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Improvement of the Risk Management in an Organization Hierarchized in the Context of Sustainability

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Abstract:

Purpose: *The goal of the research is to identify the critical variables for improvement of the risk management in an hierarchized organization in the context of the implementation of the sustainability concept.*
Design/Methodology/Approach: *The research was conducted in 100 organizations organized and represented by the Prison Service in the area of expertise of the District Inspectorate of the Prison Service in Warsaw. The study was attended by officers of different levels of command and decision-making, who were serving or still are serving in prisons and pre-trial detention centers. The methods used are: document research method, diagnostic survey method, observation method, and CAWI (Computer Assisted Web Interviews).*
Findings: *As a result of the study it was specified that the main condition for improving risk management is to concentrate the organization on realizing economic, social and environmental goals and striving to increase efficiency in these three areas. Results of the study showed that the maturity level of the researched organizations in the area of risk management is insufficient, however has a growing tendency. It has been noted that the awareness level in the area of risk management and analysis is low even though the researched institutions are endangered by inside and outside threats.*
Practical Implications: *Identified critical variables for improving risk management in the Penitentiary Service in the context of implementing the concept of sustainable development will contribute to improving internal security in penitentiary units. Identification of internal and external threats and the right approach to risk management is a key determinant of improving organization security.*
Originality/Value: *Risk management is still an actual and important trend in research, because it contributes to improvement of effectiveness and realizing goals of the organization, increasing awareness in need of action, identification and proceeding with risk, identification of chances and threats in the organization, fulfilling legal requirements and improvement of voluntary reports. It is especially important to analyze this matter in the Penitentiary Service as an institution endangered by a whole variety of inside and outside threats*

Keywords: *Management, risk management, sustainability.*

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1. Introduction

The modern world places many challenges ahead of organizations related to intense changes in the economic reality. Constant changes in their environment create a number of new opportunities that used properly, can contribute to the organization's success, but at the same time delayed reaction is great threat to them. Effective risk management in the public sector allows for identification, analysis and reaction to events that may jeopardize the achievement of the set goals and assumed results. Organizations that want to achieve high position on the market should constantly analyze their environment, plan and implement activities that take into account risks and opportunities, which is the basis for increasing management effectiveness and improving the organization's performance.

Risk is one of the essential attributes of managing an organization, therefore the problem of risk management is especially important from the scientifically and also practical point of view. Risk management is still an actual and important trend in research, because it contributes to improvement of effectiveness and realizing goals of the organization, increasing awareness in need of action, identification and proceeding with risk, identification of chances and threats in the organization, fulfilling legal requirements and improvement of voluntary reports (Kopczyński, 2015). It is especially important to analyze this matter in the Penitentiary Service as an institution endangered by a whole variety of inside and outside threats, that influence the holistically understood internal safety in the penitentiary units. In order for the risk management in the organization to be effective and reflect a wide spectrum of aspects, both regarding the economic, social and environmental sphere, the organizational culture should be properly shaped.

One can accept as Ricki W. Gryffin that organizational culture is a set of values, beliefs, behaviors, customs and attitudes that helps members of the organization understand what the organization is talking about, how it works and what it considers important. However, according to D.R. Denison's organizational culture refers to a deeply hidden organizational structure based on values, beliefs and assumptions represented by employees (Paliszkiewicz, 2010). Therefore, it is very important to properly focus the efforts of all employees of the organization in order to support the implementation of economic, social and environmental goals, and thus bring employees to the concept of sustainability.

2. Literature review

2.1 Chosen Definitions of Risk

Risk is a term that can be defined in many ways. In literature there are many definitions. Risk is a word that came from the early italian word risicare, which primarily ment „ to dare", in that sense risk is not a choise but fate (Bernstein, 1996). Early literature on entrepreneurship (Schumpeter, 1934) talked about risk as a good thing, taking risks was a positive action leading to market innovation. Addording to the polish dictionary risk is defined as *"a possibility, probabilty of failing, action the result of which is uncertain, problematic"* (Szymczak, 1989).

An outstanding economist Knight (1921), the faounder of the Chicago school, differes risk from uncertainity, reffering risk to *"quantity vulnerable to measurement" […] "measurable uncertainity",* contradictory to real uncertainity *"unmeasureable"*. This refference to measureable and unmeasureable events takes place also in modern literature on project management (Besner and Hobbs, 2012).

Risk can be defined as probability, that the result of a proces will not meet expectations (Knechel, 2002). According to the norm ISO 9001 risk is the influence of uncertainity, that causes deviation from expectations with positive or negative character. Uncertainty is the lack of information related to understanding or knowledge about the event, its consequences or probability. Risk based approach enables the organisation to idenify, analizę, and management of risk during implementation and functioning of the quality management system. The main goal of this approach is to allow the organization to maximize the opportunities and prevent unwanted results.

Executing the risk based approach the organization should plan and implement actions, that take into account risks and chances, which leads to growth of the quality management system's effectivenessand improving the organization's results (PN - EN ISO 9001, 2016). In the norm ISO 31000 risk has been defined as *"the influence of uncertainity on goals".* Additionaly there are remarks concidering this definition:

- uncertainity causes positive or negative deviation from expectations;
- goals can concern multiple aspects and be realised on multiple levels;
- risk is determined in relation to potential events and consequences or their combination;
- uncertainty is the lack of information about the event, its consequences or probability (PN- ISO 31000, 2012).

Risk can be considered in two contexts:

- internal, which includes: organizational structure, policies, goals and strategies, resources and knowledge, information systems, decision-making processes, organizational culture, standards, guidelines and models adopted by the organization, the form and scope of relationships contained in contracts;
- external, which includes: political, legal, regulatory, financial, technological, social, economic and competitive organizations as well as key factors affecting the organization's objectives (Zając, 2017).

According to E. Kreim's definition risk means that due to incomplete information decisions are made that are not optimal from the point of view of the adopted goal

(Świderska, 2016). According to Samuelson, uncertainty (or risk) occurs when there is more than one possible result of our decision. In a simplified way, it can be said that the greater the dispersion of results, the greater the degree of uncertainty (Samuelson, 2009). You can indicate the following risk characteristics:

- Objectivity - including real and objectively existing economic phenomena that have direct or even only indirect impact on the situation of a given organization.
- Subjectivity - all decisions made prospectively are always subject to a lesser or greater error.
- Ambivalence - covering the symmetrical dimension, and therefore the possibility of positive and negative phenomena.
- Measurability - including risk (risk scale) that can be measured using appropriate diagnostic tools.
- Decision making - is the basis for making decisions.
- Dynamic - including: source, scale of risk and its implementation may undergo smaller or larger changes in the whole management process (Nahotko, 1997).

Risk can be defined as the probability of occurrence of both positive and negative events that may affect the achievement of the organization's goals, at each of its levels of management, and whose source lies in the decisions made by the decision-makers, referring to the planning, organizing and conduction processes and control, actions taken by the organization. In traditional terms, risk relates to a situation where an event may or may not occur, and the probability of this event can be assessed based on an analysis of the likelihood of similar events occurring in the past or their environmental conditions.

2.2 Risk Management

ISO 31000 norm defines risk management as *"coordinated action concerning managing the organization in relations to risk".* According to ISO 31000, risk management should be an integral part of all processes in the organization, should contribute to achieving goals and continuous improvement, should be systematic and timely, should be adapted to the context of the organization, risk analysis should be constantly updated and respond to changes (ISO 31000, 2012). *"Risk culture can be built through three focuses: leadership, understanding, and commitment"* (Suardini, 2018).

According to Scarff *et al.* (1993) risk management *"refers to planning, monitoring and controlling activities that are based on information generated as a result of risk analysis".* While risk management *"describes the overall risk analysis and management process".* According to Jeynes (2002) and Giannakis *et al.* (2004) in the organization of risk management is an integral part of the decision-making and control process, which takes into account social, political and engineering factors with appropriate risk assessments. The goal of risk management is to provide conditions for making decisions based on risk. It is important that organizations better understand and control the results of their actions thanks to a better understanding of risk. Accordingly, risk management according to Murrey-Webster (2010) refers to *"the systematic application of principles, approaches and processes to the task of identifying and assessing risk, and then planning and implementing risk responses".*

The risk management process is divided into phases and some phases are divided into sub-stages to better assist in the implementation of risk management. Various factors can affect the implementation of risk management processes, and among them you can indicate two keys: the maturity and experience of the organization. Organizations that have good experience in implementing the risk management process are generally in a better position to implement more advanced processes in this area. Project Management Association (2006) identifies six stages related to the risk management process:

- Initiation: the purpose of this phase is to develop key project information, such as scope and objectives;
- Identification: the purpose of this phase is to ensure that the identification of all possible threats to the project is as wide as possible, practical and cost-effective. A systematic approach to risk identification should be implemented, that will ensure the identification of an appropriate and complete set of risks covering all aspects of the project. Currently available risk identification tools include checklists, brainstorming, workshops, stakeholder analysis, assumptions and limitations analysis, interviews, SWOT analysis and Delphi technique;
- Evaluation: at this stage, the most important is to understand the risks identified in the earlier phase. This stage includes determining the ownership of the risk, estimating the costs and assessing each risk;
- Planning risk management: this phase is aimed at defining the best way to deal with identified risks, among which one can indicate the following: avoiding threats, taking advantage of opportunities, reducing the likelihood of a threat, reducing negative effects, insurance and risk acceptance;
- Take action: this phase ensures that appropriate measures are taken on the basis of decisions adopted in the previous phase (response to the plan). This includes measures to implement risk responses targeted at specific risks in the registry and activities affecting the direction of the project based on continuous risk assessment. Tasks related to the implementation of the planned response should be well defined and easy to implement. The conditions that led to the risk should be monitored so that when risk changes, you can also modify the risk responses to resolve them;
- Manage the process: in this phase, the goal is to ensure the effectiveness of the risk management process in identifying, assessing and controlling the risks that may occur in the project. The input data is collected throughout the risk management process and each approach chosen at each stage is reviewed.

2.3 Risk Management vs. the Assumptions of the Sustainability Concept

The wording sustainability, social, business responsibility, corporate social performance, greening and tripple bottom line (Elkington, 1998) refer to organizations that aim to increase long-term economic, social and environmental performance. Sustainability should be reflected in the organization's mission, its goals and priorities. Missions are a key tool to determine the strategic direction and tactical actions of the company (Dermol, 2012). The development of the organizational culture of sustainable development begins with the mission statement, which ensures a balance between financial and social results as well as environmental performance, and at the same time strives to achieve high efficiency in the indicated areas. The integration of the organization with the market and the role of the organization in relation to society are important (Ungericht and Weiskopf, 2007, Castello and Lozano, 2009, Lee *et al.*, 2009, Quinn and Dalton, 2009).

As the practice of management of global corporation leaders indicates, they increasingly recognize sustainable development as an important part of their organizational values and priorities. Enterprises that take responsibility for all activities: their attention focuses on the issue of safety, environmental protection, supporting communities, providing products, technologies and processes that meet the highest standards, caring for the safety and health of employees, environmental protection and quality of life in communities. Susntainable enterprise is one that contributes to sustainable development while offering economic, social and environmental benefits - so-called triple bottom line (Elkington, 1994).

Figure 1. *Model sustainability in business*

Source: *Own elaboration based on Elkington J., Cannibals with Forks: The Triple Bottom Line of 21st Century Business, Oxford: Capstone, 1997.*

The concept of sustainable development defined as triple bottom line assumes that organizations strive to minimize the risks arising from their activities and to create economic, social and environmental values. The concept of triple bottom line (corporate sustainability) was introduced in 1994 by J. Elkington, identifying them with three foundations on which business in the twenty first century should be based, regardless of the economic situation, economic cycles of growth and recession, mergers and divisions of the organization, enthusiasm or discouragement of society, activity or passivity of governments.

One of the foundations of the triple bottom line concept is the concentration of the organization on economic goals - maximizing profit. The second foundation is focusing on the human aspect in the organization and achieving goals with the assumption of corporate social responsibility. The third foundation is to focus on environmental goals and ecological performance.

2.4 Knowledge Risk Management

Knowledge Risk Management (KRM) is an emerging area of research that combines two previously separate areas: risk management (RM) and knowledge management (KM). Researchers say knowledge is essential for understanding and managing risk.
Research carried out in this area mainly concerns the assessment of how knowledge can reduce the risk leading to better risk management. Examples of such studies include De Zoys and Russell (2003), who studied how knowledge can help identify risk, quantify risk and respond to risk; and Verhaegen (2005) and Otterson (2005), who consider how knowledge contributes to improving the quality of information necessary in the decision-making process. Researchers are investigating how the knowledge management process can improve risk management. Examples of such studies include Marshall *et al.* (1996), which identifies the following knowledge management processes: transferring knowledge to decision-makers, increasing the availability of knowledge, embedding knowledge into audits and systems (Massingham, 2010).

Currently, organizations are constantly exposed to a number of risks associated with knowledge, and in the era of digitization, the number is still growing (Perlroth *et al.*, 2017), eg the risk associated with old technologies, the risk of hackers and / or cybercrime. There is a need for a systematic approach to Knowledge risk management (KRM). Therefore, it is so important that the organization has access to reliable information that will enable their proper use in the decision-making process and risk management. Risk management consists essentially of four stages:

- risk identification;
- quantification, and thus risk assessment;
- risk management and control;
- continue reporting on risk development (Vaughan and Vaughan, 2001).

Knowledge risk management can be seen as a systematic way of using tools and techniques to identify, analyze and respond to the risks associated with the creation, use and storage of organizational knowledge. The KRM should have a long-term orientation, and various KM practices can support continuous risk management of the organization's knowledge, which is timely and appropriate. Among these KM practices, it seems that knowledge creation, knowledge transfer and retention of knowledge are of particular importance to KRM (Durst *et al.,* 2018).

Rodriguez and Edwards (2018) used theories of strategy, decision processes, KM and risk management in the company, developed a methodology for an improved risk modeling process. Massingham (2010) used the risk management theory to develop an alternative organizational risk management model. Marabelli and Newell (2012) focused on a practical knowledge perspective to discuss knowledge transfer networks (Durst, 2019). The issues of knowledge risk management are extremely interesting and important both from a scientific and practical point of view. It is still a current trend of research, which requires continuous improvement.

3. Research Metodology and Results

The goal of this research was to identify critical variables for improvement risk management in an organization hierarchized in the context of realizing the sustainability concept, establishing and presentation of the role of risk management in increasing the security of penitentiary units. The study contains the following research questions:

- What are the critical variables for improving risk management in hierarchical organization in the context of the implementation of the sustainability concept?
- Does and to what extent risk management contribute to the improvement of the safety of penitentiary units?

The research was conducted in 100 organizations organized and represented by the Prison Service in the area of expertise of the District Inspectorate of the Prison Service in Warsaw. The study was attended by officers of different levels of command and decision-making, who were serving or still are serving in prisons and pre-trial detention centers. The following methods were used in our study: document research method, diagnostic survey method, survey method, observation method, CAWI (Computer Assisted Web Interviews), analysis of case studies.

As a result of the study it was specified that the main condition for improving risk management is to concentrate the organization on realizing economic, social and environmental goals and striving to increase efficiency in these three areas. Results of the study showed that the maturity level of the researched organizations in the area of risk management is insufficient, however has a growing tendency. It has been noted that the awareness level in the area of risk management and analysis is low even though the researched institutions are endangered by inside and outside threats. Critical variables for improving risk management in a hierarchical organization in the light of the conducted research:

- Defining economic, social and environmental goals and directions of action as well as the external environment in which the organization operates by the organization.
- Developing strategy that will reduce uncertainty of the organization's functioning and development as well as increase its adaptability in adapting to the changing external environment.
- The need to identify, analyze and monitor activities threatening the implementation of missions, visions, strategic goals, tactical and operational objectives.
- Maintaining the continuity of managers' approach to risk management.
- Increasing knowledge of managers and employees in the field of risk management.
- Limiting formal requirements in terms of implemented changes and greater flexibility of managers.
- Development of risk management culture in the organization and adjustment of the existing organizational structure, consisting in the separation of specialized cells dealing with identification, analysis and risk monitoring in the organization.
- Measurement of risk effects.
- Adopt a process approach in an organization where activities are understood and managed as interrelated processes that function as a coherent system.
- Correct degree definition of the measures in implementation of the organization's strategic goals.

According to studies carried out by the authors of the study, among the aspects that should be monitored and analyzed are listed:

- organization opportunities;
- risk the organization must face; environmental goals;
- processes course or description;
- economic goals;
- social goals;
- organization performance indicators;
- action plans.

In the surveyed organizations, the above-mentioned aspects are monitored, however, it should be noted that half of the respondents analyze opportunities that appear in the environment, which means that half of the organizations conduct strategic analyzes that enable the identification of opportunities and threats and focus on those whose proper use can contribute to organizational success (Table 1).

After determining the types of risk that accompany its activities, the organization is able to determine which strategies it intends to adopt to effectively manage these risks. The first stage in developing a risk management strategy should be to appoint persons responsible for preparing the strategy for individual risks. The key criterion for the selection of persons responsible for particular types of risks should be the linking of a given risk with the process for which the given person is responsible.

Table 1. *Monitoring frequency of individual aspects of management in the organization (%)*

	Not carry out	Less than once a year	Once a year	Every six months	Once per quarter	Once a month	More than once a month
Organization opportunities	50	20	11	10	5	3	1
Risk the organization must face	30	15	5	12	20	13	5
Environmental goals	30	20	19	11	9	6	5
Processes course or description	19	10	40	11	15	4	1
Economic goals	10	5	35	5	15	20	10
Social goals	10	5	50	15	9	11	0
Organization performance indicators	18	7	20	5	5	30	15
Action plans	16	4	35	3	7	25	10

Source: *Own studies 2019.*

Organizations apply different risk management strategies, the key to this is to formulate an answer to the question whether the organization is willing to accept the given risk or whether it decides to reject it. The answer to this question depends on whether the risk is embedded in the organization's activities and its strategic activities, or whether it is an effect of its side-effects. The decision about not accepting the risk results in adopting the strategy of "avoiding" the risk. Acceptance of risk, depending on the impact of the existing level of risk on the organization's activities, may result in the choice of a strategy to "take", "reduce" or "transfer" risk.

After assigning to the appropriate persons in the organization the responsibility for managing individual risks, analyzing individual options and variants of the risk management strategy, a decision should be made as to the choice of strategy appropriate for the given risk. It is important to choose strategies for individual risks in combination with the overall strategy of the organization and strategies adopted for other risks. The adopted strategies should be consistent on the scale of all risks and the entire organization and translated into specific actions necessary for their implementation. These activities should be monitored on an ongoing basis. The organization surveyed identified various approaches to risk management, which is illustrated in Table 2.

***Table 2.** Implementation of selected risk management elements in the surveyed organizations (%)*

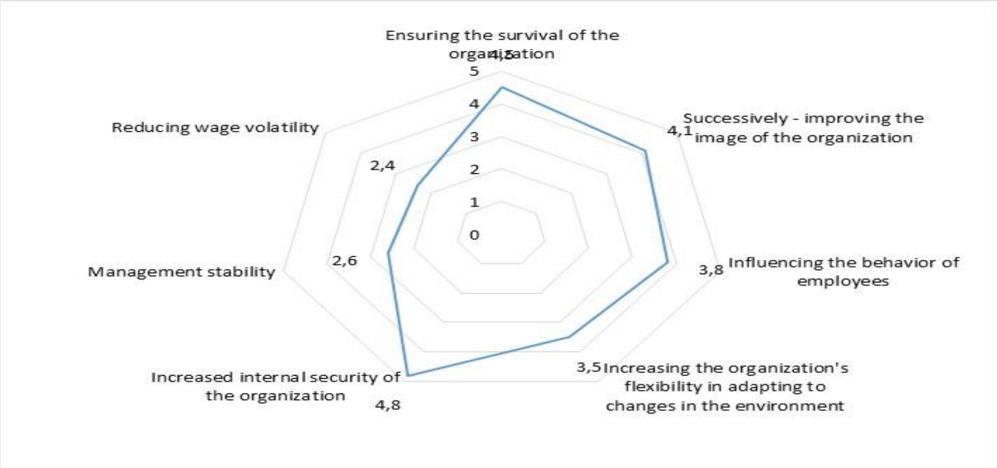
	Not in use	Small significance			Very large significance
		1	**2**	**3**	**4**	**5**
Strategies and policies as well as risk management principles were developed for specific areas	56	4	6	9	11	70
Risk management procedures have been developed that have been embedded in current operational processes	75	10	8	15	45	22
Employees implementing individual processes were familiar with the risk management system	51	20	19	15	20	26
Reports have been prepared for the organization's management including the following information: indicating the degree of risk acceptance by the organization, activities undertaken as part of implementing the risk management strategy	82	32	21	15	12	20
Operational solutions have been developed for operational employees, supporting their activities in the risk management process (analyzes, assessment systems)	75	5	10	26	24	35
IT solutions are available in the organization to support employees' work in risk management	74	5	6	28	32	29

Source: *Own studies 2019.*

As a result of the conducted research, it should be emphasized that the majority of organizations implements the approach to risk management consisting in the fact that employees implementing individual processes are familiar with the risk management system. This proves that the management of the organization is aware of the fact that risk management is a key aspect of the company's operations. However, organizations do not always know what risk management strategy to adopt and, therefore, most of the analyzed entities have not developed a risk management procedure that would enable the incorporation of risk management into current operational processes. Moreover, in few of the organizations surveyed, reports were prepared for the management of the organization, including the m.ni. the following information: indicating the degree of risk acceptance by the organization, activities undertaken as part of implementing the risk management strategy. 70% of the surveyed organizations recognized that a very important role in improving the risk approach is to develop a strategy and policy as well as risk management principles for individual functional areas of the organization.

As a result of the research, the most important goals in the field of risk management were defined. Figure 1 presents the respondents' assessment in the research in terms of the importance of risk management objectives. The assessment was made on a five-point scale, where 1 was not significant and 5 was very important.

Figure 2: *Goals of risk management in the analyzed organizations*



Source: *Own studies 2019.*

From the midpoints point of view, the most important were: increased internal security of the organization, ensuring the survival of the organization, successively - improving the image of the organization, and influencing the behavior of employees, increasing the organization's flexibility in adapting to changes in the environment, management stability and reducing wage volatility. 86% of respondents agree that effective risk management can improve the organization's performance. There is a strong conviction among the respondents about the benefits of risk management. The majority of respondents - 67% do not combine organizational mission and risk management, although they perceive risk management as important.

Among the respondents, there is a belief that risk management is a function of the top management, which is why a large proportion of respondents (60%) believe that the risk should not be passed on to every employee of the organization. This approach of people responsible for risk management and employees of the organization destroys the idea of each employee's involvement in the risk management process. Most of the respondents consider that risk management is understood in the organization, but according to them, there is a lack of a written and structured approach to risk management.

The conducted research shows the importance of risk management in the organization, which leads to the increase of internal organization security. Internal security is understood by the authors of the study as a state and process of balance between threats caused by internal factors, such as: natural disaster, civil unrest, organized and common crime, border crime, terrorism, degradation of the natural environment, drug addiction, corruption, etc. to protect its internal values (economic, social, ecological, demographic, political). The basic tasks of internal security are: ensuring public order, protection of people (against threats and consequences of natural disasters, ecological catastrophes and bio-hazards), counteracting crime and protection of the state border. The research results confirm the need to continue research in this area in order to learn about effective mechanisms and tools that will support the idea of risk management in hierarchy organizations.

4. Conclusion

Risk management greatly contributes in improving the safety of penitentiary units.
A very important factor in improving the risk management process is the identification and measurement of the degree in achievement of economic, social and environmental objectives.

Good management practice and analyzed management literature as well as management system standards require adequate systems to measure and monitor the degree of strategies and specific objectives implementation set intervals. At the same time, it is recommended that monitoring periods would be determined individually depending on the organization's or its part activity specifics.

Risks and opportunities are an inseparable element of decision making by organizations. Skilful exploitation of opportunities can ensure success for the organization, and their marginalization can cause large costs. It is very important for the organization to learn about external and internal factors that affect the implementation of strategic goals. Risk management creates value for the organization in various aspects: financial, organizational, efficiency, human and is an integral part of processes in the organization, facilitates continuous improvement of the organization. Organizations, while building their strategy, need to know their vision and comprehensive goals, they need to know how to achieve their goals and what limitations and possibilities they must count when achieving the desired goals.

Risk management should be an integral part of all processes in the organization, it should contribute to achieving goals and continuous improvement, be systematic and adjusted to the organization, risk analysis should be constantly updated and respond to changes. As the practice of management shows, organizations implementing a risk-based approach are moving away from fragmented solutions in the field of risk management, in favor of an approach based on increasing the role of risk to the strategic level. Risk management is a top-down initiative, fully supported by the corporate management, preference is given to a holistic view of the organization, which aims to capture various threats. In order for the organization's risk management system to generate measurable strategic opportunities, it must be perceived and implemented in a strategic manner.

The benefits of effective risk management are not limited to improving efficiency in terms of time, cost and quality, but also contribute to the reduction of conflicts, effective use of resources and the use of opportunities and opportunities that result from changes in the organization's environment.

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