



## Trends in automotive manufacturing

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### ABSTRACT

Nowadays, there is a large interest in the organisation of mystery shopper audits of high technology products manufacturers. But, the automobile industry is no exception. For many years, the automobile industry has refined assessment mechanisms of company automobile service performance, involving point estimation by means of corporate informative systems, and has conducted so-called legal audits, using its own organisation and human resources. The special service of inspection visits to service enterprises has always worked at automobile plants, employees of which spend much time in business trips, and implemented the algorithms of enterprise audits of automobile technical servicing.

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### 1. Introduction

During the examination of tasks, associated with organising end customer feedback regarding the operation of complex advanced technology products, which definitely include an automobile, under the conditions of mass production, it is worth emphasising the problem of organising a direct research and analysis of customer loyalty and satisfaction. The indicated problem is multifaceted and cannot be solved by any one specific means or organisation instrument. Nowadays, at the corporations' disposal are analytical tools that allow analysing data incoming from the end consumer via company websites and questionnaire complexes. At that, the conduction of a direct expert assessment of product and service quality with a translation of results into the consumer language is still an important task, which ensures not only the automobile manufacturers' understanding, but also the opportunity for its strategic development, which is extremely important from the perspective of the current and potential quality control system state. When considering direct assessment tools of automobile service quality, one should emphasise the mystery shopper instrument, which is still one of the most efficient ways to assess customer satisfaction and loyalty (Sesuna, 2014).

During our consideration of the largely established organisation of mystery shopper audit system, when ordinary clients are involved, after appropriate training, of course, we came to the conclusion that the application of this instrument in high technology service quality assessment is not

always efficient. The main problem here is, in fact, the assurance of audit quality, which, in our opinion, can be maintained by a good competences level of the audit organisation. In other words, we consider the involvement of highly skilled and knowledgeable automobile engineers in audits to be more reasonable. The medical services quality assessment methods are closer related to this issue (Kleymenov, 2013).

Thus, the aim of this paper is to create an assessment method of service quality at the manufacturer's corporate chain enterprises by integrating the "mystery shopper" audit instrument into the service quality complex assessment system, taking into consideration the high technology level of this market segment and the peculiarities of the state of company service chains for traditional Russian brand cars.

The following tasks are completed herein in order to reach the goal:

1. The analysis of the performance assessment system for company automobile service enterprises in Russia;

2. The development of the organisational and technical system of mystery shopper company automobile service enterprises assessment, based on the peculiarities of the Russian market;

3. The practical implementation of the assessment system at one of the biggest Russian automobile manufacturers;

4. The analytical research of work results.

Integrating the theory and practice of the implementation of a complex quality assessment system of the mechanical engineering service high technology sector, under the given work, ensures the possibility for the efficient application of the

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developed instrument at large automobile industry enterprises both in Russia and abroad.

## 2. Materials

As in any other system, the formed practice of assessment of company automobile service centres has both advantages and disadvantages. Among the advantages, one should emphasise the fact that when automobile manufacturers' experts conduct regular audits of automobile service enterprises, although the latter are punished, the risks of insufficient customer service quality are reduced. However, the problem of the so-called human factor and, in some cases, corruption, constituent in audit performance, becomes relevant. When the same expert performs audits at an enterprise, his opinion becomes "obscured", so to say, and some people begin to feel the desire to solve enterprise problems by bribery. However, the customer service quality level drops. Generally, the legal audit is useful only from the perspective of determining the availability or lack of an enterprise-based operating system in areas such as spare parts provision; metrology; quality control of standard and technology observance etc. It is impossible or almost impossible to assess everything concerning direct customer service within the legal audit.

This can also be stated about the use of point estimation of automobile service enterprises that is presently implemented through automobile manufacturers' company information systems. The possibility of remotely assessing the performance quality of enterprises in accordance with company standards is the positive aspect of point estimation. Based on the point estimation, automobile manufacturers compose the rating of service suppliers, bonus and penalty systems. Generally, the point estimation is a useful instrument, which allows assessing the efficiency of automobile service company performance according to certain quantitative indicators. Expenses, associated with the development and implementation of point estimation are restricted only by the methodology determination, creation and provision of the informative resource work. Therefrom follows the reduction of expenses on business trips associated with audits. At that, similar to the cases of legal audits, it is possible to emphasise the human factors as an obstacle for providing the reliability of information necessary for the calculation of point estimation, provided by the interested party. Here, the solution of the problem is simpler, as it lies in the maximal automation of all processes of collecting and calculating data, as well as splitting of the indicators up into levels, which are impossible to affect by using the administrative resource.

In our opinion, the so-called "counterbalance" system is the decisive element in the organisation system of quality assessment of the company automobile service performance. The point is that information on enterprise performance must be delivered from different sources: internal –

corporate; external – complaints and acknowledgements from the clients, assessments of independent experts; data from mass media, Internet forums etc. The well-considered decision regarding enterprise efficiency is made only based on the analysis of all the information concerning its performance. Information, incoming during the implementation of different assessment instruments, balances the general conclusions regarding the quality of automobile service performance.

It is already clear that there is no ideal instrument for assessing customer service quality. Obtaining the most complete and objective result is possible only with a certain balance between the application of separate types of instruments, such as audit or point estimation.

This paper is devoted to the relatively new analysis instruments of company automobile service enterprises performance quality – the mystery shopper method. The application of this instrument makes an additional substantial contribution into the process of assessing the efficiency of corporate chain performance.

Why is it considered relatively new? The point is that such instruments were practically implemented by many "western" auto groups starting from the middle of the 70s of the XX century. In Russia, national automobile manufacturers up until now have either not used the method of mystery shoppers entirely, or used it in a curtailed form.

Of course, the mystery shopper instrument, efficiently implemented in many corporations' practice, is not only an assessment tool; it is an "intelligence complex", ensuring high quality management in accordance with advanced customer requirements (Latham et al., 2012). At that, defining current customer behaviour and disclosing potential demand trends provides companies with additional opportunities for reaching goals associated with improving customer satisfaction and loyalty (Tarantola et al., 2012). It is even more important for mass-producing automobile corporations, targeted at the end consumer. For an automobile manufacturer, service is not just about providing car servicing, it is one of the important landmarks, where direct customer service takes place; the company's future success depends on its performance quality. Unlike certain other service segments, like, say, aircraft industry (Minghetti and Celotto, 2014), here the consumer associates the car trader's success during a car sale or its servicing and repairs directly with the parent company. However, in both cases we are talking about high technology service.

Company automobile service enterprises today perform an entire complex of services, starting with the sale of automobiles and ending with maintenance, repair, scrap page etc. This means that clients generally judge the performance quality of the automobile manufacturer by the level of the automobile service. It is the main reason why world leaders consecutively implement service quality improvement programmes (Granatino et al., 2013).

In the middle of the 2000s, the authors of the specified paper first developed the work algorithm in the practice of the Russian automobile industry and then implemented the entire complex of quality estimation measures of company standards fulfilment at automobile service enterprises of the largest automobile manufacturers in Russia based on the mystery shoppers method. At that, such audits were conducted personally, in different regions of the country during several years.

For this reason, we decided to share our experience and make some statements concerning efficient work organisation with the mystery shopper method during the audit of company automobile service enterprises.

The performance of any type of audit requires objectives determination. In our case, the objective is quality level assessment of sales service or after-sales automobile servicing. Naturally, separating the group of auditable enterprises while also binding them to a specific region of the country is required when assessing quality in order to provide a representation. In our case, forces of internal corporate subdivision performed the audits, which are justified. Such an organisation has evident advantages. The automobile service is a complex of high-technological services, thus it is possible to give an objective assessment of quality only on the expert level, with the possession of technical (knowledge of technologies, instructions), organisational (fulfilment of basic standard requirements) and communication competences (arrangement of communication process with the representatives of the service company). The conclusion of a contract with the company providing mystery shopper audit services is necessary to determine in good earnest its capacities and competences in this task's implementation (Manolică and Roman, 2013). Such companies frequently hire people from the outside, provide them with basic training and send them out to perform audits. In our opinion, the risks, associated with the efficiency of such audits in automobile branches, are high.

The disadvantages of independent organisation mystery shopper audits lie in the need for business trips expenses and the fact that after approximately the third cycle of enterprise audits, service managers start recognising the auditors. In the first case, it is simply necessary to understand what is more important – the quality of audit performance or expenses associated therewith. The second disadvantage is easily solved by auditor rotation. The point is that corporate services of automobile manufacturing companies are big enough to provide for a painless auditor replacement process, especially taking into account the fact that it is possible to perform audits irregularly, only several times a year.

The issue of ensuring the confidentiality of all information concerning audit preparation is of utmost importance for the organisation of mystery shopper audits. This is the reason why the section which defines the responsibility and the narrow

group of officials with access to complete information regarding the terms and list of audited organisations must be determined in the designed regulatory documents, for example, in the instruction.

The next important issue is the development of the scenario, wherein it is necessary to determine distinctly the algorithms, the complex of technical instruments and the forms of audit results conduction.

In the case of performance quality assessment with product buyers or organisation of information processes for potential clients, the algorithm is formed based on determining the conformity of the enterprise with the basic standard. In the case of cars after-sale servicing assessment, the algorithms are complicated by the adding work production technologies to the requirements of the basic standard.

The complex of technical instruments provides objectiveness and fairness of audit performance (Steven et al., 2012). It can include the telephone, personal computer, dictation machine, mobile video camera etc. It is worth noting that information materials, obtained with the help of technical instruments, are useful, because with their help it is possible to conduct an analysis of the service processes review and use in the training company directors and managers (Tarantola et al., 2012).

Audit performance result forms are questionnaire forms of the auditing experts and final forms. The ensuring of balance between estimations set in points and text comments is required during the development of questionnaire forms. Both constituents are equally important. The first one – point estimation – gives possibility for a quick analysis of company performance, the second – qualitative estimation – reveals the essence and emotional constituent of the performance. The final forms of the audit results must be flexible enough to provide the possibility of the most complete information comments, depending on the specificity of conclusions (Kopetz et al., 2012).

During the implementation of any audit scenario, a telephone inquiry of the companies is conducted to determine the conformity of the working standard with potential products or services customers. Here, the number of performance indicators is assessed starting from the number of dial tones to go off before the phone is picked up and an appropriate welcoming and finishing with the competence of the company employee in solving different issues. Readdressing the issue and switching over the telephone to a different employee is not encouraged nowadays. Each criterion of telephone work is assessed and further accompanied by comments with emotional colouring. Besides, when talking about the usefulness of a telephone inquiry, it is worth noting that in most cases, the remote customer service quality level is confirmed by a corresponding quality of direct service at automobile show rooms. In the other words, if during a telephone inquiry the company employee did not

even pick up, the manager, who has to work directly with customers, is probably not going to show his competences during direct intercourse. There is probably no need to talk about the behaviour of a customer whose telephone call is ignored.

The organisation of the audit directly at the automobile show room can be performed with either continuing the work, started with the telephone inquiry or without doing so. The assessment of service company performance is multifaceted. It covers the issues of company style and standards of enterprise employee behaviour. Certainly, upon direct contact, special attention is paid to the evaluation of conformity with the basic standard. However, the positive emotional constituent in customer service is valuable. In working practice, there are cases of impeccable, but at the same time faceless and indifferent fulfilment of standards on the part of sales specialists.

An audit with a complex scenario is the most interesting one. It makes it possible to trace interactions of the automobile service company subdivisions. The complex scenario is developed, for example, to assess the purchase process organisation; it begins with a telephone call and ends with the start of the automobile purchase agreement conclusion. Here, it is possible to assess, by telephone and during direct intercourse, the performance quality of the sales department manager, the performance of engineer service specialists in after-sale service organisation and economic service specialists involved in the purchase and sale contract registration. At that, the time the client spent while waiting for the suite of documents and the automobile is added to the target indicators of standard fulfilment quality.

The process of technical servicing can serve as another complex scenario of mystery shopper work.

Here, too, the performance quality of different servicing company subdivisions is traced.

Audits associated with repairs and automobile artificial flaws are of particular interest. Here, it is necessary to flaw several systems, for example, electric equipment, transmission or suspension. In this case, it is possible to assess the performance quality of not only the electric equipment system diagnostician, but also the specialists of small and average repair areas. Apart from the performance quality level, such a complex audit allows to assess the state of metrological and technological provision systems, availability and use of special equipment and the system of advertised products and spare parts.

Of course, organising and performing complex scenario audits is more labour-intensive, but its assessment results are more in-depth. On the one part, we conduct an audit of company automobile service enterprises, on the other part, we frequently discover problems of main automobile manufacturer enterprises associated with the imperfection of repair technologies or the process of spare parts provision.

The mystery shopper audit of a group of enterprises results in a certain type of profile, which determines the quality of customer service in accordance with company standards. At that, the results act as bases for the formation of performance improvement measures of both separate companies and the entire automobile corporate chain.

Let us state the most typical results of mystery shopper audits of traditional corporate chains of the Russian automobile manufacturers obtained through telephone inquiries (Table 1) and through direct audit (Table 2) in 2011 – 2013.

**Table 1:** Results of telephone inquiry of company automobile service enterprises through mystery shopping

Sales-advisor basic standard requirements	%, enterprises with critical deviations from the basic service standard requirements (non-performance of requirements on the positions estimation)		
	25 enterprises	20 enterprises	28 enterprises
	2011	2012	2013
1	2	3	4
1. Telephone must be picked up not later than on the third tone.	10	8	8
<b>2. Answering the telephone call</b>			
2.1 Welcome.	50	40	45
2.2. Your subdivision.	30	30	40
2.3. Name, surname.	70	80	80
2.4. Give the client the possibility to speak first.	0	0	0
2.5. Ask definitive questions, seize the initiative.	10	15	20
2.6. Give the client brief information about his question.	0	10	0
2.7. Offer to meet in person (do not sell the automobile over the telephone).	100	100	90
2.8. Summarise ( <i>Thus, I will await you at our show room on Saturday at 6.30</i> ).	100	100	100
2.9. Confirm further steps.	100	100	100
2.10. Thank for the call.	90	80	80
<b>3. Call readdressing</b>			

3.1. Ask the name of the calling person ( <i>Introduce yourself, please</i> ).	100	100	90
3.2. Inform the calling person that you are transferring the call to an appropriate subscriber. If necessary, inform why.	10	20	30
3.3. Introduce the calling person to the internal subscriber and inform of the call aim. Make sure the call is connected.	90	100	100

**Table 2:** Results of direct audit of company automobile service enterprises through mystery shopping

Sales-consultant basic standard requirements.	% enterprises with critical deviations from the service basic standard requirements (non-performance of requirements on the positions estimation)		
	25 enterprises	20 enterprises	28 enterprises
	2011	2012	2013
1	2	3	4
<b>Meeting the client</b>			
<b>1. Sales area staff appearance</b>			
1.1. Sales-advisor. Males: Clean-shaven, obligatory	50	50	50
1.2. Suit (single-breasted).	60	50	50
1.3. Shirt. Long sleeve. Light colour	60	60	60
1.4. Tie.	70	80	80
1.5. Shoes. Office, clean boots.	60	60	60
1.6. Ladies: Strict business suit.	20	10	10
1.7. Badge on the diaphragm level on the right side.	80	80	80
<b>2. Establish visual contact with each entering client.</b>			
2.1. Approach the client. In case: the Client looks appealing, the Client displays active interest in an automobile (opens door, hood, gets into car, examines passenger compartment), the Client is left unattended for more than 5 minutes – offer him his help.	50	50	50
<b>3. Work preparation. Always at the working place:</b>			
3.1. Price-lists;	10	0	0
3.2. Pamphlets with the entire model range.	20	10	0
3.3. Information materials on crediting and insurance.	10	0	0
3.4. Pamphlets regarding current promotions.	10	0	0
3.5. Business cards.	30	20	20
3.6. Computer with basic of prices and availability of the automobile.	10	0	0
<b>4. Show room work rules.</b>			
4.1. The sales department (SD) employee must be always on the front-line.	20	20	10
4.2. Do not discuss internal issues of SD work in the show room.	30	40	20
4.3. Do not express negative opinions regarding the Company, automobile brands, sold by the dealer, models, technological processes, departments, employees of company, clients.	20	20	20
4.4. Do not discuss personal actions in the presence of the client.	10	0	0
4.5. Do not run in the show room.	10	20	20
4.6. Do not use workplace jargon at the working place.	10	20	20
<b>5. First contact</b>			
5.1. The client is the main priority in your work. The Client always has priority over the colleague.	50	50	50
5.2. Smile or interested facial expression.	40	50	50
5.3. Welcome.	30	20	20

5.4. Approach; First phrases: – Have you already spoken to any consultants? – Have you been at our show room before? – What interests you?	100	100	80
5.5. Declarative sentence regarding the product, which caused the client's interest.	60	60	50
6. Adaptation			
6.1. Maintain visual contact when talking to the client.	60	50	50
6.2. Voice must be calm and confident.	50	50	60
6.3. Smile as you speak (if appropriate in the situation).	70	80	80
6.4. Don't use slang when communicating with the client.	60	60	50
7. Detection of demands			
7.1. Begin with the issues forming the tastes and preferences of the client. The issues deal with preferences of car body, engine volume, colour range, gearbox etc.	50	50	50
8. Automobile presentation			
8.1. The presentation must be conducted in a calm voice and average speech tempo. The presentation procedure: – price-list; – fore-carriage; – under the hood; – driver's compartment; – back-end and boot; – remaining part and passenger compartment; Include these six steps in each presentation.	60	70	60
8.2. Polyethylene seat covers and automobile sun hoods must be removed. Fresh paper mats must be spread on the floor.	50	40	20

The analysis of companies' telephone audit results (Table 1) allows determining the fact that the key problem area in the fulfilment of the basic service standard is inability of service specialists to communicate with clients, answer questions and conduct competent call readdressing. Managers frequently answer clients' question in one word, do not make effort to provide full information and try to readdress the question to other specialists.

Considering the results of audits directly at the enterprises (Table 2), revealed is the basic problem of inability to communicate with a customer, which is aggravated by the lack of knowledge of production technical aspects and the lack of desire to conduct a full automobile presentation in conformity with standard requirements.

### 3. Conclusions

Thus, the work resulted in the development and implementation of an organisational and technical instrument complex for the mystery shopper quality assessment of company automobile service centres, aimed at large automobile companies operating in Russia. The instrument fully conforms to the advanced practice of working with the application of mystery shopper methodology and includes specifics

and traditional aspects of Russian automobile manufacturers' corporate chain activity.

Certain downsides should be emphasised among the main results of the quality assessment of Russian manufacturers' corporate chain performance.

During audit performances, deviations related to an untidy appearance of the manager are frequently emphasised, but a connection probably exists between the two phenomena: as a rule, if the manager's appearance does not correspond with the specified requirements, either the automobile interior is covered in dust or there are no mats inside etc.

It should be noted that problems, associated with insufficient customer service quality in show rooms of traditional Russian brands, persist (Anand, 2015). At that, there exists certain instability in customer service quality at different enterprises of one service chain. Part of the enterprises performs their work on high company level, while the other part does not. As a result, the client does not receive the same high level of service standards fulfilment at different enterprises of one corporate chain. At the same time, it is possible to see a substantial difference in approaches to customer service organisation processes under the conditions of one multi-brand enterprise. We were often very surprised by the high

quality of customer service of foreign automobiles and the low customer service level of our automobiles at the same enterprise. It is hard to avoid the conclusion that we must require strict fulfilment of service process standards.

To conclude the work, we must return to the fact that the modern automobile service is one of the most important divisions in the chain of creating customer satisfaction and loyalty, by presenting the client with the entire complex of services, from the sale, maintenance of additional equipment to technical servicing, repair and even scrap page of the automobile. The competitive ability of automobile manufacturers in many ways depends on the performance quality of corporate chain enterprises. The understanding of this important aspect must draw the attention of our automobile industry representatives to the entire instrument complex for managing and evaluating enterprise performance of the sales service chain in general and to such an important instrument as mystery shopper verification, in particular.

## References

- Anand S (2015). Mystery Shopping: A Marvelous Tool in the Hands of Organised Retailers. *International Journal of Management, Innovation & Entrepreneurial Research*, 1(1): 24-28
- Granatino R, Verkamp J and Parker RS (2013). The use of secret shopping as a method of increasing engagement in the healthcare industry: A case study. *International Journal of Healthcare Management*, 6(2): 114-121.
- Kleymentov SI, Stroganov VI and Kozlovskiy VN (2013). Complex estimation of customer satisfaction with automobile quality. *Standard and quality*, 5: 94-99.
- Kopetz CE, Kruglanski AW, Arens ZG, Etkin J and Johnson HM (2012). The dynamics of consumer behavior: A goal systemic perspective. *Journal of Consumer Psychology*, 22(2): 208-223.
- Latham GP, Ford RC and Tzabbar D (2012). Enhancing employee and organizational performance through coaching based on mystery shopper feedback: A quasi-experimental study. *Human Resource Management*, 51(2): 213-229.
- Manolică A and Roman TC (2013). Mystery Shopping Research - Seeing the Company's Performance Through the Eyes of the Customers. *Annals of the Alexandru Ioan Cuza University - Economics*, 59(2): 105-112.
- Minghetti V and Celotto E (2014). Measuring Quality of Information Services: Combining Mystery Shopping and Customer Satisfaction Research to Assess the Performance of Tourist Offices. *Journal of Travel Research*, 53(5): 565-580.
- Sesuna NS (2014). Survey of the impact of independence and audit quality on the reputation of an accountancy agent. *International journal of advanced and applied sciences*, 1(5): 25-29
- Steven AB, Dong Y and Dresner M (2012). Linkages between customer service, customer satisfaction and performance in the airline industry: Investigation of non-linearities and moderating effects. *Transportation Research Part E: Logistics and Transportation Review*, 48(4): 743-754.
- Tarantola C, Vicard P and Ntzoufras I (2012). Monitoring and improving Greek banking services using Bayesian Networks: An analysis of mystery shopping data. *Expert Systems with Applications*, 39(11): 10103-10111.
- Tarantola C, Vicard P, Ntzoufras I (2012). Monitoring and improving Greek banking services using Bayesian Networks: An analysis of mystery shopping data. *Expert Systems with Applications* 39(11): 10103-10111.