Improving efficiency of company risk management system monitoring

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Abstract. Companies operating under the condition of economy informatization and digitization are forced to implement innovative approaches so as to ensure their integrated safety; therefore, there is a demand for development of theoretical, methodological and practical aspects of Risk Management System (RMS) monitoring as a tool allowing to ensure company consistency. ‘Monitoring of risk management system’ concept was defined more exactly. Besides, feasible methodological approaches to monitoring were analyzed and proprietary approach and methodology of risk management system monitoring were presented. Employment of the presented approach enables the user to upgrade efficiency of RMS monitoring, of RMS and company itself, define directions of RMS improvement, provide the company with essential competitive advantages and facilitate adaptation to changing conditions. This approach may be used in practical company activities.

1. Introduction

Today, efficient RMS monitoring has fundamental and practical importance for the organizations from the viewpoint of quality and productivity of risk-management, company’s safety and sustainable economic growth. Goal of research is development of the complex approach and methods of company RMS monitoring. Established goal stipulates necessity of below listed tasks resolution: more exactly define ‘RMS’ and ‘RMS monitoring’ concepts; identify basic approaches to RMS monitoring; develop integrated approach and methodology of RMS monitoring. Basic methods of research are: examination, comparison, integrity, systemacity, analysis, synthesis, modeling generalized and logical approach.

In view of the fact that modern scientific investigations and normative-regulatory documents are lacking uniform understanding of company RMS and uniform approach to RMS monitoring, let us first of all (before we begin to present approaches proposed herein) more exactly define the concepts of ‘risk management system (RMS)’ and ‘RMS monitoring’.

Company RMS is an open and developing self-organizing complex integrated system comprising four interconnected sub-systems (object-based sub-system (system of risks and risk-based relations), subject-based sub-system (risk management staff), functional sub-system (system of risks and risk...
relations identification/assessment/management methods, support system (regulatory, legal, software, information, organizational culture), resource component (financial, material-technical and personnel resources)) and ideological sub-system (risk-management concept, goals, tasks, policy, principles, strategies and functions) which are governing the process of elaboration and implementation of managerial solutions when the company is performing under condition of risk situation [1].

Summarizing various views of national [2–4] and foreign [5–7] scientists and experts and taking into account international [8–10] and national [11, 12] standards which are stipulating risk management issues, the authors came to a conclusion that process of company RMS monitoring is an integrated, systematic, non-interruptible, iterative and adaptable process including the totality of interconnected and target/term-oriented practical activities whose purpose is to observe and define the situation, collect, process and register data obtained, exchange information, evaluate, diagnose and forecast the condition (functioning) of RMS (its elements) within the scope of management technology subject to a well-defined strategy, policy and culture aiming to evaluate availability of RMS elements, identify variations of required or predicted level of functioning, ascertain the main factors which caused variations, ensure synchronization of interaction between the interested parties and improve RMS adequacy and efficiency.

2. Basic approaches to company RMS monitoring

Complexity of RMS monitoring development methods is predetermined by the fact that each such system is unique. Analysis of papers dedicated to risks management [13–15] and monitoring [16–18], enables the authors to identify a number of approaches towards RMS monitoring. This is first of all monitoring of: process of RMS formation; process of RMS functioning; results of RMS functioning; consequences of RMS functioning; conditions affecting RMS; efficiency of RMS as a whole; efficiency of particular RMS sub-systems and elements; efficiency of interaction between RMS elements (monitoring of RMS structure).

Researcher’s approach [19–21] and, therefore, selection of indicators to a greater extent depend on his vision of RMS structure, cause-and-effect relations, interdependencies and characteristics. If you treat RMS as a combination of its functions (goals) — you can keep track on RMS functions (goals) implementation success; if you treat it as a combination of risk management programs — you can keep track thereof in respect of degree of these programs implementation and results obtained. Subject to monitoring are: levels of RMS potentials (trade, financial, labor, technical, temporal, risk-associated) implementation (employment efficiency); levels of RMS components development (material-and-technical, organization-and-management, legal, information, personnel); particular RMS components (internal environment, target assignment, event determination, risk assessment, risk response, control facilities; information and communication, monitoring) for compliance with international standards.

There are certain problems associated with approaches to RMS monitoring: lack of high-qualification management personnel capable to advance the company on the basis of modern methods, tools and technologies; in most cases monitoring consists in calculating standard financial coefficients without conceptual referencing to risk management goals and tasks; monitoring results are often based on external accounting reports which are not oriented to internal management and may be therefore misstated; lack of accountancy for requirements put forward by internal and external interested parties; indicator selection complicacy (quantity and contents); lack of experience generalization and recommendations promoting most efficient forms of analytical activities organization.

All these problems underline urgent necessity to improve approaches to RMS monitoring issue. All aforesaid enables the authors to formulate general requirements to monitoring conduct methodology: provision of monitoring periodicity in multiples of financial management internal cycle; provision of adequate labor content and promptness of monitoring; provision of relevancy, maximum informativeness, concreteness, feasibility, measurability, balance, noncontradiction, applicability of RMS indicators (its sub-systems), indicators compliance with risk management goals; availability of either normatives indicating minimum satisfying level or indicators variation range; possibility to obtain integrated, precise, complex view of RMS (and its sub-systems) status and functioning.
efficiency. Aforesaid requirements define necessity and expediency of shaping integrated approach to RMS monitoring.

3. Integrated approach and methodology of company RMS monitoring

3.1. Integrated approach to RMS monitoring

Two issues are essential herein:

1. Authors consider RMS as a totality of sub-systems (elements), and, in view of this, identify spheres under monitoring and indicators characterizing their status: 1) status indicators of object-based sub-system; 2) status indicators of RMS management staff; 3) status indicators of risks identification, assessment and management methods and risk relations; 4) status indicators of support system; 5) status indicators of resources; 6) status indicators of ideological sub-system.

2. RMS monitoring indicators system is formed with consideration of principles and technologies of the Balance Score Card (BSC) system enabling systematic and integrated control over the totality of goals and taking into account entire most crucial business aspects. Authors, by transforming classical BSC variant [22], identify the following prospects: analytical treatment of finance, employees, goods and service quality, owners, consumers, contracting parties, competitors allows to completely and systematically considering the requirements (expectations) of internal and external interested parties.

3. Worldwide and national practice of management affirm the necessity to maintain continuous business status analysis and define (at early stages) problematic areas and reasons thereof through re-framing, improvement of financial-and-economic activities aiming to enhance business efficiency [23]. Authors identify four basic frames: structural, personnel (human resources), political and symbolic; all these frames: are generalizing the spheres of company activities, are employed by scientists and experts and have significant importance in improving the risk management efficiency [24].

4. Portfolio target of RMS — stabilization of company activities, namely: provision of risks and risk relations balance and optimization; improvement of integrated safety; improvement of activities efficiency; provision of convergency; growth of coherence; improvement of competitive strength; conservation and addition of company cost (value) for the interested parties. Namely risk-management enables the company to improve its sustainability [11]. In view of this, monitoring of efficiency of RMS as a whole and its sub-systems shall be based on the system of sustainability indicators which allows performing adequate evaluation of RMS functioning efficiency. Authors (for the purpose of RMS monitoring) identify the following components characterizing the company general sustainability: financial, commercial, managerial, risk-related, technical-and-technological, organizational and social including respective indicators package.

5. Monitoring of RMS efficiency: shall be performed with consideration of industry-specific features and specificity of particular company, shall take into account psychological and other features of person's behaviour under the condition of risk, shall ensure reliability of information, shall timely and promptly respond to emergent opportunities and hazards.
3.2. Methods of company RMS monitoring conduct

Authors, within the framework of RMS monitoring approach, propose to use the following methodology (figure 1).

- **Company purposes and tasks**
- **Risk strategy**
- **Identifying of restrictions and requirements. Consideration for other groups of users and interested parties**
- **Elaboration of RMS status criteria and indicators system**
- **Elaboration of updates list, clarification of parameters, modification of KPI**
- **Selection of specified set of RMS indicators**
- **Determination of assessment factors (indicators) characterizing RMS sub-systems and RMS functioning efficiency**
- **Selection of RMS status measurement methods and determination of indicators contents**
- **Creation of conditions enabling monitoring procedures implementation**
- **Monitoring of risk management system**
- **RMS indicators in the whole (not split into elements)**
- **Indicators of individual RMS elements**
- **Evaluation of factors affecting RMS efficiency**
- **Analysis of RMS indicators in reference to (I) normative indicators, (II) average industry-specific indicators, (III) same indicators in the past, (IV) scheduled indicators and (V) competitors indicators**
- **Evaluation of RMS efficiency**
- **Employment of RMS monitoring outputs**
- **Revealing of changes (deviations) in company RMS in the whole**
- **Determination of new factors which caused change of RMS status**
- **Monitoring and efficiency assessment of KPI employment**
- **Predicting of anticipated RMS and company development tendencies in the current conditions; continuous adaptation to changing conditions**
- **Formation of database displaying dynamics of comparable indicators characterizing condition and efficiency of RMS, various norms and regulations**
- **Issuing recommendations regarding modification, upgrading of RMS and improvement of RMS and company status as a whole**
- **Monitoring over the progress of recommendations fulfillment, adjustment (rejecting, maintaining or updating) of RMS elements**

**Figure 1. Algorithm of company Risk Management System monitoring conduct.**

Thus, out of the totality of RMS aspects we propose to take into consideration 4 RMS frames, 6 RMS elements, 7 RMS targets, 7 RMS sustainability components and 8 prospectives which are most important for adequate RMS representation. Integration thereof allows to simplify elaboration of the system of indicators characterizing each RMS sub-system (element) and to identify minimum number of indicators sufficient for monitoring of individual subsystems and system as a whole. Let us use the system of indicators whose content, as we consider, is enough clear, actual, accessibly measurable, baseline minimum, compact, comparable, by maximum covering entire crucial areas of RMS and adequate to display efficiency thereof (table 1).

RMS indicators may be selected randomly, at specialist's discretion, through expert evaluation or with the use of bipartite graph whose nodes are indicating on one side — individual indicators, on the other side – parameters thereof. List of indicators must be regularly reviewed either due to priorities inversion or occurrence of new tasks, skills, structure, technologies, medium.
Table 1. System of indicators of company RMS monitoring.

| Elements                      | Indicators                                                                 |
|-------------------------------|-----------------------------------------------------------------------------|
| Object                        | Risk manageability level                                                   |
| Subject                       | Cost effectiveness ratio of risk management staff                          |
| Risk-management methods       | Level of risk-management implementation                                    |
| Resources                     | Integrated index of labor resources utilization efficiency                  |
| Support systems               | Coefficient of information technologies implementation                     |
| Concept of risk-management   | Employees satisfaction level                                                |

3.3. Results and discussion

Proposed approach and methodology which are based on principles of integrity, comparability and bounded rationality allow to systematically and comprehensively investigate RMS and its elements; they are multi-function, applicable to all types of companies, they allow to evaluate RMS efficiency and identify ways of improvement thereof. Specific features of this approach and methodology are as follows: they enable the user (I) to employ any of most important indicators, (II) to compare the achieved RMS efficiency level with (a) normative, (b) anticipated, (c) average industry-specific levels in dynamics and with other companies indicators, (III) to save time and improve managerial decision making efficiency, (IV) to optimize risks and ensure flexibility and competitive strength; they are easily accessible, adaptive, may be used as a means of information systemization, knowledge (skills, experience, competence) accumulation, critical events prevention, changes detection and RMS economic efficiency improvement.

Despite the fact that monitoring is an efficient and eagerly sought managerial tool, it is not yet widely spread and for the majority of national companies in various branches of industry remains the matter of innovation requiring temporary and other costs and leading to changes in business organization and management.

4. Conclusion

Therefore, authors of this paper have duly achieved the goal of research which consists in the development of complex approach and methods of company RMS monitoring. Authors, through widening and deepening of approaches to RMS monitoring employed in terms of theory and practice, developed and integrated approach to RMS monitoring conduct and proposed the system of RMS indicators. By contrast with already existing approaches and methods, methods proposed hereunder foresee comprehensive RMS monitoring based on company sustainability indicators with consideration of basic RMS-pursued goals, prospectives, frames, anticipations of interested parties and accounting of interlinks and adaptation to the environment. Practical implementation of this approach and methods (I) enables the user to appropriately arrange and simplify analytical work, (II) facilitates RMS monitoring and (III) may be used in capacity of basic tool allowing to diagnose the process of innovations implementation within the framework of company economic activities.

The problem under investigation is multilateral and, therefore, it is impossible to highlight all RMS monitoring issues. Priority of risk-oriented approach to business conduct, requirements to quality and promptness of managerial decision making make actual further investigation of improvement potential
of company organizational, technological, information, industry-specific, socio-economic and cultural-psychological RMS monitoring aspects. Our investigations are in some way contributing to further development of risk management theory and laying the groundwork for shaping the comprehensive RMS monitoring picture.

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