Quality management system's role in operation of retail trade networks

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Abstract. QMS is one of the factors influencing competitiveness of Russian retail companies. Algorithm of complex evaluation is developed to measure retail management efficiency after implementation of the QMS. Approbation of this algorithm was done on factual data on activity of retail companies. Recommendations on how to modify QMS at the companies in question are given. The results of study will allow to improve retail organization and management through changes introduced into processes of managing and managed subsystems.
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Introduction

Retail is one of the most quickly developing service spheres. Previous analysis proved that most of Russian retail problems are determined by inefficient management. Introduction of QMS is one of the approaches to improvement of competitiveness in retail sphere but today this system is insufficiently adjusted in regard to Russian companies.

Management problems in retail companies must be investigated in complex way; they have been considered in the works of the national and foreign experts. Development of the service sphere was analyzed by K. Grenroos, F. Cottler, N. Bagautdinova [1], E. Chizhova [2], Ol. Zanosienko [3], I. Vedenyagin, A. Nabatov, Z. Davletova [4], M. Sigova [5], S. Plekhanova, Yu. Shustov, Yu. Tyumenev [6].

Big contribution into QMS was made by Mohanty R.P [7],Taguchi G, Causing D. [8], Paulo Sampaio [9], Nanda, Vivek [10], Dirk Dusharme [11] and others.

In spite of big contribution made by these authors we have to note that retail management through QMS was not investigated in full. By now these issues have not been considered in the context of special theoretic approach, there are few works describing how to assess the improvement of organization and management on the base of QMS.

The aim of this study is to develop practical recommendations on how to improve retail activity on the base of targeted use of QMS principles and specific technologies.

This aim can be reached after solution of the following tasks:

- investigate theoretical issues of improvement of organization and management in retail companies with the use of QMS;
- analyze and amend the procedure and the contents of the stages of improvement of organization and management in retail companies based on the use of QMS;
- develop and test algorithm of complex evaluation of management improvement in retail companies achieved through QMS.

Man part

Retail operations can be organized in different ways depending on the given type, sales conditions, forms of services, products to be sold. In 2011 in Russia only 2,5% of the enterprises which have been certified to ISO 9001 standard (3) were the companies which sold all kinds of wholesale and retail products. In comparison, in the USA the share of such enterprises is 6,4%. And Paulo Sampio [1] believes that while introducing QMS in the company you should be aware of internal and external motivation.

Efficiency of retail operations should be improved through QMS. Necessity of introduction of QMS is confirmed by our research when the economic indicators of 2 companies - OOO Bahetle and OOO Edelweiss - were measured in their dynamics. After 2 years of implementation of QMS the increment in sales turnover was 21%, in profit - 17%.

We considered main approaches to improvement of retail organization and management and have found that it would be appropriate to use *project approach* in implementation of QMS. This approach is based on the fact that any project has its

beginning and the end; in order to do a project it is necessary to assign a team; scarce resources must be allocated, and the efficiency of realization must be monitored; there should be special incentive program to motivate the employees based on the principle of reward for the achieved results.

Algorithm enabling to decide if QMS should be implemented in the company or not includes the following stages:

1. Measurement of maturity level of company management;

2. Calculation of resulting economic indicator;

3. Identification of company's position in the matrix "quality of company's operation processes" - " dynamic development of retail sales outlet".

4. Conclusion about necessity of QMS implementation with the purpose to improve operations.

Maturity level of the management system must be identified on the base of self-evaluation method described in ISO 9001 [3] and specialization of the company.

In order to define position of the company depending on 2 variables (Figure 1):

level of management system development and increment in sales turnover we propose to use matrix consisting of 4 squares:

- low level of development of management system to control provision of services + low economic efficiency (A);

- developed management system + low economic efficiency (B);

- professional level of development (C): high level of development of management system + high economic efficiency;

- low level of development of management system + high economic efficiency (D).

Method of self-evaluation can enable the company to identify the actions which are necessary to move every process to next stage of development.

In the process of doing research work we considered the approaches to evaluation of retail operations, efficiency and performance of the measures to improve them. Depending on the applied method such approaches can be divided into 4 groups:

1. Qualitative indicators;

2. Economic indicators which characterize efficiency of implementation of QMS at retail company;

3. Costs method of evaluation of QMS: comparison of the costs for implementation with achieved results;

4. Combined method. Level of QMS maturity level (or other qualitative indicators in combination with calculation of resulting economic indicators.

The most objective and comprehensive method from those described above, in our opinion, is combined method because it allows to evaluate measures which have been realized from different sides - in terms of quality and quantity of implementation taking into account economic results as well.

In order to evaluate performance and efficiency of implemented measures intended for improvement of retail organization and management we propose algorithm of complex evaluation which consists of the following stages:

1) Analysis of maturity level of the processes;

2) Analysis of performance of the measures for improvement;

3) Analysis of economic efficiency of measures for improvement;

4) Comparison of results by graph method;

5) Formulation of conclusions.

Performance of development of the enterprise on the base of QMS will be measured by degree of targets achievement; efficiency - by costs.

Performance will be evaluated by the following formula:

$$P = \left(\sum_{i=1}^{n} C_i \times a_i \right) * 100\% \quad (1)$$

Where:

C_i - degree of achievement of a target in the framework of improvement of company's organization and management;

a_i – "weight" (degree of importance) assigned to this target in the context of improvement of company's organization and management;

n - number of targets.

Since all targets can be divided into qualitative and quantitative C_i for quantitative targets will be measured by ratio of factual indicator's value to desired one, for qualitative - 1 if the target has been reached and 0 - if not.

Retail management efficiency after implementation of QMS is measured by comparison of costs and effect for the period under review. This effect is a share of profit obtained by retail company thanks to the measures fulfilled in the framework of QMS.

In order to evaluate complex effect from QMS implementation in the company and to see trend showing this improvement we offer to depict

obtained values of performance and efficiency on 3D-graph (Figure 2). By means of this graph (for several periods under review we can monitor changes in competitiveness level.

This algorithm was tested since 2011 to 2012 with the use of factual data of retail operations. Maturity level of management system was assessed by the self-evaluation method. All targets were ranged by their significance with the use of experts' estimates method. Experts gave answers in the form of rankings. The results were processed by the method of calculation of "weight" for every indicator. Experts were top-managers of the company, key specialists. The targets were evaluated by their significance by the scale from 1 (little significance) to 10 (the most significant target); special questionnaires were filled-up and processed by methods and rules of qualimetry. The coordination in experts' opinions was checked by concordance coefficient which was equal to 0,75 and Pearson criterion (χ^2=47,25). These data has shown high degree of concord and therefore obtained weight coefficients can be used without additional adjustment.

The results evaluation of the necessity of QMS implementation in 3 companies are shown in matrix form (Figure 1).
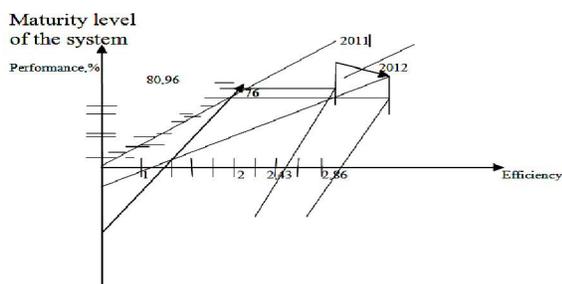

Figure 1. Matrix "quality of operational processes realization " - "dynamic development" for 3 companies: OOO Bahetle, OOO Edelweiss and ZAO Tander in the beginning of 2011

The results of calculations of efficiency and performance of QMS in these companies are shown in Table 1.

Table 1. Indicators of performance and efficiency of QMS functioning

Indicator	Bahetle		Edelweiss		Tander	
	2011	2012	2011	2012	2011	2012
Performance of QMS	80,96	76	85,5	93,5	94,6	90,2
Efficiency of QMS	2,43	2,86	1,49	1,97	2,3	2,94

We have built 3D graphs showing improvement of companies in question for 2011 and 2012, the graph for OOO Bahetle is shown in the Figure 2.
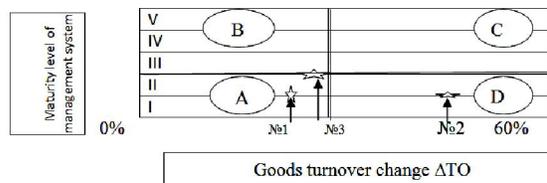
Figure 2. Graph showing improvement of retail at Bahetle for 2011-2012

Conclusion

In general all 3 companies showed significant changes in their operation during 2 years of QMS implementation. The maturity level and the analysis of realization of targets demonstrate that this direction of work can be done in future very successfully.

Table 3. Recommendations on improvement of QMS elaborated for the companies in question

Bahetle	Edelweiss	Tander
regulation of inputs and outputs of the processes of managed and managing sub-systems in accordance with requirements and expectation of the stakeholders; development of indicators of efficiency and performance of the processes in terms of quality indicators which can be applied both to goods and services: value (price) indicators, time indicators showing the speed of performance the quality indicators of a product or a service; development of incentives to motivate staff for realization targets of improvement;		
consideration and regulation of problem processes: non-conformities management in the framework of the process "quality provision" and business-process "retail by customer's order"; engineering of the process "Marketing: connection with consumer"; development of the qualification improvement system aimed for formation of key competence of the staff.	development of qualification improvement system based on mentorship; consideration and rulemaking of the problem process "customer service"; carrying out of timing procedures to find out optimal time for fulfillment of operations and staff functions.	consideration and regulation of problem processes "after-sale service" and "delivery of goods to the customer"; holding corporative contests motivating personnel for achievement of excellent results in their activity and technical improvement proposals; development of the qualification improvement system aimed for formation of key competence of the staff.

Conclusion

Proposed in this work theoretical provisions and methodological recommendations will allow to provide practical improvement of retail organization and management through modification of the processes in managing and managed subsystems.

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