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OPTIMIZATION OF THE KEY PARAMETERS OF FRANCHISING ENTERPRISES PERFORMANCE

The key parameters of partnership performance of franchising enterprises in Ukraine are distinguished. The purpose functions of the model, which ensures maximization of profits for the franchisor and franchisee are determined. The system of compromises has been developed, which allows to maximize profits of one of the participants of the franchising agreement, while ensuring that the high economic results are obtained by others.

Key words: franchising partner performance, key parameters of franchising performance, franchisor, franchisee.

The problem. The franchising form of partnership has proven its efficiency, above all, because of the certain benefits that are obtained by participants in the franchise agreement. The use of a shared resource base, mutual exchange of experience and sharing business risks act as stimulating factors in the development of franchising. However, as a rule, such cooperation is not able to provide maximum economic benefits for participants at the same time. In view of this, the problem of the formation of optimal parameters of franchising enterprises, which would satisfy the economic interests of both franchisor and franchisee, remains relevant.

Analysis of recent publications. Problems of franchising development are devoted to the work of both foreign and domestic scientists. In particular, J. Deltey defines the essence and principles of successful franchising activities [1], D. Stenworth explores franchising as a way of developing small business [2], A. Tsirat considers the legal preconditions for the cooperation of franchising enterprises [3], O. Zolotov conducts an analysis of the features of the ecological franchising [4], and a number of other scholars who investigated the economic essence of franchising.

Unresolved issues. In the process of developing and improving the relations between franchise companies, there is a need to form an effective mechanism for their cooperation and to optimize the basic parameters of their activities. At the same time, the main goal of optimization is to ensure the harmonization of economic interests for the franchisor and for the franchisee in order to maximize the effect of franchising cooperation.

The purpose of the paper is to develop a model for optimizing the key parameters of the activities of both parties of the franchise agreement (franchisor and franchisee) and to substantiate the system of appropriate economic compromises.

Research results. Identification of the main parameters of the franchisor and franchisee was carried out on the example of public catering companies. This choice is due, first of all, to the significant dynamic development of this market, the high level of profitability of such franchising enterprises and the stable demand for franchise of public catering.

The ultimate goal of the chosen model is to maximize profits and profitability of enterprises by determining the main parameters of the franchise agreement, which include the following:

1. Share of the initial franchise fee (d) required for entering the franchise network, in the total amount of investments by the franchisee. Obviously, the interests of each of the parties to the franchise agreement regarding the size of the share deposit are directly opposed: the franchisee is interested in the maximum amount of the contribution (which actually corresponds to the price of the franchise), because sales of a franchise form a significant part of its income and profits. For franchisees, on the contrary, the more attractive option is when the price for entering the network is minimal. The best approach is to assume that there is no fee for joining a franchisor. This option is especially relevant for potential franchisees with limited financial resources. Accordingly, in the case of divergent interests between the franchisor and the franchisee, one of the main objectives of the model is to seek balance of interests of the parties and to determine the compromise level of the share contribution, which will satisfy both parties to the franchise agreement.

2. The amount (rate%) of royalty (r) as a percentage of the turnover, which the franchisee pays for the right to engage in business activities under franchisor's well-known brand and for the possibility of further obtaining his competent marketing, staffing and information and consulting support. It should be noted that the overwhelming majority of franchising networks consider royalties as the main component of the franchisor's income, and therefore the royalty rate is critical to ensuring the profitability of its operations. In this case, it is absolutely logical for the owner of the franchise to increase the royalty rate. However, an unreasonably high royalty rate worsens the franchisee's financial capabilities. Firstly, there is a reduction in its profit and a decrease in the profitability of economic activity. Secondly, a significant amount of deductions in the form of royalties reduces its own marketing budget to the franchisee, which leads to a weakening of the motivational factor in the development of franchising business. As a result, the quality of service provision in institutions is deteriorating and the effectiveness of management at the franchisee company decreases. Ultimately, the loss of stimulating factors leads to a reduction in the total turnover of the franchise network, which affects not only the indicators of income and profit of the franchisee, but also serves as the main reason for reducing the franchise owner's financial flows. Consequently, it can be argued that finding the optimal amount of royalty rates is an important task for establishing effective cooperation between franchisees.

3. Level of marketing partner support for the franchisee by the owner of the franchise (m1). Ukrainian and international experience in the development of franchising public catering services shows that one of the main factors in their popularity is the desire of the franchisee to develop their business activities, using the well-known target brand, developed technologies, and competent partner support of the franchisor. Marketing support for the franchisor includes marketing research, continuous monitoring and adjustment of the marketing strategy for the development of the network, implementation of joint promotional events for the franchisee, training and staff development, etc. Accordingly, finding the optimal level of marketing support from the franchisor is also one of the strategically important tasks in the process of optimizing the scheme of interaction between franchisors and franchisees.

4. The fourth key factor affecting the optimal development of franchising relations is the level of its own marketing costs for franchisees (m2).

As a target function of the optimization model we consider the profit and profitability of the franchisor and franchisee. Thus, the franchisor's aggregate profit is represented by the equation:

$$PF = n \cdot F + n \cdot r \sum_{t=1}^{T} Ot - n \cdot m_1 \sum_{t=1}^{T} Ot , \quad (1)$$

where PF is the operating profit of the franchisor, without taking into account its operating expenses; n - number of franchisees belonging to the franchisor network; F - lump sum franchisee (franchise price); r - royalty rate,%; m1 - share of marketing partner support of the franchisor in total turnover (%); Ot - the value of the average annual turnover of one franchisee during the year t; T - period of franchising network, during which the evaluation is carried out.

Consequently, the franchisor's operating profit within the model is formed due to lump sum payments by the franchisee and payment of royalties as a corresponding percentage of turnover. The franchisor's operating expenses, in turn, are formed by providing marketing partner support to the franchisee. In this model, we deliberately do not consider other operating costs of the franchisor, but we focus only on those components of income and expenditure that have a direct impact on the results of the franchise business. In the converted form, the operating profit formula of the franchisor will have the form:

$$PF = n \cdot [F + (r\text{-}m_1) \cdot \sum_{t=1}^{T} Ot] \quad (2)$$

In turn, the size of the contribution of the franchisee F for the right to enter the network is determined by the formula:

$$F = d \cdot SI , \quad (3)$$

where d - the proportion of franchise fees in the amount of initial investment by the franchisee; SI is the average value of initial investment by the franchisee.

The operating profitability of the franchisor is calculated as follows:

$$\mathrm{Re} = \frac{n \cdot [d \cdot SI + (r\text{-}m_1) \cdot \sum_{t=1}^{T} Ot]}{\sum_{t=1}^{T} Ot} \quad (4)$$

Obviously, the operating profit and operating profitability of the franchisor depend on parameters such as d, r and m1, which correct the incoming and outgoing financial flows. However, the key factor affecting the amount of input and output cash flows of the franchisor and determines the prerequisites for profit is the amount of turnover from the sale of services that can be provided by the entire franchise network.

The amount of turnover of the franchising network is an indicator that depends on the following main factors:

- the total volume of the relevant services market (in our example, restaurant) in a period, Rt;

- shares of the market belonging to the corresponding franchise network in the specified period, Dt;

- the level of marketing support provided by the franchisor throughout the network, as well as

the franchisee by their own efforts, (m1 + m2);

- the level of motivation of the franchisee for the successful development of business performance, which is inversely proportional to the total amount of deductions franchisee in the form of royalties in favor of the franchisor (r) and the size of their own marketing costs (m2) to support the brand.

Consequently, in general terms, the functional dependence of the franchising network turnover on these variables can be given as a formula:

$$Ot = f(Rt, Dt, m_1 + m_2, \frac{1}{r + m_2}) \quad (5)$$

In turn, each of the components of the parameter Ot will describe the corresponding tendencies and equations. In particular, we propose to determine the size of the market of services by the formula:

$$Rt = R_{t-1} + a \cdot T \cdot K_t \ , \quad (6)$$

where Rt is the volume of the relevant services market over the time period t; T - index of the corresponding period of time; Kt is the corrective macroeconomic coefficient (we have selected the real incomes index in Ukraine), which takes into account the influence of environmental factors on the market of the relevant services; a - an unknown parameter of the regression model that characterizes the internal rate of growth of the volume of the relevant services market, calculated using statistical information on the dynamics of the market volume of the relevant services and the corrective macroeconomic coefficient, and applying the least squares method.

Research has shown that the market share of the franchise network (Dt) depends to a large extent on the level of marketing support it provides: the higher the level of marketing support for the franchisor, the greater the market share is covered by its franchising network. However, such a relationship between the indicators is not linear, and in the context of providing large-scale marketing support at a level of 5% and more growth is slowed down and suspended.

Thus, in our opinion, it is fair to determine the emergence in the franchise networks of the saturation effect of their marketing support, when the further growth of its level m is already ineffective and cannot ensure the corresponding growth of market share (D). The mathematical relationship between the level of marketing support m and the market share (D) indicator, based on the logistic curve, is described by the following formula:

$$D = a_0 \cdot \frac{exp^m}{a_1 + exp^m}, \quad (7)$$

where exp - exponential function; a0 and a1 are regression parameters that characterize the saturation effect and which need to be estimated statistically using the least squares method.

It should be noted that the aggregate level of marketing support for the whole franchise network (m) consists of two components:

$$m = m_1 + m_2 , \quad (8)$$

where m1 and m2 are the level of marketing support for the network brand provided by the franchisor centrally (m1) and the franchisee independently (m2). That is, we assume that the marketing activity of both franchisor and franchisees affects the amount of turnover of services in the network and determines its market share.

The latest component, which functionally affects the turnover of the franchising network, is a motivational component for the franchisee, which characterizes his interest in the successful development of franchising business. As already mentioned, the franchisee's level of motivation for active and effective participation in the development of the franchising network is inversely proportional to the specific weight of royalty payments in favor of the franchisor (r) and the costs of marketing measures (m2) in total turnover. In this case, the correction factor for the influence of the franchisee's motivation on the value of the turnover of the network can be determined by the formula:

$$Mk = b_0 \cdot \frac{1}{(r + m_2)}, \tag{9}$$

where Mk - corrective motivation coefficient for franchisee; b0 - coefficient of sensitivity of the value of turnover of the franchising network to the level of motivation of the franchisee, which needs to be estimated statistically.

In particular, the functional relationship between the amount of turnover of the franchise network and the level of motivation of the franchisee is described by the formula:

$$Oi = Ocp \cdot Mk = Ocp \cdot \frac{b_0}{(r + m_2)}, \tag{10}$$

where Oi is the value of the turnover of the i-th franchise network; Ocp - the value of average turnover in a group of franchising networks; Mk - correction factor of motivation for franchisee in the i-th franchise network.

The final form of the equation, which allows you to estimate and predict the amount of turnover of the franchise network, is following:

$$\mathrm{O}t = [R_{t-1} + a \cdot T \cdot K_t] \cdot [a_0 \cdot \frac{exp^{m1+m2}}{a_1 + exp^{m1+m2}}] \cdot [\frac{b_0}{(r + m_2)}] \tag{11}$$

The economic interests of the franchisee should also be taken into account and cannot contradict the interests of the franchisor. The operating profit of the franchisee is given by the following equation:

$$PFfr = -(1 + d) \cdot SI + (MR - r - m_2) \sum_{i=1}^{T} Oi, \tag{12}$$

PFfr - profit by the franchisee; MR - the margin of realization of services franchisee, which will be calculated by the formula:

$$MR = \frac{Oi\text{-}OC}{Oi}, \tag{13}$$

where Oi is the amount of turnover from the sale of services; OC is the operating expenses of the franchisee (minus the cost of royalties and marketing costs that do not belong to this item of expenses).

In view of this, the operating profitability of the franchisee is determined by:

$$Refr = \frac{-(1+d)\cdot SI + (MR - r - m_2)\sum_{i=1}^{T} Oi}{\sum_{i=1}^{T} Oi}, \quad (14)$$

Thus, we can finally formulate an optimization task, aimed at finding optimal parameters for the franchisor and franchisee.

The objective function of the model is to maximize the profits of the franchising companies:

$$\begin{cases} PF = d \cdot SI + (r\text{-}m_1) \cdot \sum_{t=1}^{T} Ot \rightarrow max \\ PFfr = -(1+d)\cdot SI + (MR - r - m_2)\sum_{t=1}^{T} Ot \rightarrow max \end{cases} \quad (15)$$

Note that to ensure the most complete achievement of the goals of franchising enterprises, maximizing the simultaneous profits of the franchisor and franchisee, it is impossible. Therefore, a system of appropriate compromises is needed that maximizes the profit of one of the participants, while ensuring that the economic benefits are met to another. Accordingly, the recording of the target function will look like this:

1) maximization of the franchisor's profit:

$$\begin{cases} PF = d \cdot SI + (r\text{-}m_1) \cdot \sum_{t=1}^{T} Ot \rightarrow max \\ Refr = \frac{-(1+d)\cdot SI + (MR - r - m_2)\sum_{i=1}^{T} Oi}{\sum_{i=1}^{T} Oi} \geq Rfr(min) \end{cases} \quad (16)$$

2) maximization of profit by the franchisee:

$$\begin{cases} PFfr = -(1+d)\cdot SI + (MR - r - m_2)\sum_{t=1}^{T} Ot \rightarrow max \\ Re = \frac{d \cdot SI + (r\text{-}m_1) \cdot \sum_{t=1}^{T} Ot}{\sum_{t=1}^{T} Ot} \geq R(min) \end{cases} \quad (17)$$

Rfr (min) and R (min) - the minimum acceptable for the franchisee operating standard operating profitability.

Minimum requirements for operational profitability Rfr (min) and R (min) are set by the management of franchising enterprises, while for franchisors this amount is 1.5-2% (taking into account the specifics of the franchisor's activity, which does not carry out operating activities, and its profit, mainly , is formed due to the difference between the amount of royalty and the

cost of marketing support network and, as a rule, does not exceed 4-5%), for the franchisee - more than 10%.

The main parameter of the optimization model is the value of the franchise network turnover - can be estimated on the basis of the formula (3.11). At the same time, it should be borne in mind that there are several limitations in the optimization model:

1) technical limitations on the integrality of the parameters

$$d,\ r,\ m_1, m_2 \geq 0 \qquad (18)$$

2) restrictions on the economic feasibility of parameters (the values of indicators should not exceed their normal level, established by international and domestic practice)

$$d,\ r,\ m_1, m_2 \leq d(max),\ r(max),\ m_1(max), m_2(max) \qquad (19)$$

3) restrictions on the priority role of the franchisor in the marketing support of the franchise network

$$m_1 \geq m_2 \qquad (20)$$

Conclusions. Thus, a model of optimization of key parameters of franchise transaction participants, the main of which is lump sum, royalty, financial expenses on marketing measures of both parties, is developed, which allows to maximize the profit of one of the participants, while ensuring the receipt of high economic results of others. The practical application of the developed optimization model is carried out on the example of a group of 10 franchise networks of public catering functioning in the Ukrainian market and presented in the corresponding scientific work [5].

The prospects for further research are related to the development of practical recommendations for improving the methodology for evaluating the effectiveness of franchising enterprises.

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ОПТИМІЗАЦІЯ КЛЮЧОВИХ ПАРАМЕТРІВ ДІЯЛЬНОСТІ ФРАНЧАЙЗИНГОВИХ ПІДПРИЄМСТВ

Виокремлено ключові параметри партнерської діяльності франчайзингових підприємств в Україні. Визначено цільові функції моделі, які забезпечують максимізацію прибутку для франчайзера та франчайзі. Розроблено систему компромісів, яка дозволяє максимізувати прибуток одного з учасників франчайзингової угоди, забезпечивши при цьому отримання високих економічних результатів іншим.

Ключові слова: *франчайзингова партнерська діяльність, ключові параметри франчайзингової діяльності, франчайзер, франчайзі.*

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ОПТИМИЗАЦИЯ КЛЮЧЕВЫХ ПАРАМЕТРОВ ДЕЯТЕЛЬНОСТИ ФРАНЧАЙЗИНГОВЫХ ПРЕДПРИЯТИЙ

Выделены ключевые параметры партнерской деятельности франчайзинговых предприятий в Украине. Определены целевые функции модели, которые обеспечивают максимизацию прибыли для франчайзера и франчайзи. Разработана система компромиссов, которая позволяет максимизировать прибыль одного из участников франчайзингового соглашения, обеспечив при этом получение высоких экономических результатов другим.

Ключевые слова: *франчайзинговая партнерская деятельность, ключевые параметры франчайзинговой деятельности, франчайзер, франчайзи.*