Azgaldov G. G., Kostin A. V. Increasing the Validity of Results of a National/International Competition: A Case Study

Abstract

The purpose of this paper is to provide the reader who may have little or no knowledge of the science of qualimetry with the following:

- Some background for one of the three techniques of qualimetry, namely the short-cut one. It is illustrated by a real-life example from Russia, the Golden Brand national franchise competition, was designed to name winners in several categories. Choosing the winners involved a number of disparate factors, which added an extra difficulty.

- A minimum required list of popular literature that allows to apply the qualimetric approach to similar problems of selecting the best option by factoring in an indefinite number of disparate criteria.

The methodology used to obtain the results described in this paper is based on a deductive-axiomatic approach and, occasionally, on expert judgements.

The findings presented in this paper can raise the research community's awareness of the great opportunities that the qualimetry toolbox can offer them in addressing their problems; moreover, it can help them to avoid many pitfalls.

Practical implications: The information found in this paper broadens the range of business problems and problem-solving procedures that can make use of qualimetric techniques and approaches.

Originality: The vast majority of the readers of this case study will find information contained herein both novel and potentially useful.

Keywords: Quality, Quality Assessment, Evaluation Situation, Qualimetry, Property Tee, Integral Quality Index, Franchise.

Category: Case study.

Scope of the Case Study

Many countries of the world hold trade, national or international competitions. Before the winner is announced a complex multicriterial problem of choosing the best one (in quality) from among the entrants must be solved.

Since such problems involve the quantification of entrants' quality/ performance they are best tackled using the methodology of qualimetry[1].

What follows is a case study of the application of qualimetric analysis to such a problem using as an illustration eight entrants in the Golden Brand national competition.

Selecting the Best Franchiser

The Organising Committee of the Golden Brand Russian national franchise competition[2] formulated the problem: to develop a method for quantitative assessment of quality (MAQ) with special reference to the Golden Franchise category.

The Organising Committee acted as Decision Maker. The winner in the Golden Franchise category was to be awarded a prize as the most successful franchiser.

Key Concepts

Franchsing is a kind of contractual relations between market entities whereby one party (a franchiser) assigns to the other party (a franchisee)

[1] Qualimetry is a scientific discipline which concerns itself with the methods and problems of quantification of the quality of any object: things or processes, whether natural or man-made, products of labour or Nature, whether living or inanimate, etc. [1]

[2] http://www.goldenbrand.ru

for a fee the right to use the business model it developed.

The franchiser transfers to the franchisee the right to its brand (trade mark), technologies and know-how, provides training and gives every assistance to the development of the franchisee's business.

A franchise (franchising package) is a complete business system transferred by a franchiser to a franchisee under an agreement.

The success of a franchise company is a performance indicator characterising its output (the quantity and quality of its services and/or products) and its input (the costs incurred). Both the input and output for a preset period only are considered; in our case it is 24 months.

Formation of the MAQ Design and Application Team

The competition Organising Committee followed a method used in qualimetry [1] to name an expert commission composed of the following:

G. G. Azgaldov, the MAQ Designer, who also acted as facilitator,

A. V. Kostin, who provided technical support, and an expert team composed of seven experts (Table 1).

Table 1

Team of experts who defined criteria and their weights

Expert 1	Alexander Zinovievich MAILER, Chair of the Board of Directors, Russian Association for Franchise Promotion (PAFP)
Expert 2	Alexander Valerievich KOSTIN, Ph.D (Econ.), Head of apraisal department of DFK Femida-Audit, Academic Secretary of the Research Council on the Economic Problems of Intellectual Property, Economics Division of the Russian Academy of Sciences, Moscow.
Expert 3	Irina Viktorovna ZAGERT, President of Femida-Audit, Chair of the International Links and Investment Committee, Moscow Auditing Chamber
Expert 4	Nina Anatolievna SEMINA, head of the Franchise Development Department, Deloshop ready-made business shop
Expert 5	Natalia Borisovna VINOGRADOVA, managing partner, EXPOFAR exhibition company
Expert 6	Olga Vladimirovna MARKINA, head of the Special Projects Department, EXPOFAR exhibition company
Expert 7	Prof. Garry Gaikovich AZGALDOV, Dr. (Econ.), Chief Researcher, Central Economics and Mathematics Institute, Russian Academy of Sciences

Given below is a method to address the problem of selecting Golden Brand winners. It matches the most common object quality assessment algorithm adopted in qualimetry [1].

1. Description of the Evaluation Situation

Questions regarding features of application of the evaluation object

Possibility of upgrading the technique in the future

The MAQ can be upgraded in the future if it is found necessary to improve the accuracy, reliability and number of its results or to change its application area, e.g., to determine the best innovative brand, the best franchisor, the best franchisee, etc.

Questions Regarding Computed Quality Ratings

The social hierarchy level in terms of which entrants are evaluated

This method is used to evaluate nominee companies with due account for the interests of the Russian national economy. If necessary, the method can be upgraded by incorporating some other hierarchy level such as regional or sectoral.

The degree of generalisation of an object evaluated by this method

Qualimetry evaluates objects in terms of either outcomes (when their quality is said to be evaluated, e.g. the quality of company operation) or outcomes and inputs (when their integral quality is said to be evaluated, which is synonymous with efficiency and profitability).

This evaluation technique takes into consideration both outputs and inputs. However, for simplicity this text will refer in most cases to the evaluation of quality (rather than integral quality).

The accuracy level inherent in the MAQ

In terms of accuracy all the methods of qualimetry fall into three types, namely precise, approximate and short-cut.

Precise methods depend on latest scientific research, which helps to obtain minimum-error estimates permitted by the state of the art. Short-cut methods work with maximum tolerable error. Approximate methods are half-way between precise and short-cut methods in terms of calculation error. Obviously, a smaller calculation error means greater labour intensity and vice versa.

The Decision Maker's statement of the problem defined this MAQ as a short-cut one.

The type of comparability inherent in the MAQ

All methods of qualimetry in terms of comparability of their results are separated into three kinds: those ensuring functional comparability; those ensuring time comparability; and those ensuring formal comparability.

When applied to franchising, functional comparability implies the ability to compare franchises relating to any businesses, even quite disparate ones. Time comparability means that franchises can be compared at different times. With formal comparability franchises can only be compared if they were evaluated on an identical rating scale.

This MAQ ensures functional and formal comparability but not time comparability.

The scale to express MAQ results

Decision making theory, operations research and qualimetry commonly use two scales to quantify their findings, one being the rank scale (otherwise known as the ordinal scale) and the other being the ratio scale.

With the rank scale one can rank comparison objects (e.g., franchises) by any characteristic such as success, but cannot decided to what extent (still less how many times) one object, e.g., a franchise, is better or worse than another. This kind of information can only be obtained if results are expressed on the ratio scale.

This MAQ makes it possible to obtain quantitative information expressed on the rank (ordinal) scale but not on the ratio scale.

With seven human calculators (who may also act as experts) and all the initial data available the labour input will be approximately nine men-days (not counting the MAQ Designer's time outlays).

Labour and time inputs in competition scoring

MAQ frequency of application (multiple or single)

In the event of a single application of this method all calculations can be made by formulas, which is the case with this MAQ. If the intention is to use the MAQ repeatedly, it makes sense to develop computer programs or to use standard packages such as MS Excel.

The foregoing questions, which the MAQ Designer expects to be answered at the Evaluation Situation Definition step, are in fact more numerous than shown herein. Their number depends on the complexity of the evaluation object, and they have been enumerated in more detail in other works on qualimetry, e.g. in [3].

2. The Criteria Tree Used in Evaluating Golden Brand National Competition Nominees

This tree, built according to the general tree building rules set forth in theoretical qualimetry [1], takes into account the above-mentioned evaluation situation. The Golden Brand competition is designed to identify the most efficient franchising business. To this end the 19 criteria used in the scoring are grouped in the shape of a tree (see Fig. 1). The totality of these criteria is based on information made available to the MAQ Designer by the competition organisers.

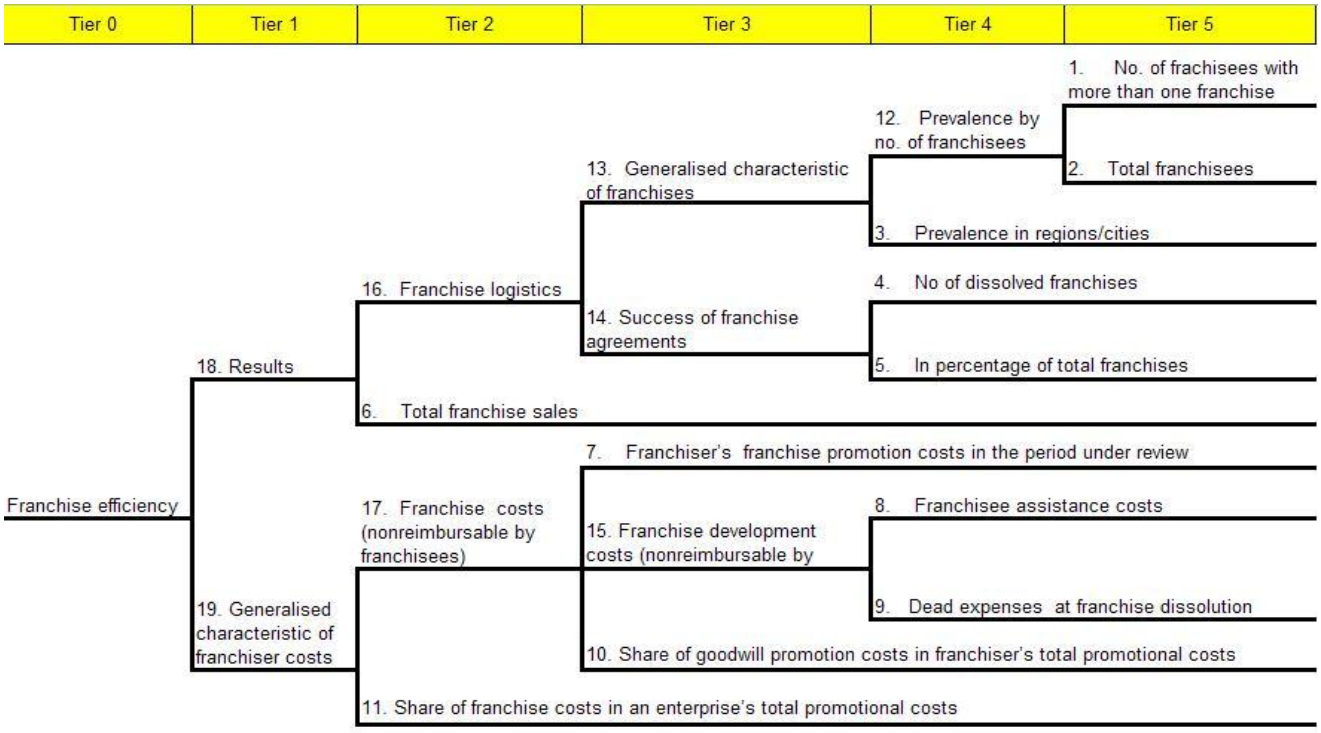

Fig.1. Criteria tree characterising the success/efficiency of a nominee franchise enterprise.

3. Determining Criteria Weights

A tier weight G_i: a weight such that it characterises the important of a property in relation to another property that is a member not just of the same group but also of the same tier; even to another property belonging to another tier of the tree.

Weights are always normalized, i.e.,$0 \le G < 1$.

Besides, within any tier $\sum G_i = 1$ is always achieved.

Properties in the tree are numbered as shown in Fig. 1.

The general approach to developing weight values favours an analytical technique. If, however, your evaluation situation does not allow it or makes it too complicated (because of time or data limitations) the judgement method is used.

The weights of the 19 criteria listed in the tree above were determined in the circumstances of a shortage of time available for MAQ design (for the Golden Brand competition). For this reason the MAQ Designer decided to determine the weight values by the judgement method (using an expert group of seven members listed in Table 1). Weights were determined for summary properties Nos 1-11 (placed at the last, topmost tier of the tree) and for intermediate properties Nos 12-19.

Note that the expert survey and the processing of its results relied on an appropriate technology expounded, e.g., in [3].

Table 2 lists only summary weight values for eight intermediate and 11 final criteria at the top tier of the tree shown in Fig. 1.

Table 2

Summary of an expert-based determination of the group weights G_i

Numbers in Fig. 1 tree	Values of group non-normalised *i*th weights obtained in the first or second round							Calculation of the values of group and tier weights G_i			
	1	2	3	4	5	6	7	Mean value	Normalised values of group weights	Weights by tier	Checkup of tier 5
1	80	80	50	90	70	75	75	74	0.43	6%	0.0633
2	100	100	100	100	100	100	100	100	0.57	9%	0.0852
12	100	100	90	100	100	100	100	99	0.56	15%	-
3	80	70	100	50	90	70	80	77	0.44	12%	0.1162
4	10	100	10	20	20	100	100	51	0.46	7%	0.0720
5	100	10	100	100	100	10	10	61	0.54	9%	0.0860
13	100	100	90	100	80	100	100	96	0.63	26%	-
14	80	10	100	90	100	10	10	57	0.37	16%	-
16	100	100	100	100	100	90	100	99	0.68	42%	-
6	60	70	30	10	50	100	10	47	0.32	20%	0.2022
8	100	100	100	100	100	100	100	100	0.78	10%	0.0972
9	40	10	10	20	50	50	20	29	0.22	3%	0.0278
7	100	70	100	40	30	40	40	60	0.29	9%	0.0937
15	100	10	100	100	50	100	100	80	0.39	12%	-
10	100	100	100	30	100	20	20	67	0.32	10%	0.1048
17	100	100	100	90	100	100	100	99	0.86	32%	-
11	30	10	20	10	20	10	10	16	0.14	5%	0.0516
18	100	100	100	100	100	100	100	100	0.63	63%	-
19	80	40	50	100	80	40	30	60	0.38	38%	-
										Checkup of ΣG_i =	1.0000

4. Determining Absolute, Reference and Rejection Values of Measures

Key concepts used

Absolute measure of the criterion Q - a quantitative characteristic of the criteria, which determines its degree of manifestation on a criterion-specific measuring scale; for example, the number of franchise agreements concluded.

Value of the absolute measure of the criterion ***q***: a particular numeric value that can be assumed by the measure Q_{ij} in an *i*th(*i*=1,2,…,11) criterion of the *j*th competition nominee (j = 1,2,…, 8); for example, the number of franchise points Q = 5.

Particular values of *i*th criteria were determined from data supplied to the Organising Committee (and made available to the MAQ Designer) by every *j*th nominee; they are listed in Table 5.

Reference value of the absolute measure of the criterion q^{ref}_i – the best value of the criterion's absolute measure achieved in the entire world (for the brand assessment period) as applied to similar franchises operating anywhere in the world); for example, the number of franchise points is 115.

Acceptable value of the absolute measure of the criterion q^{acc}_i – the worst yet acceptable value of the absolute measure of the criterion for the brand assessment period as applied to similar objects (franchises) operating anywhere in the world. For example, at present the sales volume of any franchising operation is hardly less than \$1000; any smaller amount can be neglected. Therefore, the acceptable value for this criterion q^{acc}_i = \$1000.

Rejection value of the absolute measure of a criterion. This value (q^{rej}_i) is taken to be the worst value of the criterion measure that is the nearest to q^{acc}_i. As applied to sales volume we can assume the rejection value q^{rej}_i = \$990.

Determining the values of q^{ref} *and* q^{rej} *for criterion measures lacking units of measurement*

These criteria include, e.g., aesthetic or some ergonomic and economic criteria and, if necessary, any criterion found at any tree tier except for the final (topmost) one. For these criteria we set q^{rej} = 0% and q^{ref} = 100%.

Determining the values of q^{ref} *and* q^{rej} *for criterion measures having units of measurement*

Documentary method for determination of q^{ref} *and* q^{rej}

This method is applied to criteria found on the last tier of the tree, for which documentary data are available that permit to determine q^{ref} and q^{rej}.

Such data can be found in books, R&D reports, surveys, catalogues, exhibition prospectuses, promotional materials, etc. Obviously, the greater their number the more precisely will the values of q^{ref} and q^{rej} be determined.

Assume that we could find *m* documents containing data that help to determine q^{ref} or q^{rej}. The approach to their determination is expressed by the formulas

$$q_i^{ref} = \sup \{ q_{ij}, \quad j = \overline{1,m} \},$$

where i – criterion number in the tree;

j – number of the document from which the value of q_{ij} was obtained; and

sup (supremum) – an operator for singling out the best value from a range of values.

For example, for the "regional prevalence of franchise" criterion the documentary method produced the values of q_{ij} (in the number of regions where a company's franchise is in force). Then

q^{ref} = sup {5; 8; 1; 7; 2 }= 8 .

Similarly, for the "number of dissolved franchises" criterion values were obtained that allow to determine the reference value

q^{ref} = inf {4, 2, 5, 0, 1,3} = 0,

where inf (infimum) is an operator for singling out the best (here the least) value from their total range.

In a similar way the sup and inf operators can be used in problems of determining acceptable values of criteria. As long as an acceptable value is known it is easy to determine a rejection value (the worst yet the nearest neighbour to the acceptable one) of q^{rej} .

The judgement method for q^{ref} and q^{rej} determination

As mentioned above, this method is to be applied to criteria for which the documentary method does not work or is too cumbersome (i.e., a search for documented data for q^{ref} or q^{acc} requires too great an input of labour or time).

The expert-based procedure of determination of q^{ref} and q^{acc} is similar to that of determination of the values of the weights g_i (viz., the interviews were conducted in a single round or, if the disparity in experts' judgements after the first round was higher than 25 per cent, a second round was conducted). Next, the mean reference and rejection values across the seven experts for all the criteria at the topmost tier of the tree are determined. Those means values are accepted as desired values.

The above procedure differs from that of weight determination. As mentioned elsewhere ([3[), expert judgements of all criteria were found by experts' completing personal questionnaires (in one or two rounds). Criteria were not listed in groups, as in weight determination (e.g., 1 and 2, 4 and 5, 12 and 3, etc.) but one at a time (1, 2, 3, 4 etc.). Unlike the weight determination procedure, when reference and rejection values of measures are determined only the properties of the last tier of the criteria tree are entered into the questionnaire (see Fig. 1).

Table 3 lists the identified reference and rejection values of criterion measures on the last tier of the tree (Fig. 1).

Table 3

Reference and rejection values of measures for the Fig. 1 tree

Property Nos	Units	Rounds	Values of criterion measures																
			Acceptable values registered by experts Nos							Means	Q^{rej}	Reference values registered by experts Nos							Means
			1	2	3	4	5	6	7			1	2	3	4	5	6	7	
1	pcs	1	0	1	0	0	0	1	1	1	0	35	18	20	10	35	20	25	19.7
		2	1	1	1	1	1	1	1			30	10	20	8	30	20	20	
2	pcs	1	1	1	1	1	1	1	1	1	0	2500	90	2500	2500	2500	2500	900	1943
		2										2500	100	2500	2500	2500	2500	1000	
3	Cities	1	1	1	1	1	1	1	1	1	0	400	200	500	400	550	600	450	393
		2										300	200	450	300	550	500	450	
4	pcs.	1	10	10	10	10	10	8	12	15	16	0	0	0	0	0	0	0	0
		2	15	15	15	15	15	15	15										
5	%	1	99	99	99	99	99	99	99	99	100	0	0	0	0	0	0	0	0
		2																	
6	mln rubles	1	1	0.01	0.2	0.4	0.5	0.5	1	0.8	0.7	25000	26000	28000	30000	29000	27000	29000	27714
		2	1	0.01	1	1	1	0.5	1			25000	26000	28000	30000	29000	27000	29000	
7	mln rubles	1	600	2000	3000	500	2000	900	1500	1193	1194	600	2500	5450	600	3000	9000	0	0.0006
		2	600	1500	450	600	3000	900	1300			0	0.002	0	0	0.002	0	0	
8	mln rubles	1	3000	2000	1000	4000	3000	2000	3000	3000	3010	0	0	0	0	0	0	0	0
		2	3000	3000	3000	3000	3000	3000	3000										
9	mln rubles	1	10	10	10	10	10	10	15	15	16	0	0	0	0	0	0	0	0
		2	15	15	15	15	15	15	15										
10	%	1	99	99	99	99	99	99	99	99	100	0	0	0	0	0	0	0	0
		2																	
11	%	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	100	100	100	100	100	100	100	100
		2																	

Table 4

Weights, reference and rejection values for Fig. 1 property (criterion) tree

Fig. 1 tree criteria	Units of measurement	Rejection value	Reference value	Tier-specific weights
		q^{rej}	q^{ref}	G_i
1. No. of franchisees who opened more than one franchise point in the period under review.	pcs	0	19.7	0.0633
2. Total franchisees	pcs	0	1943	0.0852
3. Prevalence by region (no. of cities in which franchisees operate)	pcs	0	393	0.1162
4. No. of franchises dissolved in the period under review	pcs	16	0	0.0720
5. Ratio of dissolved to total franchise s (at their mean value in Russia) in the period under review	%	100	0	0.0860
6. Total franchise sales in the period under review	mln rubles	0.7	27714	0.2022
7. Franchiser's franchise promotion costs in the period under review	mln rubles	1194	0.0006	0.0937
8. Franchiser's franchisee assistance costs in the period under review	mln rubles	3010	0	0.0972
9. Franchiser losses from franchise agreement dissolution in the period under review	mln rubles	16	0	0.0278
10. Share of goodwill promotion costs in franchiser's total promotional costs	%	100	0	0.1048
11. Share of franchise costs in an enterprise's total promotional costs	%	0	100	0.0516

Table 5

Absolute measures of Q_{ij} (*i*th criteria passed by *j*th nominees to the competition Organising Committee and made available to the MAQ Designer)

$$q^{acc}{}_i \le Q_{ij} \le q^{ref}{}_i \quad \text{or} \quad q^{ref}{}_i \le Q_{ij} \le q^{acc}{}_i$$

Criterion number and name in the Fig. 1 tree	Unit of measurement	Values of *i*th criteria for *j*th nominees							
		1	2	3	4	5	6	7	8
1. No. of franchisees who opened more than one franchise point in the period under review	pcs	36.0	0.0	1.0	5.0	35.0	2.0	11.0	9.0
2. Total franchisees	pcs	68.0	63.0	13.0	25.0	143.0	20.0	51.0	178.0
3. Prevalence by region (no. of cities in which franchisees operate)	pcs	68.0	10.0	12.0	21.0	90.0	16.0	37.0	94.0
4. No. of franchises dissolved in the period under review	pcs	0.0	5.0	1.0	1.0	5.0	0.0	5.0	3.0
5. Ratio of dissolved to total franchise s in the period under review)	%	0.0	7.9	7.7	4.0	3.5	0.0	9.8	1.7
6. Total franchise sales in the period under review	mln rubles	3866.7	28.0	30.0	350.0	2109.1	70.0	216.6	2714.0
7. Franchiser's franchise promotion costs in the period under review	mln rubles	5.0	6.0	2.5	3.5	277.8	5.0	3.8	74.4
8. Franchiser's franchisee assistance costs in the period under review	mln rubles	4.7	0.0	1.0	0.2	152.3	2.0	2.9	152.3
9. Franchiser losses from franchise agreement dissolution in the period under review	mln rubles	0.0	0.7	0.7	0.7	0.0	0.0	0.0	0.0
10. Share of goodwill promotion costs in franchiser's total promotional costs	%	6.1	100.0	40.0	11.1	5.8	5.8	47.7	5.8
11. Share of franchise costs in an enterprise's total promotional costs	%	4.0	60.0	50.0	10.0	63.0	20.0	18.5	20.0

5. Determining relative values of measures (criteria)

As can be seen from Table 5, the absolute measures Q_{ij} (criteria by which Golden Brand entrants are evaluated) use different units of measurement and are thus incommensurable. To make them commensurable we convert **absolute** measures of varying dimensionality into **relative** measures of the same dimensionality. To this end we use the normalization formula

$$K_{ij} = \frac{Q_{ij} - q_i^{rej}}{q_i^{ref} - q_i^{rej}} \quad \text{where}$$

Q_{ij} is found from Table 5, and q_i^{rej} and q_i^{ref} are found from Table 4.

The values of K_{ij} thus obtained are entered in Table 6.

The calculated results of the Golden Brand prize competition (for the Fig. 1 tree) for eight nominees are listed in Table 6, where for every *i*th criterion its weight g_i taken from Table 2 is factored in. For reasons of privacy protection the names of nominee companies in Table 6 were replaced with serial numbers, 1 to 8.

As can be seen from Table 6 the top three places in the Golden Franchise category of the Golden Brand national prize competition went to nominees Nos. 1, 2 and 7.

The above ranking technique can be used in situations other than a competition. It is perfectly suited for cases where one has to make the best selection from a number of options, with each option characterised by any number of criteria (their nature not constrained in any way).

Table 6

Calculated results of the Golden Brand national prize competition (Golden Franchise category) for the Fig. 1 criteria tree

Criterion number and name in the Fig. 1 tree	Nominee 1			Nominee 2			Nominee 3			Nominee 4			Nominee 5			Nominee 6			Nominee 7			Nominee 8		
	Q_{i1}	K_{i1}	$K_{i1}*G_i$	Q_{i2}	K_{i2}	$K_{i2}*G_i$	Q_{i3}	K_{i3}	$K_{i3}*G_i$	Q_{i4}	K_{i4}	$K_{i4}*G_i$	Q_{i5}	K_{i5}	$K_{i5}*G_i$	Q_{i6}	K_{i6}	$K_{i6}*G_i$	Q_{i7}	K_{i7}	$K_{i7}*G_i$	Q_{i8}	K_{i8}	$K_{i8}*G_i$
1. No. of franchisees who opened more than one franchise point in the period under review.	36.0	0.923	0.058	0.0	0.0	0.0	1.0	0.026	0.002	5.0	0.128	0.008	35.0	0.897	0.057	2.0	0.051	0.003	11.0	0.282	0.018	9.0	0.231	0.015
2. Total franchisees	68.0	0.035	0.003	63.0	0.032	0.003	13.0	0.006	0.001	25.0	0.012	0.001	143.0	0.073	0.006	20.0	0.010	0.001	51.0	0.026	0.002	178.0	0.091	0.008
3. Prevalence by region (no of cities in which franchisees operate)	68.0	0.171	0.020	10.0	0.023	0.003	12.0	0.028	0.003	21.0	0.051	0.006	90.0	0.227	0.026	16.0	0.038	0.004	37.0	0.092	0.011	94.0	0.237	0.028
4. No. of franchises dissolved in the period under review	0.0	1.000	0.072	5.0	0.688	0.050	1.0	0.938	0.068	1.0	0.938	0.068	5.0	0.688	0.050	0.0	1.000	0.072	5.0	0.688	0.050	3.0	0.813	0.059
5. Ratio of dissolved to total franchises (at their mean value in Russia) in the period under review)	0.0	1.000	0.086	7.9	0.921	0.079	7.7	0.923	0.079	4.0	0.960	0.083	3.5	0.965	0.083	0.0	1.000	0.086	9.8	0.902	0.078	1.7	0.983	0.085
6. Total franchise sales in the period under review	3866.7	0.139	0.028	28.0	0.001	0.000	30.0	0.001	0.000	350.0	0.013	0.003	2109.1	0.076	0.015	70.0	0.003	0.001	216.6	0.008	0.002	2714.0	0.098	0.020
7. Franchiser's franchise promotion costs in the period under review	5.0	0.997	0.093	6.0	0.997	0.093	2.5	0.999	0.094	3.5	0.998	0.094	277.8	0.844	0.079	5.0	0.997	0.093	3.8	0.998	0.093	74.4	0.958	0.090
8. Franchiser's franchisee assistance costs in the period under review	4.7	0.984	0.096	0.0	1.000	0.097	1.0	0.997	0.097	0.2	1.000	0.097	152.3	0.498	0.048	2.0	0.993	0.097	2.9	0.990	0.096	152.3	0.498	0.048
9. Franchiser's losses from franchise agreement dissolution in the period under review	0.0	1.000	0.028	0.7	0.954	0.026	0.7	0.957	0.027	0.7	0.957	0.027	0.0	1.000	0.028	0.0	1.000	0.028	0.0	1.000	0.028	0.0	1.000	0.028
10. Share of goodwill promotion costs in franchiser's total promotional costs	6.1	0.061	0.006	100.0	1.000	0.105	40.0	0.400	0.042	11.1	0.111	0.012	5.8	0.058	0.006	5.8	0.058	0.006	47.7	0.477	0.050	5.8	0.058	0.006
11. Share of franchise costs in an enterprise's total promotional costs	4.0	0.960	0.050	60.0	0.400	0.021	50.0	0.500	0.026	10.0	0.900	0.046	63.0	0.370	0.019	20.0	0.800	0.041	18.5	0.815	0.042	20.0	0.800	0.041
Calculated value of K_i*G_i			0.540			0.477			0.437			0.443			0.418			0.432			0.469			0.426
Place among nominees	1			2			5			4			8			6			3			7		

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