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**PERFORMANCE MEASUREMENT OF CULTURAL ORGANIZATIONS:
THE CASE OF THEATRICAL INSTITUTIONS**

PhD Dissertation Summary
for the purpose of obtaining academic degree
Philosophy Doctor in Economics HSE

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Doctor of Science in Economics,

JEL: C14, L82, Z11

Moscow – 2018

Problem Description

Cultural services are merit goods that bring both individual and public benefits and play a crucial role in maintaining public well-being and ensuring social justice. Economic hurdles that occurred during the crisis period in the first decade of the XXI century concerned all spheres of the public sector and pushed cultural organizations to compete with other sectors for diminishing budget funding and to confirm their right for receiving a share of public money. As a result of a difficult economic situation sponsors and donors demand more sophisticated accounts about performance of supported organizations. Competition in the cultural sphere is becoming more intense: the number of cultural organizations of various scale and ownership type is growing, the scale of alternative entertainment services is getting wider and they are attracting consumer attention. Development of creative industries that function according to the market rules also affect the level of competition. At the same time, according to statistics, in most cultural spheres a growing volume of supply does not lead to a growth in demand for cultural services.

As a result nowadays cultural organizations face increased pressure of their key stakeholders – state and municipal authorities, sponsors, donors and consumers. This situation forces managers of cultural organizations find ways of increasing performance and getting standardized and transparent information about their achievements.

State and municipal authorities that are responsible for cultural policy and overall development of the cultural sphere, while practicing result-oriented budgeting and programme-based funding, are in need of clear mechanisms of comparison of cultural organizations' performance for grounded decision-making.

According to some researchers [Gordin, Khoreva, 2012], currently in Russia there is a lack of an integrated performance measurement system of cultural organizations and regional subsystems in the cultural sphere. In this study we focus on one side of performance – efficiency – which is understood here as comparison of outputs with inputs required for getting a particular level of outputs.

So far mostly international scholars rather than the Russian ones have studied the problem of relative efficiency of cultural organizations. Efficiency measurement of Russian cultural organizations has not been investigated deeply in existing scientific literature. Methodological issues also remain underexplored. The presence of a wide range of insufficiently studied theoretical and practical issues concerning performance measurement of cultural organizations explain for the necessity of this kind of study.

Literature Review

An economic approach to culture was incepted in the works by W. Baumol and W. Bowen who studied performing arts organizations and were the first to draw attention to economic hurdles in the cultural sphere related to unique production processes of cultural services. They introduced the notion of “cost disease” into scientific discourse. Later on, key problems in the field of cultural economics were investigated by Russian and international scholars, namely by T. Abankina, Y. Avtonomov, D. Bukovinsky, V. Gordin, L. Khoreva, M. Matetskaya, V. Muzychuk, A. Rubinshtein, V. Tambovtsev, D. Throsby, R. Towse, L. Weinstein, and others.

The study of culture as a part of the social sphere, research of trends in production of cultural services and specific features of cultural consumption was done in the works by I. Blagova, B. Frey, R. Grinberg, L. Jakobson, D. Maslova, R. Musgrave, V. Radaev, B. Rudnik, and B. Weisbrod.

Approaches to the notion of performance in the cultural sphere were discussed by the following scholars: F. Badia, C. Camarero, A. Dolgin, F. Donato, G. Evans, M. Garrido, I. Gilhespy, M. Koshkina, K. Lindquist, G. Smentsarev, R. Smith, A. Street, A. Tochilkina, E. Vicente, L. Zan, and A. Zorloni.

Several scholars have studied the problem of efficiency measurement of cultural organizations using the balanced scorecard, as well as unbalanced systems of indicators. These researchers are: E. Khaunina, K. Krug, K. Laurine, V. Muzychuk, O. Paulus, G. Smentsarev, J. Turbide, and C. Weinberg.

The study of relative efficiency of cultural organizations based on econometric methods was done primarily by international scholars, such as A. Last, A. Basso, P. Bishop, S. Brand, M. Castro, M. del Barrio, S. Funari, C. Guccio, L. Herrero, P. Hughes, F. Marco-Serrano, I. Rizzo, H. Wetzel, M. Zieba.

Taking into account the contribution of the above-mentioned authors, we should emphasize that the problem of performance measurement of cultural organizations remains insufficiently studied. In particular this fact concerns research on Russian cultural organizations: to the author’s knowledge there are no studies made by Russian scholars on the problem of relative efficiency of cultural organizations based on econometric methods. Moreover, most existing international research focuses on one type of cultural organizations – museums, is characterized by relatively small samples and as a rule was conducted in the European context. This may limit the theoretical contribution of existing studies.

Thus, it seems important, firstly, to propose a standardized and transparent methodological approach that allows for efficiency measurement and comparison of a large number of cultural organizations of various types, and secondly, to test the suggested methodology on empirical data about Russian cultural organizations.

Objectives of the Research

The main aim of the research is to propose a methodological approach for measuring efficiency of cultural organizations and to test the proposed methodology on the case of Russian theatrical institutions.

In order to reach the main aim, we should fulfill the following objectives:

1. To analyze existing approaches and methodologies of performance measurement in the cultural sphere;
2. To develop a set of performance indicators applicable to measuring relative efficiency of cultural organizations;
3. To outline existing groups (clusters) of Russian theatres and to describe their distinctive features;
4. To conduct relative efficiency measurement within the outlined clusters of theatres;
5. To distinguish internal factors that affect efficiency of cultural organizations;
6. To analyze the impact of efficiency on consumer satisfaction level.

Methodology

Using the case of Russian theatres the author develops a multi-stage methodology for relative efficiency measurement of cultural organizations based on a set of econometric methods that are not typical for the cultural sphere. The main source of empirical information is statistical data on theatrical institutions gathered by the Ministry of Culture of the Russian Federation in years 2012-2016 (3182 observations). The author also uses data from www.tripadvisor.com, namely the overall ranking of cultural organizations that is viewed in this study as consumer satisfaction level. For data processing we use STATA 11 and Efficiency Measurement System (EMS).

Empirical study consists of several stages.

Firstly, we analyze a set of 49 theatre performance indicators using principal component analysis (PCA). We identify a set of latent constructs (principal components) that represent a useful

research tool for measuring performance in the cultural sphere. We use this set at later stages of empirical research. PCA helps to reduce the number of variables while losing little information that explains the variance of the sample. The author distinguishes three types of indicators: inputs, outputs and outcomes.

Secondly, we analyze the whole population of Russian theatres using k-means cluster analysis based on the principal components that are previously distinguished. The clusters represent theatres having similar characteristics, however they are very much heterogeneous compared to theatres in other clusters. This stage of empirical analysis aims to identify theatre profiles that are important for performance measurement, and to describe their key characteristics. Moreover, we use clusters at further research stages. We assess relative efficiency within clusters that represent relatively homogeneous groups of objects.

Thirdly, we measure relative efficiency of theatrical institutions within the clusters using a non-parametric tool – data envelopment analysis (DEA). Principal components describing inputs and outcomes are used as variables here. We use DEA input-oriented model. There is also another model that maximizes the results, the so-called output-oriented model. These specifications imply different types of efficiency measurement that depend on the mission and aims of the objects under analysis. We believe that in a study that investigates theatres or other non-profit organizations in the cultural sphere, input-oriented model is more suitable due to the following reasons:

- Key outcome indicators (for example, attendance) depend on some external factors such as area and population size, touristic appeal, ease of reach, infrastructure, etc.
- Some outcome indicators have a natural maximum limit that is explained by venue capacity, opening hours or time when performances are staged (usually in the evenings).
- Input-oriented model complies with current trends in the public sector, such as tighter restrictions on budget spending and increased accountability.

In the study we use different performance indicators to create several efficiency models because we assume that a cultural organization may be efficient in one aspect (for instance, in terms of revenues) and inefficient in another one (for instance, in terms of attendance). Thus we use several DEA models (Table 1).

Table 1. Performance indicators used in efficiency measurement

Indicator	Model 1 'Attendance'	Model 2 'Revenues'	Model 3 'Work with children'
Inputs			
Non-financial resources	♦	♦	♦
Financial resources	♦	♦	♦
Operating expenditures	♦	♦	♦
Capital expenditures	♦	♦	♦
Outcomes			
Total attendance	♦		
Local attendance	♦		
Genuine popularity	♦		
Revenues		♦	
Amount of spectators at children performances*			♦
Revenues from children performances*			♦

*original indicators; in all other instances principal components are used

Source: own elaboration

Three research stages represent a consecutive chain of data analysis. The use of the above-mentioned methods is not a random choice. Scientific literature [Del Barrio, Herrero, Sanz 2009; Sarkis, 2007] validates implementation of cluster analysis as a tool for data pre-processing for further efficiency measurement using DEA. Cluster analysis helps to maximize homogeneity within sub-samples and heterogeneity between different sub-samples. A joint use of principal component analysis and data envelopment analysis helps to increase DEA discriminatory power because the method is sensitive to the ratio between the number of investigated objects (decision-making units, DMUs) and variables [Adler, Golany, 2007]. If an excessive number of variables is used to analyze a small number of DMUs, then Pareto efficiency frontier will be defined by a bigger number of objects that will be defined as efficient DMUs. The use of principal components help to reduce the number of variables while losing little information, without the need to remove complete variables from the analysis because principal components describe key characteristics of the sample.

Fourthly, we try to distinguish internal factors and theatre characteristics that affect the demonstrated level of efficiency. In order to explain the differences in efficiency levels of theatrical institutions we use regression analysis and control for the year of observation. We assume that not only inputs but also actions of organizations (understood in this research as outputs) affect their efficiency.

Fifthly, we try to find out statistically whether efficiency levels of theatres affect consumer satisfaction level and when this effect becomes apparent. For that purpose we use regression analysis and data from www.tripadvisor.com.

Suggested methodological approach is described in Figure 1.

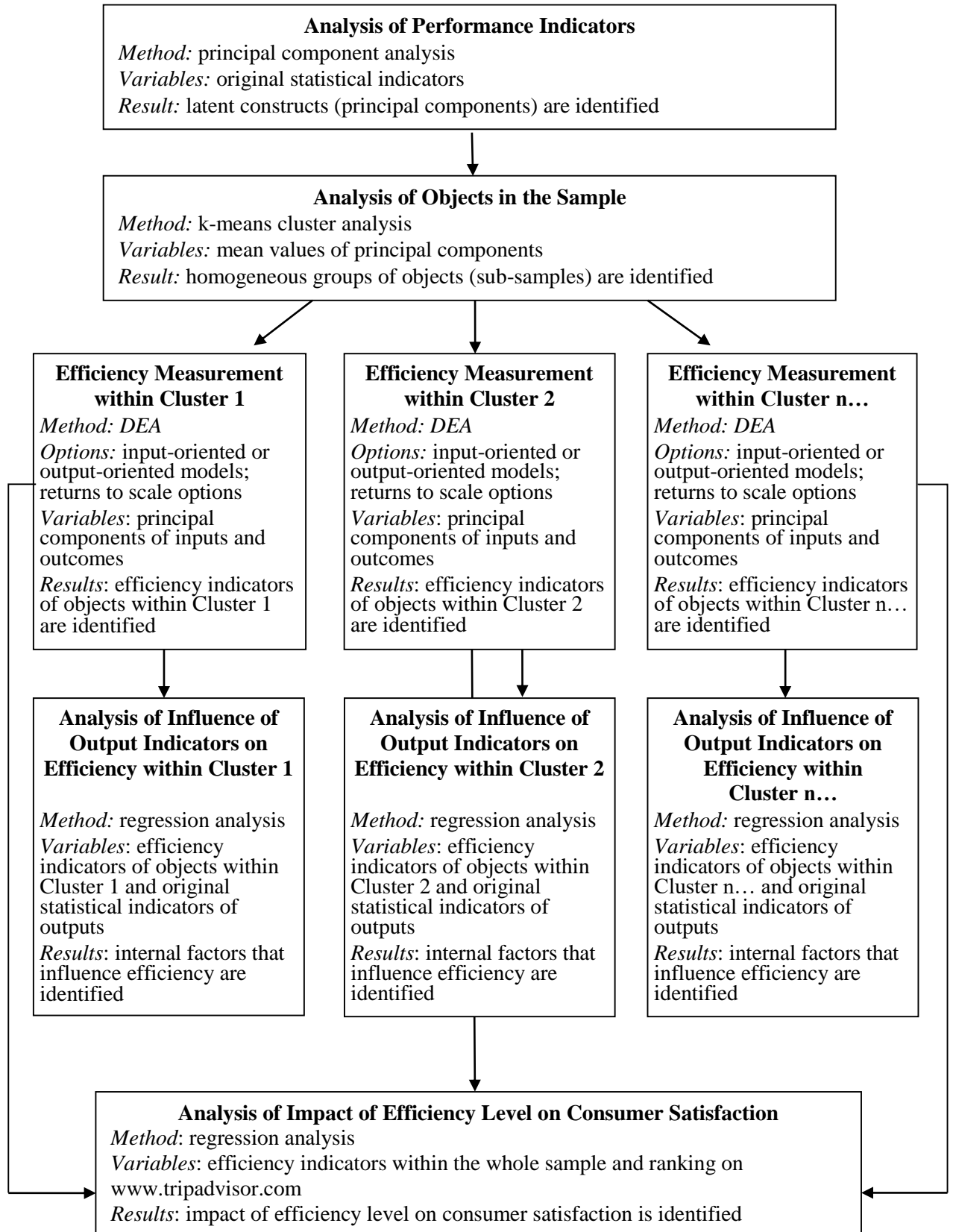


Figure 1 – Suggested Methodological Approach to Efficiency Measurement of Cultural Organizations

Source: Author's own elaboration

Main Findings

In order to reach the main aim and objectives of the research the author of the dissertation has developed and empirically tested an original methodological approach to relative efficiency measurement of cultural organizations. The main findings may be outlined as follows.

Firstly, in the dissertation existing theoretical approaches to the notions of performance and efficiency applicable to the cultural sphere were deeply studied. The author has shown that the majority of scholars stick to the notion of socio-cultural efficiency that is understood as a ratio between social, economic and cultural effects and the resources that are used to reach them.

Secondly, the author has analyzed current trends that explain the necessity of performance measurement of cultural organizations. The main trends are: reduction of budget funding and tighter restrictions on budget spending; need to create a multi-channel financial model of cultural organizations; demand for clearer accountability to the funding parties; increasing competition level coupled with no increase in demand for cultural services; demand for increased transparency of organizations funded from public money and equal access to cultural merit goods.

Thirdly, the dissertation contains an overview of theoretical and empirical approaches to performance measurement of cultural organizations. A special focus is laid on research of relative efficiency based on econometric methods. The author shows that due to a special nature of cultural organizations non-parametric methods are a suitable instrument for efficiency measurement.

Fourthly, the author has proposed a multi-stage methodological approach to performance measurement of cultural organizations that allows: a) to conduct comparative analysis of a large sample of heterogeneous objects; b) to use a multi-criteria approach and quantitative indicators; c) to study different aspects of performance depending on the indicators used in analysis; d) to elaborate standardized efficiency indicators, to judge about the measures of necessary improvements of particular indicators and to distinguish benchmarks; e) to take a complex approach to the problem of performance measurement – to identify indicators that influence efficiency and to evaluate the influence of efficiency on consumer satisfaction level.

Fifthly, based on descriptive analysis of performance indicators of Russian theatres, several positive and negative trends in the development of theatrical industry were identified, namely: increase in financial resources of theatres in real terms; increase in the number of performances; increase in attendance and revenues from ticket sales; continued dependence on budget funding; little emphasis on sponsors and donors as a funding source; disproportion in access to theatrical services based on income.

Sixthly, using principal component analysis the author has defined the key performance indicators of cultural organizations that are important for relative efficiency measurement. A set of 12 principal components has been identified.

Seventhly, using cluster analysis four theatre groups (clusters) were identified (Figure 2). We described their key features from the point of view of performance indicators and real-life characteristics such as status, location, genre, etc. Interpretation of these results allowed the author to name the clusters in the following way: ‘exemplary theatres’, ‘classical academic theatres’, ‘advanced regional theatres’ and ‘children theatres and theatres on the periphery’. The following tendency was identified: the lower the number of objects in the cluster is, the higher mean values those objects demonstrate. A prominent exception is the principal component ‘work with children’ where an opposite tendency is observed.

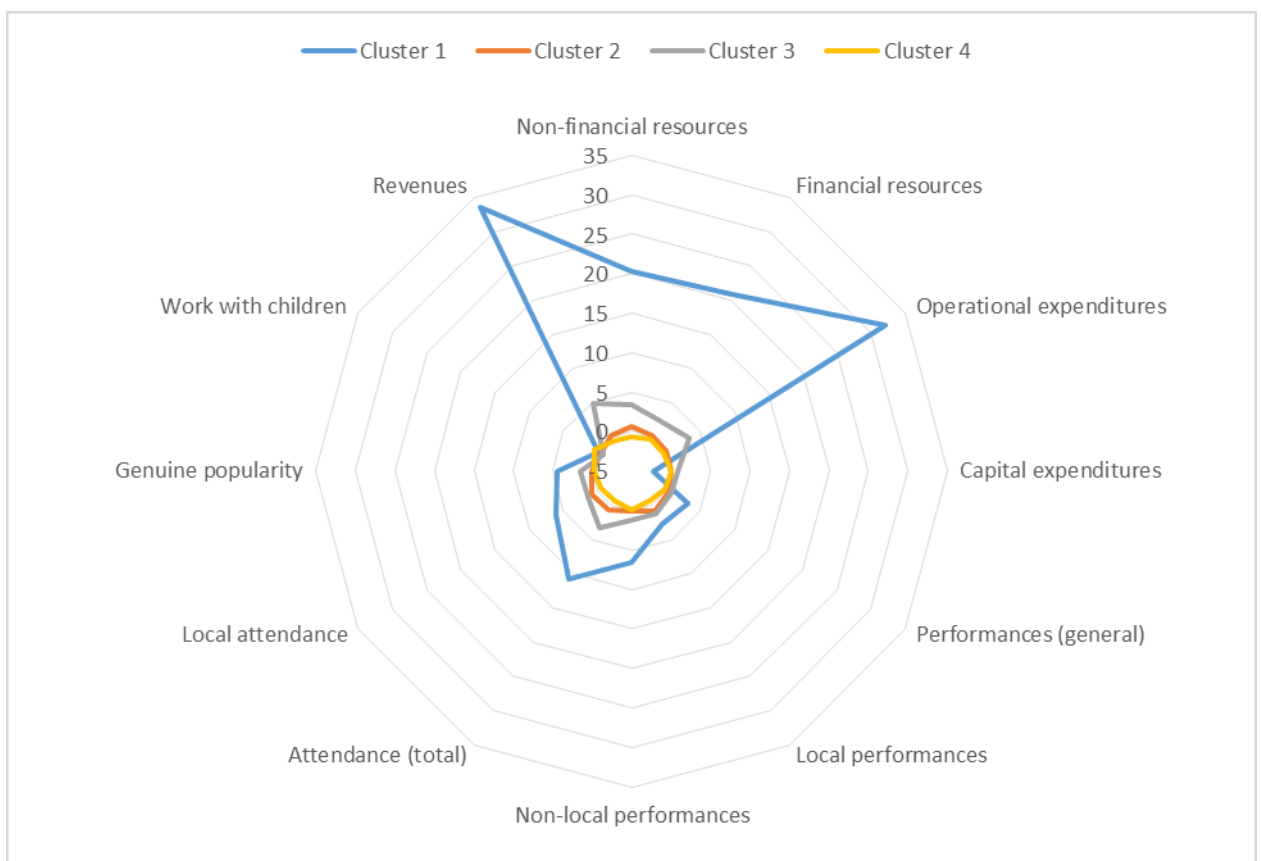


Figure 1 – Mean values of principal components for four clusters of Russian theatres

Source: own elaboration

Eighthly, efficiency levels of theatres belonging to two clusters (1071 observations) were calculated according to different DEA models depending on the outcome indicators used in the analysis. Comparison of mean values of efficiency indicators in 2012-2016 (Figure 3) shows that the values do not differ significantly. Theatres of Cluster 3 are more efficient in Model 1 “Attendance” and Model 2 “Revenues”, while theatres of Cluster 2 are more efficient in Model 3

“Work with Children”. These results are in tune with the findings of cluster analysis of the whole sample: “classical academic theatres” do not pay enough attention to children as target audience comparing with organizations from bigger clusters.

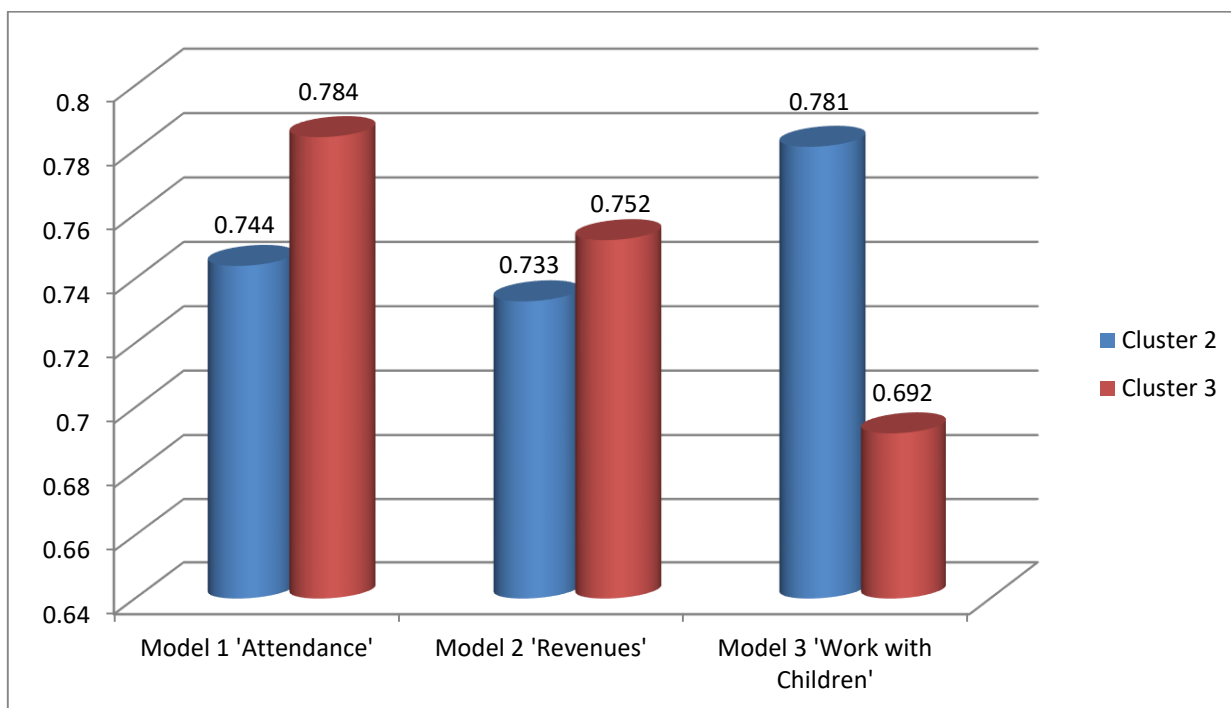


Figure 3 – Mean values of efficiency indicators (Clusters 2 and 3, years 2012-2016, variable returns to scale DEA models)

Source: own elaboration

The author has identified statistically significant average and strong correlation between the results of efficiency measurement in different models (Tables 2 and 3). This fact signifies that efficiency of theatrical institutions does not depend strongly on variables analyzed and more generally speaking on the aspect of efficiency under analysis.

Table 2. Correlation matrix between efficiency indicators within Cluster 3 (variable returns to scale)

Efficiency Models	2012	2013	2014	2015	2016	2012-2016
Models 'Attendance' and 'Revenues'	0.6748*	0.6858*	0.5546*	0.5196*	0.5506*	0.5709*
Models 'Attendance' and 'Work with Children'	0.5418*	0.4451*	0.5078*	0.5864*	0.7261*	0.5413*
Models 'Revenues' and 'Work with Children'	0.6978*	0.7081*	0.4030*	0.7480*	0.7238*	0.6619*

* Correlation is significant at the 5% level and lower. Source: own elaboration.

Table 3. Correlation matrix between efficiency indicators within Cluster 2 (variable returns to scale)

Efficiency Models	2012	2013	2014	2015	2016	2012-2016
Models 'Attendance' and 'Revenues'	0.6795*	0.5999*	0.6461*	0.6001*	0.7405*	0.6488*
Models 'Attendance' and 'Work with Children'	0.7033*	0.7083*	0.8386*	0.6109*	0.8005*	0.7242*
Models 'Revenues' and 'Work with Children'	0.8060*	0.7482*	0.7639*	0.7616*	0.7191*	0.7587*

* Correlation is significant at the 5% level and lower. Source: own elaboration.

Ninthly, conclusions regarding the influence of internal factors on theatres' efficiency levels were made. We found out that the influence of different factors depends on the cluster what signifies a high level of heterogeneity of theatrical institutions. Theatres with higher values of performance indicators (Cluster 3) are characterized by statistically significant negative influence of the number of new and re-staged performances on efficiency, statistically significant positive influence of the number of performances at home stage(s) on efficiency and no significant influence of indicators that concern tours abroad. Theatres of the smaller Cluster 2 are characterized by statistically significant negative influence of the number of performances at home stage(s) and indicators that concern tours abroad.

Moreover, the influence of theatre characteristics on efficiency was identified. Theatre location (region) has statistically significant influence on efficiency in Models 'Revenues' and 'Work with children'. Federal status has significant negative influence on efficiency in terms of revenues. Opera and ballet genres have significant negative influence on efficiency in each model in both clusters.

The above-mentioned results are depicted in Tables 4 and 5.

Table 4. Results of regression analysis on Cluster 3

Variables	(1) Model 1 'Attendance'	(2) Model 2 'Revenues'	(3) Model 3 'Work with children'
Number of new performances	-0.0204*** (0.00614)	-0.00349 (0.00575)	-0.00897 (0.00655)
Number of re-staged performances	-0.0301 (0.0346)	-0.0111 (0.0324)	-0.0573 (0.0369)
Number of performances at home stage(s)	0.000587** (0.000239)	0.000164 (0.000224)	-6.23e-05 (0.000255)
Number of performances at other stages within the local area	0.000988 (0.000804)	-0.00160** (0.000753)	-6.46e-05 (0.000857)
Number of tours outside the local area in Russia	0.00249 (0.00162)	-0.00221 (0.00151)	-0.00384** (0.00172)
Number of tours abroad	-0.0184 (0.0154)	0.0203 (0.0144)	-0.0110 (0.0164)
Number of performances given during tours abroad	0.00173 (0.00110)	-0.000296 (0.00103)	0.000268 (0.00117)
Number of children performances	0.000278 (0.000293)	0.000825*** (0.000274)	0.000963*** (0.000312)
Region	-0.0111 (0.00709)	-0.0121* (0.00664)	-0.00595 (0.00756)
Federal status	-0.00793 (0.0495)	-0.117** (0.0464)	-0.0735 (0.0528)
Theatres for children	-0.380*** (0.143)	-0.469*** (0.134)	-0.166 (0.153)
Opera and ballet theatres	-0.161** (0.0643)	-0.213*** (0.0602)	-0.267*** (0.0685)
Year 2013	-0.0883 (0.0696)	-0.0441 (0.0652)	-0.0579 (0.0742)
Year 2014	-0.0518 (0.0679)	-0.148** (0.0635)	-0.238*** (0.0724)
Year 2015	0.0121 (0.0744)	-0.131* (0.0696)	-0.119 (0.0793)
Year 2016	-0.0691 (0.0759)	-0.127* (0.0711)	-0.125 (0.0809)
Constant	0.781*** (0.0988)	0.953*** (0.0925)	0.989*** (0.105)
Number of observations	123	123	123
R-squared	0.441	0.432	0.411

Note: standard errors in parenthesis, significance levels – ***p<0.01, **p<0.05, *p<0.1.

Source: own elaboration.

Table 5. Results of regression analysis on Cluster 2

Variables	(1) Model 1 'Attendance'	(2) Model 2 'Revenues'	(3) Model 3 'Work with children'
Number of new performances	-0.00596 (0.00368)	-0.00871** (0.00379)	-0.000723 (0.00332)
Number of re-staged performances	0.0122 (0.0114)	0.00893 (0.0118)	0.00857 (0.0103)
Number of performances at home stage(s)	-0.000810*** (0.000120)	-0.00112*** (0.000124)	-0.000677*** (0.000109)
Number of performances at other stages within the local area	-0.000306 (0.000410)	-0.000192 (0.000422)	-0.00114*** (0.000369)
Number of tours outside the local area in Russia	-8.62e-05 (0.00109)	-0.000997 (0.00112)	-0.00102 (0.000979)
Number of tours abroad	-0.0164* (0.00903)	-0.0170* (0.00931)	-0.0141* (0.00814)
Number of performances given during tours abroad	-0.00174* (0.000903)	-0.000589 (0.000931)	-0.000597 (0.000814)
Number of children performances	0.000746*** (0.000124)	0.00111*** (0.000128)	0.000672*** (0.000112)
Region	-0.000226 (0.000525)	-0.00103* (0.000542)	-0.00101** (0.000474)
Federal status	-0.441*** (0.0521)	-0.383*** (0.0537)	-0.436*** (0.0470)
Opera and ballet theatres	-0.350*** (0.0383)	-0.372*** (0.0395)	-0.361*** (0.0345)
Theatres for children	0.0356 (0.0354)	-0.0129 (0.0365)	-0.0493 (0.0319)
Year 2013	0.00374 (0.0311)	-0.00737 (0.0320)	-0.00411 (0.0280)
Year 2014	0.101*** (0.0309)	0.00491 (0.0319)	0.0120 (0.0279)
Year 2015	0.0320 (0.0314)	-0.0100 (0.0324)	-0.0104 (0.0284)
Year 2016	0.0360 (0.0310)	-0.0334 (0.0320)	-0.00354 (0.0280)
Constant	0.935*** (0.0417)	1.058*** (0.0430)	1.010*** (0.0376)
Number of observations	948	948	948
R-squared	0.228	0.227	0.222

Note: standard errors in parenthesis, significance levels – ***p<0.01, **p<0.05, *p<0.1.

Source: own elaboration.

Tenthly, the author has shown that efficiency level of theatrical institution has statistically significant positive influence on consumer satisfaction level with a two- and three-year lags (Tables 6 and 7).

Table 6. Influence of efficiency (Model 1 'Attendance') on consumer satisfaction

Variables	(1)	(2)	(3)	(4)	(5)
Efficiency indicator (2016)	0.0452 (0.0620)				
Efficiency indicator (2015)		0.0397 (0.0601)			
Efficiency indicator (2014)			0.194** (0.0793)		
Efficiency indicator (2013)				0.105* (0.0609)	
Efficiency indicator (2012)					0.0221 (0.0586)
Capacity of the main stage	-0.000289*** (8.38e-05)	-0.000299*** (9.04e-05)	-0.000282*** (8.86e-05)	-0.000286*** (9.23e-05)	-0.000316*** (9.35e-05)
Total number of employees	0.000450*** (0.000143)	0.000392*** (0.000145)	0.000561*** (0.000145)	0.000489*** (0.000142)	0.000460*** (0.000139)
Share of budget funding	-0.00326** (0.00132)	-0.00288** (0.00146)	-0.00288** (0.00141)	-0.00309** (0.00145)	-0.00294** (0.00144)
Status (federal / local)	-0.00970 (0.0769)	-0.0538 (0.0908)	0.0199 (0.0749)	0.0125 (0.0778)	0.00329 (0.0777)
Constant	4.707*** (0.121)	4.705*** (0.131)	4.521*** (0.146)	4.638*** (0.128)	4.712*** (0.126)
Number of observations	227	200	193	182	186
R-squared	0.078	0.070	0.115	0.103	0.087

Note: standard errors in parenthesis, significance levels – ***p<0.01, **p<0.05, *p<0.1.

Source: own elaboration.

Table 7. Influence of efficiency (Model 2 'Revenues') on consumer satisfaction

Variables	(1)	(2)	(3)	(4)	(5)
Efficiency indicator (2016)	0.0596 (0.0557)				
Efficiency indicator (2015)		0.0233 (0.0616)			
Efficiency indicator (2014)			0.110* (0.0647)		
Efficiency indicator (2013)				0.113* (0.0635)	
Efficiency indicator (2012)					0.0849 (0.0624)
Capacity of the main stage	-0.000283*** (8.40e-05)	-0.000302*** (9.06e-05)	-0.000281*** (9.07e-05)	-0.000284*** (9.24e-05)	-0.000301*** (9.27e-05)
Total number of employees	0.000450*** (0.000139)	0.000388*** (0.000148)	0.000505*** (0.000143)	0.000484*** (0.000141)	0.000495*** (0.000140)
Share of budget funding	-0.00318** (0.00132)	-0.00295** (0.00146)	-0.00333** (0.00141)	-0.00311** (0.00145)	-0.00293** (0.00143)
Status (federal / local)	-0.00629 (0.0759)	-0.0527 (0.0910)	0.00323 (0.0750)	0.00666 (0.0776)	0.00988 (0.0775)
Constant	4.688*** (0.120)	4.725*** (0.129)	4.642*** (0.129)	4.630*** (0.129)	4.645*** (0.129)
Number of observations	227	200	193	182	186
R-squared	0.080	0.069	0.100	0.104	0.096

Note: standard errors in parenthesis, significance levels – ***p<0.01, **p<0.05, *p<0.1.

Source: own elaboration.

Contribution

1. A complex multi-stage methodological approach to relative efficiency measurement of cultural organizations is proposed and tested in the dissertation. The approach is based on the application of econometric methods, the key method being data envelopment analysis. To the author's knowledge this method has never been previously applied to cultural organizations by Russian scholars. The author shows that different specifications of the methodological approach can be successfully applied to efficiency measurement of cultural organizations in order to calculate different aggregated efficiency indicators depending on the input and output indicators used in analysis. The variable-returns-to-scale DEA model is viewed as the most appropriate one for the cultural sphere.

2. The whole population of Russian theatres that are part of the network governed by the Russian Ministry for Culture was investigated with the use of cluster analysis. As a result, four distinct groups (clusters) of theatres were distinguished, and their characteristic features were described.

3. The author proposed a set of performance indicators that represent a useful standardized research instrument for efficiency measurement of cultural organizations based on non-parametric methods such as data envelopment analysis which are sensitive to the ratio between the number of objects and variables analyzed.

4. To the author's knowledge, for the first time efficiency of a large sample of Russian cultural organizations has been measured based on econometric methods. Efficiency indicators of each analyzed object were elaborated, necessary measures of improvement of particular indicators were calculated, and benchmarks were identified.

5. According to the suggested methodological approach efficiency indicators are used as both exogenous and endogenous variables. We identified the influence of efficiency level on consumer satisfaction and investigated the influence of different internal factors (measured in this research through outputs) on efficiency levels of theatres. Thus, the proposed methodology is based on both objective statistical data and subjective opinion of key stakeholders of cultural organizations – consumers.

Original methodological approach and the main findings of the study may be used by public authorities in the cultural sphere for well-grounded allocation of budget resources to particular organizations and in order to identify the main avenues for development of cultural policy and targets of governmental programmes. Managers of cultural organizations may use the results of the study to learn about production processes practiced by benchmark theatres and further integrate their practices in order to increase one's own efficiency level. They may also use the findings for

attracting additional financial resources of sponsors and donors through being able to provide precise and standardized information about one's own performance.

List of Author's Original Articles

Articles that describe the main findings of the dissertation:

1. Zelenskaya, E. M. Performance measurement of cultural organizations: analysis of indicators and overview of methods // *Economy of the North-West: Issues and Prospects of Development*. 2017. № 3-4 (56-57). P. 174-188.

2. Zelenskaya, E. M. Measuring performance of cultural organizations using data envelopment analysis // *Bulletin of Baltic Federal University. Series Humanities and Social Sciences*. 2018. № 2. P. 39-51.

3. Zelenskaya, E.M. Performance in Cultural Sphere: Cluster Analysis of Socio-Economic Performance Indicators of Russian Theatres // *Bulletin of Ural Federal University. Series Economics and Management*. 2018. Vol. 17, No. 1. P. 8–25. DOI: 10.15826/vestnik.2018.17.1.001.

Other articles published in the previous 5 years:

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