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## RISK MANAGEMENT BASED ON ISO 31000

### *Abstract*

*The following article analyzes risk management in enterprises. It is very important to understand the meaning of risk in social and economic categories as well as classifying risk into different categories.*

*During critical studies of the available literature, especially the content of ISO 31000 standard as well as projects of unpublished ISO 9001:2015 standard gives readers the possibility to predict changes which can appear soon in the field of management standardization. System solution based on ISO 31000 standard is a new trend in quality management. ISO 31000 can be integrated with the quality management based on ISO 9001.*

*The implications of this analysis are the foundation to understand the directions in which organizations will be heading for in order to meet the latest standards. It is a new field of study in management which requires popularization and systematization.*

*The critical studies show that there is a research gap and this article is made in order to eliminate this gap. Due to the fact that risk management has become a very popular field of discussion involving safety assurance and continuity of operations in enterprises, the authors introduce with the following article a new look based on ISO 31000 and ISO 9001:2015 projects. This new look helps to understand the research area in standardization aspects.*

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### **Introduction**

Antonio Gramsci issued an explicit statement about the crisis in the early 1920s. He wrote in his personal notes that „the crisis begins when the old dies but the new cannot be born yet” (Bauman 2011, p. 193). It resembles the historical time known

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as interregnum. After the death or king's abdication, the successor to the throne is still not chosen. In the German history there was a period called Grosses Interregnum lasting approximately 20 years. (13<sup>th</sup> century). Nowadays, the concept of interregnum does not necessarily have to apply to people. It is rather considered to be uncertainty related to people's views. This crisis led to a difficult situation when the previous perception of economy and society appeared to be illusory but the new belief or beliefs have not been established yet. It definitely hinders the stability (but the question is if it is really the point?). The postmodernism which is based on deconstruction and anti-systemic approach compels interest in the world of international business. Liquid modernity, constant mobility, social alienation, aggravating international chaos, turbulence, changing trends, and progressing virtualisation may be found among the examples of macro environment's influence on the organisation's work. It appears that each of the above mentioned factors can be characterised by one common feature, that is, uncertainty. It turns out that one cannot stay indifferent towards uncertainty as it may become the chance to gain a competitive advantage. But it may also become an element determining a failure of even the best „business shark”. It is worth to pay attention to the word „may” in the previous sentences as it indicates uncertainty, which is closely connected with probability tools such as statistics or intuition. The purpose of the following article is to analyse the risk concerning the organisation's performance with regard to systemic management (based on ISO 31000 standard) and the place of organisation. It seems that comprehension in particular areas and subdisciplines is inevitable in this case. This type of marketing is categorised by complexity, dichotomy and ambiguity (Lotko 2013, p. 122). These characteristics determine a completely different and new way of perceiving a customer, his preferences and needs. Their changeability and growing customer awareness may be considered risky as well. This applies to both to financial risks including market risk, credit risk, liquidity risk, operational risk (Satyajit 2006, p. 5) and also risk in organizational sense.

## **1. Organization's environment as a source of risk**

Every method of strategic analysis (whether it is SWOT, PEST, stakeholders or other method) oscillates between postulates referring to the future. Its anticipation, or construction is the basis for the strategy of organisation for the upcoming years. Probably, it is almost impossible to set up business according to the principle, „hic et nunc” – „here and now”. The most successful world managers demonstrate the skills such as social engineering, prediction and ability of exercising an effective impact. It can be therefore concluded that both for macro scale – the state of the today's economy and for micro scale – the state of a particular company is the result of strategies, views and ideas for the years to come. In other words, the future of the organisation has a considerable impact on the present days. We used to perceive the present day

as a culmination of the past, the result of years of experience. Now, the situation has changed completely as the present day is considered to be the arena for the confrontation between analytics and the outcome of successful ideas. Consequently, only those things that can be easily anticipated are trends nowadays. „The feeling of uncertainty is becoming a capital, which no businessman worthy of the name, will not definitely leave unattended” (Bauman 2011, p. 99). The uncertainty can be recorded in the economy in the form of positive or negative phenomena. Therefore, it may lead to the regression and organisation's collapse, or can pave the way to remarkable success. In order to anticipate what indeed may happen, it is worthy to look at it through the prism of the risk.

It is also important to emphasise that the main resource in the era of knowledge-based economy is human. Knowledge experience and skills that materialize in the manufacturing process are a major source of competitive advantage. This concerns especially companies focused on innovation of its own products and services, both in the context of radical innovation as well as incremental innovations. The source of changes both within organization and in its environment are knowledge and creativity of human resources. That is why risk of non-use, or insufficiently use opportunities are faced by companies-innovators. Among many new developments, only a few of them come onto the market as product ready to meet the clients' requirements. Many of them retained on production phase of the product life cycle, usually at the planning or design stage. A lot of innovative ideas can be realized thanks to risk management. It is due to the fact that not always the ingenuity of the inventors is misguided but rather the way of these ideas' materialization is burdened with too much risk. In this context, it is necessary to identify and define the risks in the environment in which the project is to be carried out an innovative product. This allows to eliminated the difficulties are the products' and processes' barrier in the twenty-first century.

## **Philosophy and risk typology**

In the theory of insurance there are two major types of risks. The default risk incurs only the loss or the lack of it. Whereas, the speculative risk can provide some benefits or make you suffer huge loss (Williams & Smith 2002, p. 31). A perfect example of the first type of risk can be the theft of an expensive measuring equipment, after breaking into the company by the thieves. (obviously the measuring equipment is insured). The second type of risk is best illustrated by making an investment, the return of which is uncertain but in the suitable circumstances the investment can bring huge benefits. The statement that the today's world and economy is ruled by risk and uncertainty will definitely not be surprising for anyone. Today's assets of a company may become its liabilities tomorrow. According to Tadeusz Kaczmarek there are 17 types of risks, encompassing insurance, financial, production, legal, ecological, psychological and

sociological sectors (Kasiewicz 2011, p. 42). It is appropriate to emphasise here that taking one risk entails facing a lot more problems. The reason is that they seem to be inseparably linked with one another. For instance, the manager who takes the risk to raise the volume of production, not being aware of the fact that the earlier quantity equalled the maximum value of marginal profit, can lead to excess of goods supply, and to the price decrease. The effects on economy are substantial. These can be financial consequences (decrease in profit), social (the necessity to make people redundant) and psychological consequences (stress connected with making a wrong decision). It means that taking production risk is related to other threats as well. Such way of thinking is confirmed by the new regulations in the field of standardisation. ISO 31000 standard was published by International Organisation for Standardisation in 2009. It deals with risk management – the rules and guidance for development of management system. It enables to estimate various types of risk, methods of avoiding and reducing risk. This significant document was translated and published by Polish Committee for Standardization in 2012. More and more authors dealing with the issue of quality management become interested in risk analysis. Some of the methods of Total Quality Management refer to the assessment of the risk level (e.g. FMEA analysis). The issue is highly important in relation to the amendment to ISO 9001 standard, to be held in 2015. The authors draw attention to the fact that the most significant change will be to include the risk issue in the canon of quality management.

## Introduction to risk management

A. Koźmiński puts forward a peculiar definition of management, as „a journey through the chaos” (Koźmiński 2011, p. 56). The most appropriate person to arrange this chaos is the manager. Thus, all his activities are undertaken on „the very thin ice” – that is on a constantly changing economy and society desiring novelties. In order to overcome those difficulties it seems prominent to develop a pragmatic set of instruments to manage the influence of uncertainty on a particular organisation. The same logic is followed by ISO 31000 standard issued from 2009, where the uncertainty is considered to be risk. It affects especially the objectives of organisation, and can result in either positive or negative departures from expectations. Therefore it is impossible to adopt a single universal approach towards dealing with it.

The abovementioned standard lists the following alternatives:

1. Avoiding risk by refraining from undertaking any actions and discontinuation of activities determined to entail any level of risk.
2. Taking or increasing the risk in order to achieve objectives.
3. Removing the source of risk.
4. Change in likelihood (what is particularly interesting, the standard does not use the word *probability* as it is often narrowly interpreted as a mathematical term).

5. Change in consequences (consequences of the occurrence of the event which may influence organisation's objectives).
6. Sharing risk with other party or parties.
7. Risk retention based on a deliberate decision (PN-ISO 31000 2012, p. 225).

However, in order to choose the right option or options, management risk needs to be considered in a systemic manner. It may facilitate taking key decisions by managers as well as being a toolbox of concrete actions facing the uncertainty.

The fact that the standard distinguishes two management areas should not be ignored. It is illustrated by two different terms – risk management – referring to architecture of management system and – managing risk – relating to a specific action (individual). Thus, this architecture of management system can be applied to a particular risk.

## Setting Risk Management Framework

Every public, private or cooperative company, association, group or the natural person may become a potential user of ISO 31000 standard. The foundation of management system, which is based on the abovementioned standard, is designing, implementing, monitoring, reviewing and continually improving risk management framework. The risk management framework should be embedded within the organization's overall strategic and operational policies and practices. Furthermore, establishing such a framework enables integrating the system with governance, organisational structure and overall management system. The detailed elements of framework (including the numbers of specific standards) are illustrated in figure 1.

The success of risk management „depends on the efficacy of the framework”, as it is the foundation of the process of risk management, which is composed of (numbering consistent with the standard):

- 5.2 Communication and consultations.
- 5.3 Establishing the context (external and internal factors taken into account in risk management).
- 5.4 Risk assessment.
  - 5.4.2 Identification of risk.
  - 5.4.3 Risk analysis.
  - 5.4.4 Risk evaluation.
- 5.5 Risk treatment.
- 5.6 Monitoring and review.

It is recommended that any activity connected with the above process and its critical components be identified for recording information. Any protocols give rise to the improvement of overall process as well as techniques and tools that should be used.

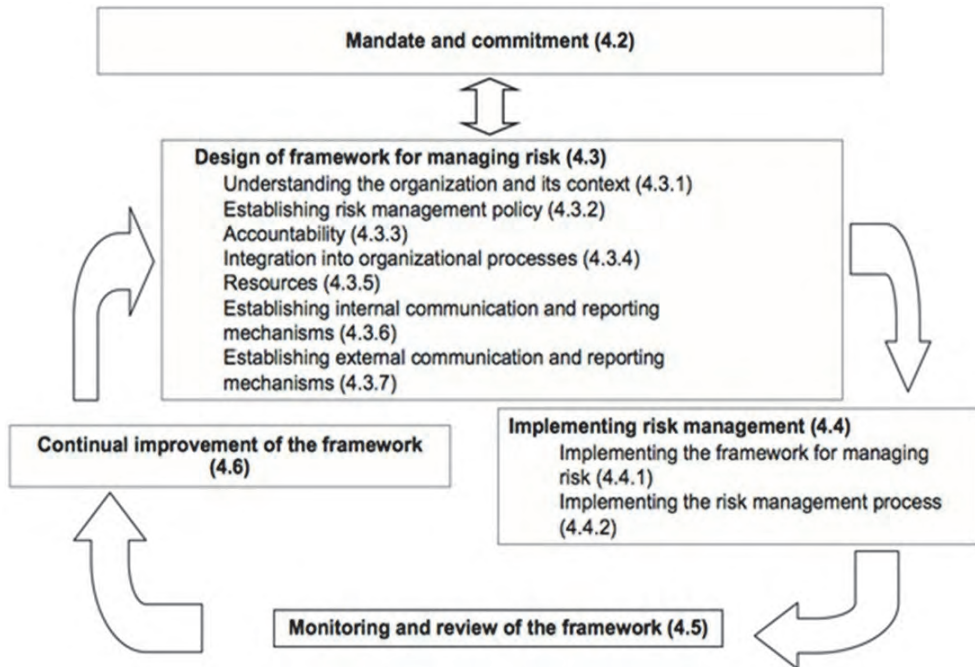


Figure 1. Framework of risk management

Source: self-study

In addition to, in economy there are so-called alternative risk transfers (ART), which relate to more than to capital markets management. In ART the integrated risk can be limited or even reduced due to risk control. Control Utility is also used in risk management based on ISO 31000, as I quality management system based on ISO 9001 (Culp 2005, p. 369).

### Risk management as another step to quality management

An increasing interest in creating new areas of study in the management process can be observed. As a consequence the libraries are packed with books dealing with subjects of time, emotion, knowledge, culture, talent, conflicts and value management. It is probably impossible to gain sufficient knowledge and become a specialist in every single management area. Therefore, it seems threatening that risk management will be somehow neglected and taken with a pinch of salt. That is why, it is justified to consider risk management as a next step to quality management. ISO 9000 standard from 2005, defines quality as, “the degree to which a set of inherent characteristics fulfils the requirements” (PN-EN-ISO 9000 2006, p. 3.1.1). Hence defining risk, as a degree to which a set of characteristics (referring to the consequences in external and/or inter-

nal context, e.g. environmental, social or economic context) may contribute to either satisfying or not satisfying customer needs and expectations, is absolutely necessary. Such perception (which is not directly mentioned in ISO 31000 standard) leads to a situation when risk management system has a complementary function to the quality management system. Those people who are responsible for the quality in various organizations demonstrate exceptional abilities. Probably is it due to the fact that they can use the uncertainty to improve or remove any imperfections. Risk management system seems to be the perfect instrumentation in this case. Furthermore, there are some crucial components inseparably connected with risk in ISO 9001 standard. In the Table 1 the above mentioned components are shown.

**Table 1.** Some of the risk components in ISO 9001 standard from 2009

ISO 9001 standard from 2009	Comments
4.1 General requirements	Defining processes, we establish criteria and adopt methods necessary to ensure a proper course and monitoring of the process. It may turn out to be completely pointless without taking into account threats and risks connected with this process.
5.6 Management review	The review should contain assessment of improvement and changes that need to be implemented in quality management. Any proposals for changes should be assessed with regard to their influence on quality. The assessment of effectiveness and efficacy of processes should include possible threats in every process.
6.2 Human resources	Implementing this requirement we provide required qualifications, and manage the risk connected with people, including all stakeholders.
6.3 Infrastructure	Taking into account infrastructure, which have an impact on the product requirements, may ensure risk management connected with infrastructure.
7.2.2 Review of requirements related to the product	The requirement to review the contract/order before signing and specifying detailed principles of its execution reduces the risk of not meeting requirements (including legal aspects).
7.3.7 Control of design and development changes	It is necessary to assess the results of changes in the delivered product.
7.4 Purchasing	Criteria of selection and systematic assessment of suppliers reduces the risk of sensitivity of organization to suppliers and partners' actions.
7.5 Production and service provision	Controlled production reduces the risk of rejection of a non-compliant product.
8.2.1 Customer satisfaction	Monitoring customers perception is an essential part of risk identification connected with customers dissatisfaction, loss of good reputation, complete picture of organization, the loss of market share.
8.2.2. Internal audit	Internal audit should identify operational risk.
8.5.3 Preventive action	Eliminating the causes of potential inconsistencies is the result of risk assessment.

Source: self-study

A further argument are speculations that risk management will be embedded in the latest ISO 9001 standard from 2015. The basic requirement of this standard is the necessity to define internal and external issues referring to mission and vision, that should influence the capacity to accomplish objectives of quality management system. In this context risk analysis is responsible for effectiveness of the whole system. Besides, it is necessary to define the degree of customer satisfaction if the products do not fully meet his or her requirements. This analysis allows seeing quality in a new light – not as a balance between product features and customer needs, but as a dynamic indicator used to prevent situations in which customer could be dissatisfied (Kobylińska 2014, p. 214).

## Conclusion

There are many publications about risk management but it has not been still fully described. Each discussion has a contribution in its popularization as well as it systemizes it into one coherent area of knowledge. Uncertainty is its elementary concept but on the other hand discussion about uncertainty is uncertain. ISO 9001:2015 standard hasn't been published yet. The content of ISO 9001:2015 standard can be only speculated or concluded from projects. That is why it is essential to prepare a good foundation to understand the new standard and adopt organizations to risk analysis in relation to their goals.

The following conclusions were achieved thanks to critical studies of literature:

- A rising interest trend can be observed in the field of risk management, which are in the content of the latest standards as well as in the projects of unpublished ISO 9001:2015.
- The issue of risk does not limit itself only to financial role but also it is identified in the field of human resource management, infrastructure, projects realization and the level in which the projects were realized as a final product.
- International Organization for Standardization spots the possibility on reducing risk which is make up to help ensuring both during production (for workers) and also during their consumption (clients).
- ISO 31000 contains a ready-made model solving problems linked to risk appearing. Thanks to ISO 9001:2015 analysis, ISO 31000 can be regarded as a preparatory tool in context of introduction ISO 9001:2015 as soon as it will be published.

## References

- Bauman Z., 2011, *44 listy ze świata płynnej nowoczesności*, ed. Literackie, Kraków.
- Culp C., 2005, *Alternative Risk Transfer*, in: Frenkel M., Hommel U., Rudolf M., *Risk Management. Challenges and Opportunity*, ed. Springer, Berlin.



- Hassett M., Stewart D., 2009, *Probability for Risk Management*, wyd. ACTEX Publications, Winsted.
- Kasiewicz S., 2011, *Zarządzanie zintegrowanym ryzykiem przedsiębiorstwa w Polsce*, ed. Wolters Kluwer, Warszawa.
- Kobylińska U., 2014, *Ewolucja czy rewolucja? Zmiany w standardzie ISO 9001:2015*, Economics and Management, No 1.
- Koźmiński A., Piotrowski W., 2011, *Zarządzanie Teoria i praktyka*, ed. PWN, Warszawa.
- Lotko A., 2013, *Marketing wobec ponowoczesności*, ed. CEDEWU, Warszawa 2013.
- PN-EN-ISO 9000, 2006, *Systemy zarządzania jakością. Podstawy i terminologia*, PKN, Warszawa.
- PN-ISO 31000, 2012, *Zarządzanie ryzykiem. Zasady i wytyczne*, PKN, Warszawa.
- Satyajit D., 2006, *Risk Management*, ed. John Wiles & Sons, UK.
- Williams Jr. C.A., Smith M.L., Young P.C., 2002, *Zarządzanie ryzykiem a ubezpieczenia*, ed. PWN, Warszawa.
- Żuchowski J., Łagowski E., 2004, *Narzędzia i metody doskonalenia jakości*, ed. Politechniki Radomskiej, Radom.