

Supply Chain Risk Management Methods in the Process of Formation of Advertising Campaign

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Abstract- The possibilities for applying supply chain risk management methods in the development of an advertising campaign are examined. The conceptual features of the implementation of promotional activities in the modern context are highlighted. A system-structural analysis, which enabled to develop an author's classification of the main types of risks and methods of their management in the process of forming an advertising company under conditions of uncertainty, is carried out. Based on a critical analysis of structured approaches to supply chain risk management methods, a ranking of supply chain risk management methods with features of advertising and advertising investment is proposed. A ranked list of supply chain risk management methods is developed for their prompt application in the development of an advertising company. In the process of solving the stated problems, the basic scientific approaches to the classification of supply chain risk management methods were analyzed, both standard methods (ISO 31000) and practical and creative practices of management were investigated. The synthesis of theoretical data and their systematization through a critical rethinking and analysis of supply chain risk management practices made it possible to develop and present an author's interpretation of a generalized classification of supply chain risk management methods. The ranking of the main methods for assessing and managing risks for the formation of an advertising company, taking into account its features, is classified and performed.

Keywords; Supply Chain Risk Management, methods of advertising projects, evaluation of advertising risks, ranking of methods for managing advertising risks.

1. Introduction

The development of any advertising campaign involves the use of various supply chain risk management methods that inevitably follow. Existing international standards iso 31000 - supply chain risk management ("supply chain risk management - principles and guidelines") [1-5] help to identify risks and manage them qualitatively. Systematic supply chain risk management methods can compare the required applicable scope of management methods and risk assessment with methods from the standard list. At the same time, advertising is a

special type of investment, which is associated with an increased level of risk; in addition, advertising risks have a number of features. That is due to a number of factors (such as organization of work of advertising personnel, the instability of the advertising team, the variability of the input data of advertising itself, etc.). Therefore, there is a need to select the most appropriate methods for supply chain risk management in the preparation of an advertising campaign. It should be noted that apart from the standardized methods, there are also theoretical, scientifically based supply chain risk management methods and practical developments of advertisers that are successfully used and can be recommended for wider further application.

The purpose of the study is to improve the management of advertising risks by forming and ranking the list of methods for managing such risks (both theoretical and standardized and resulting from practical developments) for their direct application in the formation of advertising campaigns. This ranking is linked with the features of advertising, advertising investment. The results of this work will enable to quickly apply standard supply chain risk management methods when developing an advertising company. As the main tasks, the following are indicated:

- Formation of an updated author's classification of supply chain risk management methods;
- Linking the ranking of supply chain risk management methods to the features of advertising, advertising investment;
- Formation of the list of supply chain risk management methods for their prompt application in the development of an advertising company.

2. Literature Review

In general, both supply chain risk management methods and investment and advertising risks have been examined since the early 1940s. Supply chain risk management and the classification of supply chain risk management methods are widely represented in the scientific literature, classifications of management methods that take into account the levels are compiled.

To facilitate and simplify the analysis of the implementation of studies on supply chain risk management, their classifications, developed by scientists, are presented in tabular form (Table 1).

Table 1. Classification of supply chain risk management methods (compilation and synthesis of studies)

Classification criterion	Brief description	Authorship
Approach to risk minimization	Full risk avoidance	Ivanov A. A. [8, p. 90] Kachalov R. M. [10, p. 89–103], Goncharenko L.P., [6, p. 81–92] Shapkin A.S. [15, p. 89–103], Chemova G.V. [2, 91–95]
	Reduction of negative consequences of risk	
	Risk redirection	
Ratio of “management moment” to the moment of occurrence of risk	Risk avoidance. Reduction or prevention of loss (reduction of the amount of losses through the implementation of preventive measures). Risk sharing (measures in which the appearance of damage in the event of any variant of risk realization is not capable of causing new losses). 4. Risk Outsourcing 1. Reimbursement of loss from current income 2. Reimbursement of loss from reserves 3. Reimbursement of loss through the use of a loan 4. Reimbursement of loss on the basis of self-insurance 5. Reimbursement of loss is based on insurance 6. Recovery of loss on the basis of the pool. 7. Reimbursement of loss by transfer of responsibility on the basis of the contract 8. Recovery of loss on the basis of support of state and/or municipal authorities 9. Recovery of loss through sponsor support.	
Approach to risk minimization	Refusal from: risk decisions and operations; unreliable partners; innovative projects; etc.	Duhanina E.V. [4, p. 89–103], Kachalov R. M. [10, p. 89–103],
	Allocation of land plots with the highest concentration of sources of risk and its sequential disaggregation in various ways	
	Diversification of risk through the integration of enterprises, activities, business areas, etc.	
	Formation of mechanisms of preventive action	
Approach to risk minimization	Legal	Kulikova E.A. [12, p. 97–117]
	Administrative	
	Economic	
	Scientific and applied	
	Production	
	Psychological	
	Social	
	Procedure	

	mechanism	
Neutralization	Development of risk neutralization mechanisms	Kostyuk, Z. S. [11, 82–92]
Optimal	Economic context of optimization of SUPPLY CHAIN RISK MANAGEMENT	Lilia Martynova [13, 96–104]
Unified	In accordance with ISO/IEC 31010	ISO/IEC 31010 [1]
22 criteria of the SUPPLY CHAIN RISK MANAGEMENT classification	Detailed classification covering the criteria, starting from the history of the existence of the method	Vyackova N.A. [19, p. 23–25]

Among the presented classifications, it should be highlighted the following approaches based on supply chain risk management methods, which are mainly aimed at: 1) minimizing risks; 2) transformation of risks; 3) supply chain risk management in parallel with traditional managerial methods (legal, administrative, economic, and others); 4) management as a supply chain risk management procedure; 5) management is aimed at neutralizing risks; 6) optimization of the supply chain risk management process and others. In order to more in-depth study of the main problems in the theory of supply chain risk management, it is necessary to conduct a critical analysis of the above approaches to the classification of supply chain risk management methods.

Considering the first approach, aimed at minimizing risks ([6-9]), it should be noted that these methods are outdated in the market economy conditions and not optimal from the point of view of management. In the modern context of the world market development, minimizing the level of risk always reduces the organization’s risk appetite, which prevents effectively organization’s management within the framework of the risk-profit concept. Special attention should be paid to the approach of [10, 11], who emphasizes supply chain risk management as their transformation, which is very relevant in the modern context. This approach is based on supply chain risk management, which adapts depending on the risk that arises in the process of entrepreneurial activity, but this approach includes only supply chain risk management and does not take into account all factors influencing its occurrence, which reiterates the need for further research.

Also among the identified approaches in supply chain risk management it should be highlighted the approach of [12], who considers supply chain risk management in parallel with traditional managerial methods, acting more as a tool for influencing the management process, but not as a supply chain risk management tool.

This approach, as a supply chain risk management method, does not provide profit maximization with a minimum level of risks and is not used in practice in the modern context, when the main goal is to optimize costs and maximize profits for the purpose of the future development of the organization. A significant

contribution to the development of supply chain risk management theory was made by [7], who considers the supply chain risk management procedure used in modern conditions in a modified form in organizations. But this approach does not include in this procedure all the main factors, both internal and external impact on the decision-making process for supply chain risk management, which is an important argument in modern business conditions.

Special attention should be paid to the risk neutralization approach, as the main supply chain risk management method of [11], who takes the supply chain risk management result to neutralize it by applying certain restrictions, limits and rules, which is not entirely positively reflected, especially the use of conditions of high competition, since any restrictions and limits in activity do not allow achieving the strategic goals and guidelines of the organization. Using this approach leads to the search for more rational management methods that meet the requirements of the modern market. Quite interesting is the approach of [13], which is aimed at optimizing supply chain risk management using modern approaches and management tools. This approach, in turn, allows achieving the main goals of the organization, but does not take into account the main specifics of the work and type of activity, which is an important factor in the process of making a managerial decision regarding supply chain risk management.

It also should be noted the unified methods of supply chain risk management, concentrated in ISO/IEC 31010, where management is inextricably linked with risk assessment, which is very popular in the current conditions of uncertainty and volatility of the world market. Researchers pay significant attention to the quantitative analysis and assessment of supply chain risk management methods [3, 5, 6, 9].

Particular attention should be paid to the studies and scientific approaches of a group of scientists: [12-16], who emphasize quantitative supply chain risk management methods as a standard management tool that takes into account mainly internal factors, and the scope of their occurrence is the risks of projects, processes and products. This approach is not relevant in modern realities and does not provide management effectiveness, since it takes into account specific areas of activity and a minimum set of influence factors. Among the existing research and developments in the field of quantitative risk assessment methods, the following scientists: [17-20] identify supply chain risk management as a complex multifaceted process that takes into account both internal and external factors and is based on the use of tools economic and mathematical modeling to determine the level of financial losses. However, it should be noted that the presented studies of a group of scientists do not take into account the features of advertising risk assessment. Some approaches to advertising supply chain risk management and their

assessment are considered in the works of scientists: [21] who define risk as the probability of an unfavorable result of advertising and are based on effective audience reach, which does not allow taking into account all strategic goals in the framework of an advertising campaign and, accordingly, risks.

According to the results of the analysis of scientific research and approaches to determining the main methods, approaches to supply chain risk management, it should be noted that these methods are not rational and not applicable for assessing advertising risks and making managerial decisions for their management. At the same time, the features of advertising risks involve the use of certain specific management methods, which must be distinguished and ranked from the general standard list of management methods.

3. Methods

The theoretical basis of the study is the fundamental principles of supply chain risk management, marketing, advertising, the theory of finance and economic development. The following research methods were used in the paper: the method of logical generalization (while highlighting the features of the implementation of advertising in the modern context); scientific abstraction and system-structural analysis (while determining the main types of risks and methods of their management in the process of forming an advertising company under conditions of uncertainty); heuristic and formal methods (while classifying the main approaches to supply chain risk management methods); critical analysis and scientific generalization (while identifying the main approaches to supply chain risk management methods to justify the relevance and the need for further research).

The research information base is formed by the basic laws of Ukraine, decrees and regulatory legal acts of the National Bank of Ukraine, ministries and departments. The research information base is formed by the basic laws of Ukraine, decrees and regulatory legal acts of the National Bank of Ukraine, ministries and departments, regulatory acts of state authorities that regulate advertising activities; international rules and standards for supply chain risk management; electronic resources that are presented on the Internet as part of the study of risks and methods of their management in the formation of an advertising campaign.

4. Results

To solve the tasks and achieve the purpose of the study, it is proposed to combine the existing supply chain risk management methods with the features of advertising risks and then to explore in detail the possibility of their further use.

The supply chain risk management methods are a set of measures of directed impact [19, 15]. The objectives and directions of such impact are determined depending on the specific project, situation, etc. and are determined by the expected results.

Accordingly, different approaches to the classification of supply chain risk management methods are developed and improved, for example, approaches based on management theory. According to [2] these are methods of risk acceptance or absorption: risk avoidance (the influence of adverse consequences of a risk situation is avoided); risk reduction (negative consequences of the risk situation are reduced). "A priori" methods are classified separately, namely the risk transfer methods and delegation of responsibility for the risk consequences to another subject.

However, the available approaches to the classification of supply chain risk management methods, from the author's point of view, on the one hand, are too narrowly focused and laconic (the risk is considered only as a negative factor in them) (Table 1). At the same time, the classification developed by [19] is excessive detailed, as the author identifies 22 classification criteria in order to manage supply chain risk management methods, which to a certain extent emasculates the essence of the classification itself.

It should be noted, at the same time, that the provided classifications, for example, do not take into account such essential features as the level of unification of management methods and the source of the creation of methods. Therefore, there is a need to supplement the classifications with certain criteria, but, at the same time, it is not advisable to detail this classification excessively, for example, as Vyackova N.A. provided it [19] (Fig. 1).

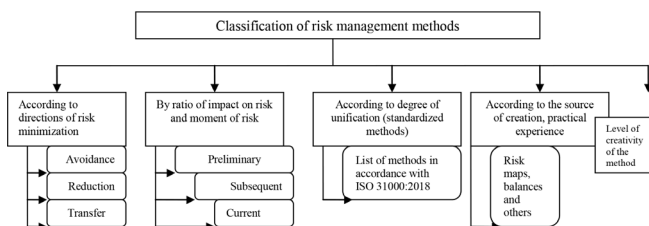


Fig. 1. Classification of supply chain risk management methods

This classification represents the author's interpretation of the grouping of supply chain risk management methods, based on the allocation and expansion of their main classification criteria. Particular attention should be paid here, in addition, to the traditional signs of classification and introduction of such signs as: the degree of unification, the source of creation (practical experience) and the level of creativity of management methods.

At the same time, since the supply chain risk management methods in the formation of an advertising

company overlap with its (campaign) features, then we will present a ranking of such methods, based on the need to use them precisely for managing advertising risks. ISO 31000: 2018 data are used for analysis, and also the features of advertising risks (high level of uncertainty and complexity) are taken into account.

In order to put the rating of control and management methods in relation to the advertising campaign, the following point scale is formed (Table 3):

Table 2. Scale for forming the rating of control and management methods

Rating	Combination of indicators		
	Probabilistic characteristics	Risk level	Comparative assessment of risk
6	SA	SA	SA
5	SA	SA	A
4	SA	A	SA
3	SA	A	A
2	A	SA	A
1	A	A	A

The rating is shown in Fig. 2.

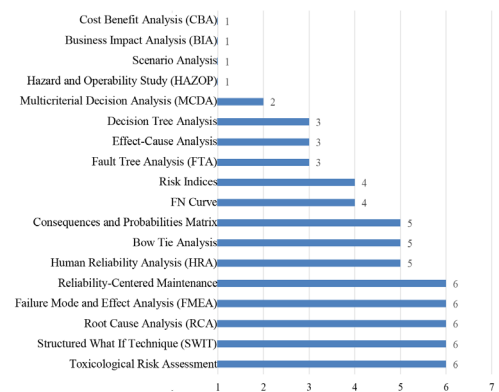


Fig. 2. Ranking of control and management methods applied to an advertising campaign

The first places in the rating were devoted to the analysis methods: SWIFT, RCA, FMEA, while at the same time, the method of Human Reliability Analysis, which formally "scored" 5 points, and not the maximum - 6, in assessing and managing the risks of advertising companies, can play an essential role.

The current banking practice of supply chain risk management, offers early "diagnostics" as one of the effective management methods, to impact potentially weak areas. At the same time, proactive diagnostics simultaneously performs several important functions: control, forecast and, in fact, management functions. Such a mechanism provides opportunities for implementing a

strategy for quality supply chain risk management of the whole project. It is this mechanism that enables to solve tasks for proactively identifying risks of:

- Inefficient management; - Fraud; - System mistakes.

An example of implementation of the system approach of this method is the Supervisory Capital Assessment Program, (hereinafter – the SCAP). This program is an element of a supply chain risk management strategy applied during the crisis periods for the US financial sector. It enables to determine the necessary size and structure of capital adjustments by major financial institutions of the USA [16]. According to the SCAP rules, 19 large banking holding companies (Bank Holding Company, BHC) of the United States, which control at least one financial institution, are obliged to conduct stress testing in accordance with the regulatory conditions. The BHCs should certainly participate in the SCAP, if their capital as of 01.01.2009 was more than 100 billion US dollars. This allowed testing organizations that control 2/3 (two thirds) of assets and more than half of the loans of the US financial sector.

Thus, the SCAP is a project to implement specific tasks of financial supply chain risk management. Stress testing was carried out by the “what-if” method in accordance with two proposed scenarios for changing in the market:

- “base” scenario, formulated by the Federal Reserve Bank of Philadelphia (Consensus Forecasts of Consensus Economics, Blue Chips Economic Indicators of Aspen Publishers and Survey of Professional Forecasters [2]);

- “unfavorable” (worst) scenario, predicted a more severe and prolonged recession than the forecasts of financial analysts.

The SCAP enables to observe the interaction of state regulation and individual financial institutions to solve the problems of supply chain risk management. At the same time, the levels of responsibility are divided. In addition, this approach is shown precisely during the crisis periods of development, which is extremely important in present-day conditions.

The methodology of the Bank of Japan in the framework of operational supply chain risk management is also noteworthy [17]. It notes that the quantitative assessment and justification of decisions to manage operational risk is complicated by a number of factors. This is, in particular, the absence of a standard and generally accepted methodology for the quantitative analysis of operational risk, and the lack of a basis for such an analysis. This is due to a lack of information on the risks that have been realized, which the banks themselves have accumulated and, accordingly, the inability to form an external source of such information. These problems are very similar to the problems of implementing methods for managing advertising risks.

Thus, the quantitative assessment of operational risk, according to the methodology of the Bank of Japan, is based on the VaR method, calculated by statistical tests using the Monte Carlo method. This enables to assess the distribution of total losses from all realized risks (distribution of the risk realization frequency and distribution of the severity of the damage from each specific event are combined). Based on the specifics of the banking system, the bank-regulator has an access to the data that allows performing a qualitative analysis of the applied methodologies for their adequacy regarding the tasks of effective supply chain risk management.

It is worth noting separately the supply chain risk management methods, which are successfully and actively developed and applied in everyday banking practice. These are, for example, methods based on a risk mapping and ensuring an optimum risk level. Such methods include maintaining a balance of possible losses and possible gains. The risk map here acts as an indicator for assessing the practicality of risks, their optimization and control [20].

Practical management experiences should also include ordinary, routine, developed organizational and management schemes, which managers have to face, specifying and improving their mechanism, which is largely dependent on the personal qualities of the managers themselves.

Of particular importance, from the point of view of the author, when assessing and managing risks in advertising projects, are creative insight-methods. These methods have existed since the advertisement appeared, because they are developed in each specific case by like-minded team, and relied on the postulates of the theory of [14]. These methods, including elements of management, economics, finance, psychology, sociology, etc., have a particular value when it is necessary to choose levers to control advertising risks.

Very often, these methods are directly based on the personal qualities of managers, top managers, their level of intelligence and intuition, mobility and ability to withstand panic, to make decisions that allow an advertising project to survive in all conditions. An important argument in organizing advertising campaigns is the tendency of top management to take risks and financial losses in case of risk implementation. Maximization of financial results is impossible without a high level of risk, which has a close relationship and determines the main priorities within the existing paradigm and the ratio of risk and the result. These approaches require additional separate study and in-depth research.

5. Discussion

Thus, the purpose of the study aimed at the formation and ranking of the list of supply chain risk management methods has been achieved by solving the corresponding problems, namely:

- The author's updated classification of supply chain risk management methods was refined;
- The ranking of supply chain risk management methods with advertising features, advertising investment was coordinated;
- A list of supply chain risk management methods was developed for their prompt application in developing the advertising company.
- A number of associated tasks was identified and highlighted.

6. Conclusion

As a result of the study, it was possible:

- to develop an author's risk classification by compiling, analyzing and synthesizing existing scientific studies, supplementing existing classifications with new features (unification, source - origin of management methods, creativity), while the author consciously avoided excessive classification details;
- to coordinate supply chain risk management methods with advertising features on the basis of a clearly marked point scale, which based on ISO 31000: 2018 data includes the characteristics of such risks (probabilistic characteristics, risk level, comparative risk assessment);
- To develop a list of supply chain risk management methods for their prompt application in developing the advertising company, taking into consideration the features of advertising; this list (among unified methods) was headed by: SWIFT, RCA, FMEA;
- to offer practical experiences developed in the financial and banking sector of the United States and Japan (SCAP, Japan Bank methodology for assessing operational risks) as supply chain risk management methods for advertising;
- To focus on the need for using insight methods for managing advertising risks.

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