percentage was 53.3%. Less than 26.6% stated that they partially implemented the following criteria: integration and acceptance of ethnic minorities and disadvantaged people (Q32MQ); development of risk/accident prevention programs for the health of customers/employees (Q33MQ); improving the reputation and image among citizens (Q34MQ) and obtaining results correlated with the set objectives (Q35MQ). A very important aspect for this category was the fact that 20% of organizations did not implement the criteria included in this category.
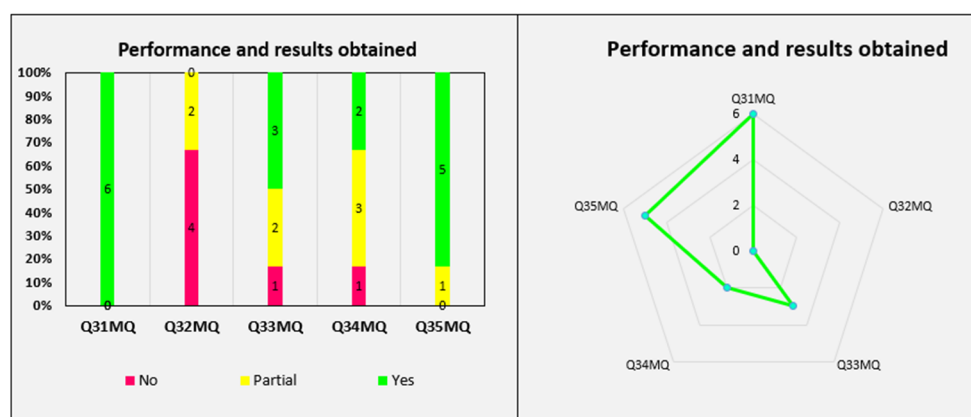

Figure 15. Answers regarding the performance and results obtained criteria.

6.2. Verification of Hypothesis H2

In order to substantiate the answer to this problem, we analyze the results presented in Table 9.

From the analysis sorted by problem categories, as shown in Figure 8, it can be seen that a high frequency of occurrence refers to high staff turnover based on their dissatisfaction and negative feedback from customers. With a slightly lower frequency of occurrence, we found insufficient employee involvement, a lack of indicators for employee satisfaction and a lack of synchronization of expenses with receipts. These types of problems were covered by the questionnaire.

Lastly, with a lower percentage of generality, we found a lack of integrated information systems, limited tools to motivate employees, long delays in solving service interventions, a lack of a program for the integration of ethnic minorities and a lack of a program to attract young high school/college graduates. These types of problems were not covered by the questionnaire.

7. Conclusions

The main contribution of this study is the elaboration of the framework for evaluating the strategies related to performance management and identifying the risks and deficiencies that affect the performance of companies that provide vehicle maintenance and repair services.

To determine the factors that influence the performance of vehicle after-sale service organizations, the first step was to identify the research objectives and set working hypotheses. This step was followed by the establishment of the research methods and tools. The research of the subject was carried out through direct observation, as well as documentary research. The questionnaire used as a research tool for data collection was created respecting the guidelines in the literature and allowed the monitoring and direction of the collection process, as well as determining the current level of major concerns related to the development of automotive services. The research conducted allowed us to determine the current level of the major concerns regarding the development of the automotive service activity. Following the examination of the answers received from the respondents, the need for change was outlined.

On one hand, the 81% score of achievement for the questionnaire shows that the vehicle repair services units implement and maintain a quality management system. In order to remain in a stable situation, vehicle repair service units should monitor both internal indicators and indicators in terms of direct competition and should be inspired by competition to solve problems. It is not enough for organizations to implement and certify one, two or more management systems, but it is mandatory that the principles of total quality be assimilated and applied in the organizational culture, an approach on which sustainable excellence is based.

On the other hand, based on the analyzed data in the second part of the questionnaire, it could be identified that there are deficiencies and risks in terms of the organization, operation and management of service units.

The analysis presented in Figure 8 shows the main categories of problems faced by organizations: high staff turnover based on their dissatisfaction and negative feedback from customers. With a slightly lower frequency, we identified the insufficient involvement of employees, the lack of indicators of employee satisfaction and the lack of synchronization of expenses with receipts.

The application of the questionnaire as a research tool gave managers the opportunity to identify areas in imbalance and where to intervene through changes to increase the quality and performance of their car services.

Based on this analysis, we may conclude that this hypothesis is verified. More precisely, based on the evaluation of the current state of the six car brands, certain deficiencies and risks can be identified regarding the activity of the vehicle services.

Through the questionnaire, two hypotheses were tested, and the results obtained showed that, although there was a high level of fulfillment of the questionnaire, the service units must progress in order to fully assimilate the principles of total quality management.

Moreover, based on the analyzed results, it was found that, in order to achieve excellence in vehicle services, it is not enough to only implement two or more management systems.

Finally, our research can provide a guide for managing organizations operating in the vehicle maintenance and repair service sector and can provide a basis for developing a model of the factors that influence the performance of these organizations. The results of this model can be used in order to improve the processes and management and implicitly to increase stakeholder satisfaction. Moreover, another possible future study could provide specified practical guidelines to facilitate the implementation of business performance and sustainability practices to support industry organizations in establishing strategies effectively.

Despite the contributions of this study, there are some limitations that suggest a path for future research. A limitation of the research may be the small sample of companies, with insufficient data to guarantee reliable results. In our future research, we will address these shortcomings. Additional data should be collected to assess the practices used in a more reliable way. As more data are collected, it will be possible to extend the approach to other industries.

Based on the results obtained in this research, we can develop cost recommendations that could be useful for the vehicle maintenance and repair service sector:

- For the evaluation of the external condition, the organization should apply at least two evaluation methods and compare the results with those of the competitors;
- Comparison with competitors should be a comparison based on several criteria (not only one), with the assignment of a reference value for each indicator;
- The indicators should be selected by involving the managers at the level of each department.

The practical approach of collecting data from managers appeared difficult to conduct, but the results revealed, at a certain level, a degree of insufficient rigor in current performance evaluation procedures in service and repair units, a sector with a specific culture in the framework of the automotive industry, dominated by the national context.

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