

# Algorithms for calculation of discounting rates during various life cycles of an organization

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## Abstract

Incorporation of effective business organization principles requires the use of adequate evaluation tools. The cost management methodology is the best strategy to support the governance over a firm's sustainable operations. Implementation and success of set strategic goals, depend on management's ability to recognize hidden roles in the structure of the apparatus. In practice realization of organization's full potential occurs in accordance with the accepted norms of capitalization.

*Keywords:* compatibility, factors, symptoms, discounting, context, care, vacancy, potential

## 1 Introduction

Cost management approaches, are applicable even now, and are an effective means of ensuring the stable function of the organization [1, 2]. Models of the investment project and operational enterprise permit for conduct of an objective assessment of the company's activity in both the medium and long term perspectives. [3-5] Comparison of the two models is aimed at revealing methodological incompatibility related to cash flow. However, the calculation of discount rates and capitalization coefficients, result in inaccuracies, which manifest during the life cycle changes of an organization. The actual problem is convoluted due to the increased influence of the external factors on the organization's management system and its resulting feedback.

Therefore, it is imperative to perfect the methodological tool for bilateral comparison of key aspects of the external environment and the prognostics of the management system's feedback. Primary scope of the research is focused on algorithms of localization of the organization's current position towards the strategic future.

## 2 Algorithm prerequisites

The dynamics of strategic objectives and targets are investigated from the standpoint of changing financial worth of the enterprise, the description of which requires special introduction of three sets of constraints:

1. Preservation of organization's values
2. Presence of a competitive industry
3. Guidance for a loyal client

During constraints formulation, particular attention is paid towards investigating the context of the discounting process, based upon reduction framework. As a result, the discounted amount, which presents the difference between the future and the current expenses of the enterprise, is understood to be the unusual cost of capital, which in our understanding is considered to be the organization's safety margin and a measure of stability. The existence of the safety margin, gives organizations the maneuverability to readily respond to the external environment in terms of the size of its potential, which is equivalent to a force capable

of destroying the control system. Therefore, discounting rate calculation algorithms, shouldn't account for the invested company capital, instead should concentrate on identifying possible "gaps" in the organizational structure, that result in deviations from the desired outcome.

## 3 Interpretation

The proposed algorithm is calibrated towards the so-called "care for the organization as a whole", which is displayed through the management team's ability to identify the hidden potential within the organizational structure.

In Fig. 1 three strategic areas are outlined, which describe the approximate values of the algorithm's main branches.

Extent of influence on the control system by the external environment	Field of greater environment			Maintenance ("Potential")
	Field of lesser environment		Implementation ("Health")	
	Inner control system	Problem detection ("Benefit")		
		short-term (up to 1 year)	medium-term (up to 3 years)	long-term (3 years and more)
Duration of the stage in organization's life cycle				

FIGURE 1 Strategic scheme for calibration of algorithms responsible for discounting rates calculation

The first area represents the current state of the enterprise, where the problem detection of the control system occurs within the short-term. The discount rate is examined from the standpoint of "effective freezing of funds" in the organization. Hence, special attention is paid towards the symptoms of the team's professionalism. Such symptoms describe the team's competency in terms of "managing the change in capital, whilst taking into account the long-term development plans of the organization".

Further, the means of realizing organization's potential is explored in the context of two aspects.

In this regard, first of all, vacancies of the organizational structure, which are under attacks of the lesser environment forces in the medium-term, are determined. The

implementation area illustrated in the fig.1 above characterizes the transitional period of the enterprise development.

Secondly, forces are identified, which allow organizations to overcome the influence of the greater environment in the long-term. The means to overcome is based on the accompaniment and guidance of the management system, responsible for the sustainable operation of the enterprise.

## References

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## 4 Conclusions

Calibration and adjustment of algorithms into key factors and symptoms of its development, provide managers of the company with concrete means to assess the degree of influence, the external environment has on the development of the organization. Upon their framework, management team's level of readiness is determined, as to whether they can implement their plans as well as, if necessary, carry out corrective actions to restore the normal functions.