$$E_{MLC} = E_{Tr} + E_{DI} + E_S + E_{DC} + E_{C\&O}, \quad (1)$$

or

$$E_{MLC} = A_{MLC} + M_{MLC} + W_{MLC} + WT_{MLC} + S_{MLC} + T_{MLC} + PM_{MLC}, \quad (2)$$

where E_{MLC} -expenses for the complex system of marketing logistic controlling; E_{Tr} - expenses for transactions (search of new consumers, new contracts formation); E_{DI} (*... for definition of income*) –expenses for sales volume estimation; E_S - expenses for storage of commodities and materials; E_{DC}- expenses for delivery to the consumer; $E_{C\&O}$ - expenses for the control and optimization of CS MLC; A_{MLC} - amortization, the integrated process of procurement; M_{MLC} – material cost necessary for CS MLC; W_{MLC} –wage of those who work in CS MLC; WT_{MLC} -wages tax; S_{MLC} - services from third-part companies necessary for CS MLC; T_{MLC} – taxes and other similar payments necessary for CS MLC; PM_{MLC} - payments that can't be related to any of the above expenses necessary for CS MLC.

We should mark that the expenses amount necessary for CS MLC (E_{MLC}), determined by functions (see formula (1)) or by cost items (see formula (2)) allows getting the same dependence on business scale of the company.

Taking into consideration that the main aim of CS MLC is decreasing logistics losses while realizing products, goods, services. In absolute terms the result of CS MLC functioning is represented by logistics losses decrease (3):

$$R_{MLC} = L_0 - L_1, \quad (3)$$

where R_{MLC} - is a result of CS MLC functioning; ; L_0 – losses without CS MLC; L_1 – losses with working CS MLC.

Without regard to investments for CS MLC creation company's economy from its implementation represents difference between CS MLC functioning result (R_{MLC}) and cost of its support (E_{MLC}) (4):

$$Ef_{MLC} = R_{MLC} - E_{MLC}, \quad (4)$$

where Ef_{MLC} – is efficiency of CS MLC.

Obviously, application of CS MLC will be profitable only in case the result of its functioning will pass the cost of its support EfMLC>0 or RMLC>EMLC.

We should mark that it is more difficult to organize CS MLC in holding companies while creating it we should take into consideration not only industry characteristics, company's size and range of its activity but also other factors, due to occurring integration processes.

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THE MODIFIED MODEL OF DISTRIBUTION SPEED OF INDIRECT ADVERTISING IN CONDITIONS OF AGING OF KNOWLEDGE

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The advertising of the various goods and services plays an appreciable role in a modern information society. However, not all knowledge of the consumer of the goods or service received by advertisement represents value for him. One of the important reasons of this phenomenon is the tendency of aging practically of any information due to factor of a time.

Such specific properties, as intangibility, namely absence of the material form up to the moment of realization, and impossibility of keeping are typical for the services [1].

The models of process of indirect advertising usually are based on the following basic assumptions [2, 3].

It is considered, that the speed of change in the time of quantity of the clients knowing about the object of advertising and ready to its purchase, is proportional to both quantity of buyers knowing about it, and quantity of buyers, not knowing about it. Also it is supposed, that to the moment of the beginning of process the some part from the total of the potential buyers already knows about object of the advertising.

Also a degree of dialogue of the buyers among themselves plays important role, influencing on the time and the speed of distribution of indirect advertising in the mentioned models.

According to existing representations [2, 3], analysis of speed of distribution of indirect advertising is based on the differential equation of the first order:

$$\frac{dN(t)}{dt} = \alpha N(t)(N_0 - N(t)), \quad (1)$$

where $\frac{dN(t)}{dt}$ is the distribution speed of indirect advertising,

α is the degree of dialogue of the buyers among themselves, $\alpha > 0$,

$N(t)$ is the quantity of the clients knowing about the object of advertising to the moment t,

N_0 is the total quantity of the potential buyers,

$(N_0 - N(t))$ is the quantity of the clients, not knowing about the object of advertising to the moment t; at the initial conditions $N(0) = \frac{N_0}{\gamma}$, where $\gamma > 1$.

It was suggested in [2] to determine the value α by means of the interrogations.

However, the other possible approach is based on the existing formula of change values of any information in the time, including information received by indirect advertising.

Value of the information in the time tends to decrease, according to the dependence [4]:

$$C(t) = C_0 e^{-\frac{2,3t}{\tau}}, \quad (2)$$

where C_0 – value of the information in the moment of occurrence or reception ($C_0 = const$);

t – time from the moment of occurrence of the information up to the moment of definition of value;

τ – time from the moment of occurrence of the information up to the moment of the aging ($\tau = const$).

As it is visible from the earlier considered equation (1), the speed of distribution of indirect advertising is directly proportional to a degree of dialogue of the buyers among themselves. The mentioned degree is the some coefficient of the proportionality. Considering, that on the average degree of dialogue of the buyers with each other about the goods or service is completely defined by value of the advertising information about object of advertising, we shall come to the following modified model of speed of distribution of indirect advertising:

$$\frac{dN(t)}{dt} = C_0 e^{-\frac{2,3t}{\tau}} N(t)(N_0 - N(t)), \quad (3)$$

where the designations are coincide with specified in explanations of the formulas (1) and (2).

Within positions of sociology and marketing the research of time and speed of distribution of indirect advertising is of interest at various initial value of advertising information and at various periods of time, during which the advertising information has a value.

The considered equation (3) is the differential equation with dividing variables, with the non-zero initial condition. The analytical solution of the specified equation gives in result the particular solution, which is suitable for the analysis:

$$N(t) = \frac{N_0 e^{C_0 \tau N_0 \left(1 - e^{-\frac{2,3t}{\tau}}\right) / 2,3}}{e^{C_0 \tau N_0 \left(1 - e^{-\frac{2,3t}{\tau}}\right) / 2,3} + \gamma - 1}.$$

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