

## Chapter 34

# The Ways of Assessing the Security of Organization Information Systems through SWOT Analysis

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### ABSTRACT

*The chapter is focused mainly on assessing the factors of the external environment in the area of security of information systems in the organization through SWOT analysis. At first the method is characterized from the viewpoint of its purpose and nature. The emphasis is laid on the principles of SWOT analysis, the possible use of methods and tools, and also the most common problems occurring during the implementation of the analysis. The recommended methodical procedure for the implementation of SWOT analysis is described in another part of the chapter with individual phases and particular activities, which are appropriate to be carried out within these phases. The main part of the chapter is focused on the ways of semi-quantitative assessment of threats to the area of information systems of the organization, while evaluating their risks, and the assessment of opportunities, while evaluating their benefits. Both cases include a detailed description of procedure leading to an objective outcome during the classification of identified threats and opportunities according to the set criteria.*

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## INTRODUCTION

The assessment of identified threats and opportunities is a significant phase of SWOT analysis, which may fundamentally affect security of information systems of the organization. The most objective outcomes have to be achieved in this phase on the basis of which an optimal development of organization will be chosen. The assessment of threats and opportunities while evaluating their risks and benefits is one possibility of achieving such objectivity. An accurate assessment may also be achieved with the use of a multi-criterial assessment matrix. The chapter is aimed at clarifying the ways of assessing the identified threats and opportunities in the external analysis of the security of information systems in the organization within SWOT analysis.

## SETTING THE SCENE

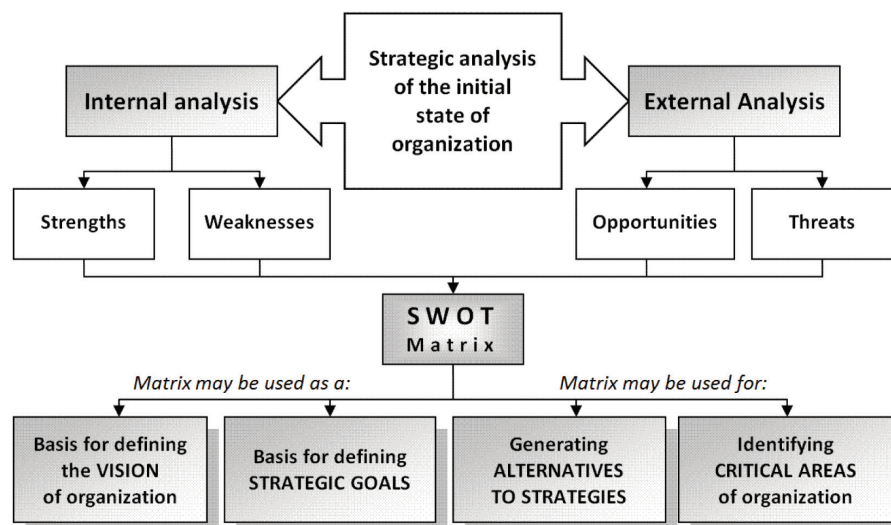
SWOT is an acronym for *Strengths, Weaknesses, Opportunities, and Threats*. Thus SWOT is the acronym for the internal strengths and weaknesses of organization and the opportunities and

threats identified in the external environment of organization. SWOT analysis is one of the methods of strategic analysis of the initial state of an organization and/or its parts, generating the alternatives to strategies (see Figure 1) on the basis of internal analysis (strengths and weaknesses) and external analysis (opportunities and threats). A comprehensive SWOT analysis puts strengths and weaknesses of an organization or its parts against identified opportunities and threats ensuing from the surrounding environment and defines the position of the organization and/or its parts as a starting point for defining the strategies of further development.

The method was developed by Albert Humphrey, who led a research project in the 1960s-1970s at Stanford University. The project was financially supported by the 500 biggest corporations in the USA (Fortune 500) and its aim was to analyze shortcomings in the planning process of those corporations and develop a new system of change management for them. A team method for planning was called SOFT analysis and later revised as SWOT analysis.

SWOT analysis may be included among the most implemented analytical methods. Special-

*Figure 1. The basic framework of SWOT analysis*



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