

# **Industry Risk: Main Factor of the Investment Decision Sustainability**

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## **ABSTRACT**

*Organizations are veritable decision machines, whose performance depends significantly on the management optimization methods. Today, the business environment characterized by continuous, rapidly and unpredictable changes, require complex approaches on investment decision substantiation. One of the actual decision making challenges aims the development of a sustainable organizational management.*

*This paper analyzes the sensitivity of investments sustainability on industry risk value. The Romanian SMEs empirical study highlights significant influences of the business area risk on management decisions sustainability.*

**KEYWORDS:** *industry risk, investment, model, sustainability, SMEs.*

**JEL CLASSIFICATION:** *M14, C12*

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## **INTRODUCTION**

The organization can be considered a true decision-making machine. At all levels and on each department, people make decisions continuously, and their optimality degree significantly determines the organization value created (Jones, 2001). The decision making process responds to problems, searches and selects the solution and mode of action that creates value for the organization and its stakeholders.

Whether it is about choosing the best resources, finding the most appropriate ways of interacting with customers, or implementing the best performing investment strategy, the management has to decide.

Capital budgeting decision-making is one of the most demanding responsibilities of top management (Sekwat, 1999; Kalu, 1999). The investment decision is an unprogrammed decision (Simon, 1960). Unprogrammed decisions require management intuition and creativity (Jones, 2001) in problem solving and support organizational change and adaptation. Between this and specific issues of risk and uncertainty is an important correlation. An investment project by definition is characterized by uniqueness, ideas and resource assignment and its optimization require appropriate decisions.

Global environment rapidly changing, technological development and competitiveness intensity are factors that influence the management to constantly redefine the methods of budgeting, resources assigning, time planning or investment projects financing.

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Nowadays, an investment project performance is no longer measured only by financial indicators. It was seen a notable rise in attention to responsible investment and the management of environmental, social and governance (ESG) issues over the last few years. We have also observed what seems to be an emerging common challenge – to demonstrate the value of implementing a responsible investment strategy. Do managing ESG issues really help to create value? And if so, how?

## 1. LITERATURE REVIEW

In many specialized bibliographic sources are presented three underlying dimensions of a project performance, with differences due to the vision of each author.

A *first approach* is to define a project performance through achieving the goal and meeting the time and cost objectives (Mantel, Meredith, Shafer & Sutton, 2011). Terminations on time, within budget and customer satisfactory results are considered the three main objectives of any project. In this case, the uncertainty must be countered by adjusting to the events that bring changes on these three elements. The option in this regard depends on the importance given by the project manager to each main dimension (for example remaining on time involves the allocation of additional resources).

Another approach on projects performance (Gardiner & Stewart, 2000) reveals that some project managers' claims of delivering "on time, to budget and at the required quality" may actually be false and what some-times appears to be a successful project can in fact represent a reduction in shareholder value. To reduce shareholder loss in these circumstances the authors propose that the concept of net present value (NPV) should be used as an ongoing control mechanism which is closely linked to the health of the project.

This *financial approach* indicate the change of the performance indicators from "on time, to budget and of the required quality", to the project was delivered "with the best achievable NPV and to the required quality". It is considered that the most important evaluation criterion is NPV, both management and investors aimed at maximizing it. The added value that brings maximum NPV investment projects in relation to the normal rate of return will maximize the enterprise value and the investor wealth and thus to the achievement of the financial major objective.

The existing accounting-based decision-making models (such as discounted cash flow) are said to be no longer adequate to help evaluate investments in technological innovation, mainly because of the strategic, intangible nature of the benefits involved (Kaplan, 1986; Slagmulder, 1995).

Performance should relate to the objective achieving, both the financial, as well as of the sustainability. Complexity and uncertainty properly managed can sustain an optimal level of investment performance and therefore organizational success.

*Sustainable investment* is an investment approach founded on the view that the effective management of environmental, social and governance (ESG) issues is not only the right thing to do, but is also fundamental to creating value. Responsible investors believe that companies which are successful in avoiding ESG risks whilst capturing ESG opportunities will outperform over the longer term (PricewaterhouseCoopers, 2012).

Social responsible investment (Pop, 2011), or otherwise known as sustainable investment, social or ethical, is an investment strategy that aims to maximize both financial gain and social welfare.

How the environmental, social and governance performance of companies might impact on the drivers of business success? How companies explain these linkages, and how the investment community treats these data? Many studies have described the performance of socially responsible investments, with somewhat **different results**.

Most theorizing on the relationship between corporate social/environmental performance (CSP) and corporate financial performance (CFP) assumes that the current evidence is too fractured or too variable to draw any generalizable conclusions.

The metaanalytic findings of Orlitzky's study suggest that corporate virtue in the form of social responsibility and, to a lesser extent, environmental responsibility is likely to pay off, although the operationalizations of CSP and CFP also moderate the positive association (Orlitzky, Schmidt & Rynes, 2003).

Using a large sample of publicly traded US firms over 16 years, Ioannou and Serafeim (2010) have investigated the impact of corporate socially responsible (CSR) strategies on security analysts' recommendations. Socially responsible firms receive more favorable recommendations in recent years relative to earlier ones, documenting a changing perception of the value of such strategies by the analysts. Their results also indicate that investors are ready to pay a premium for companies with good management of their relations with shareholders, clients and suppliers.

However and Diltz (1995) and Sauer (1997) concluded that there were no statistically significant performance differences between socially responsible investments and traditional investments.

In Romania, CSR studies developed by top companies highlights that some economic indexes as number of employees and turnover have a considerable impact on the decision of companies to involve in social responsible activities (Petrache, 2011).

Because ESG issues present a very high degree of complexity makes them very difficult to articulate, assess and integrate into investment decisions. This complexity is tied to the challenge involved in understanding the boundaries of ESG issues. Amaeshi and Grayson (2009) have identified barriers to integrating ESG in investment decisions like inadequate management systems, time horizon, trust and accountability.

Based on this considerations, my research analyzes the factors that influences the sustainability of the Romanian SMEs management investment decision. Since current research cannot support a concrete correlation between organization financial performance and the sustainability of its implemented decisions, we can believe that this is not the motivation of studied organizations sustainability implementation degree. Therefore, the main point of this study hypothesis is the organizations industry specific risk.

## 2. RESEARCH METHODOLOGY

In order to highlight the sensitivity of investments sustainability on industry risk value, I have used a database obtained through the questionnaire technique (Dobrea & Dinu, 2011), in partnership with the management teams of 27 Romanian SME's. The organizations considered for the study fall into various fields of interest such as: software, marketing (market research), travel services, management consulting, accounting expertise, architecture, medical services, trade (food, chemicals, wood) or production. With a number of maximum 3 partners, for each of this businesses are working 2 up to 50 employees. The average turnover (obtained in 2010) of the group of organizations analyzed was of 380 thousand Euros, the variation being based on the specifics of each of them from a few thousand up to values of hundreds of thousands of Euros.

The equation of the econometric model tested is:

$$SI = a \cdot Risk + u \quad (1)$$

Where:

Dependent variable (*SI*) – investment decision sustainability: consist of two additional categories of social responsibility: personnel and planning. The first *P* takes into account the importance given by managers to the personnel and the costs of employees training. The planning (*P*<sub>2</sub>) was quantified through the importance given by managers to the investment strategy and through the methods used by the analyzed organizations on investment evaluation and substantiation. To include the answers in the model I have converted it in quantitative variables based on a scoring method. Each of the component indicators was equally important, and the aggregate indicators (*P*<sub>1</sub> & *P*<sub>2</sub>) were defined by adding the components scores.

Explanatory variable (*Risk*) – the variable is composed of specific capital cost values for each business sector considered, presented by professor Damodaran (2012) on its website.

*a* - coefficient of explanatory variable; shows the influence of industry risk changes on *SI*.

*u* - free term.

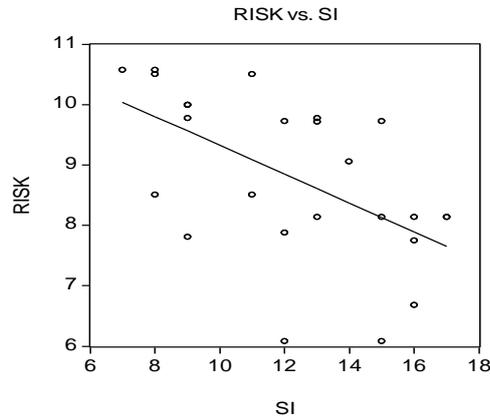
## 3. RESULTS AND DISCUSSIONS

In highlighting the existing influence, were estimated the model's parameters.

The method used for estimating the parameters is Least squares (see on table 1 the results obtained by using an econometric analysis software), method chosen due to the model's validity (Fisher test - Prob(F) value smaller than 0.05) and for meeting the assumptions for error autocorrelation (Durbin-Watson statistics - by comparison between the limits from the Durbin-Watson table and the statistical Durbin-Watson value), and normal distribution of the residue (Jarque-Bera test).

To test the significance of the slope was applied t-Student test (statistical test applied in order to establish the meaning of the parameters for a regression model). The hypotheses of the test are: *H*<sub>0</sub>: *a*=*b*=0 (the slope of the regression line doesn't differ significantly from zero, which is equivalent to saying that, the regression model is not significant) and *H*<sub>1</sub>: *a*,

$b \neq 0$  (the slope of regression line differs significantly from 0). The coefficients of the independent variable have probab.  $< 0.05$ , so we can affirm with a probability greater than 95% that parameter  $a$  is statistically significant (Stock & Watson, 2003).



**Figure 1. Industry risk – Sustainability regression**  
Source: software output

**Table 1. Econometric tested hypothesis results**

Test	Value
Fisher test	Prob(F) = 0.003
Durbin-Watson	0.9
Jarque-Bera test	0.52
t-Student coefficient $a$	Prob. = 0.003

Source: software output

The regression equation resulted is:

$$SI = -1.3 \cdot RISK + 20 \quad (2)$$

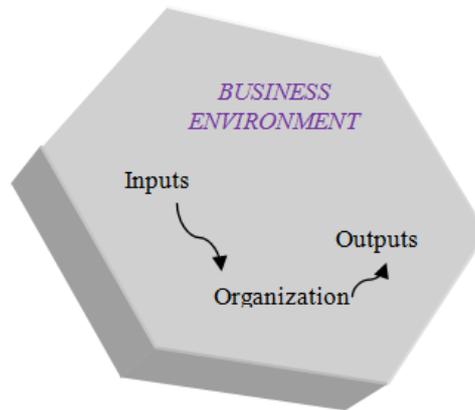
We can draw out from analyzing the results that at the 1% growth of the industry risk, the SI aggregate indicator decreases with 1.3 conventional points. According to the determination report  $R^2$  we can say that, 30% from the dispersion of the SI variable data series can be explained through the business area risk value.

The analysis of the results for the regression equation econometric modeling highlights an inverse influence of the industry risk indicator on sustainability.

## CONCLUSIONS

The contemporary management is built on the operational (scientific management, quantitative management and quality management) and behavioral (approach based on human relations) theories, and it is a way of their improvement and interrelation.

System theory, risk theory and learning organization, are new approaches considered of great interest and importance by specialists. Today, in organizations, according to these theories, is necessary that managers consider the environment and adapt their leading methods to it, in order to optimize the activity of managed organizations.



**Figure 2. System theory**

*Source: adapted from Daft (2010)*

The risk implicitly is considered an element of system theory. The relations within the system and between systems involve elements characterized by risk and uncertainty. However, in today's complex and uncertain environment the risk is a positive element. The transformation of uncertainty in risk is one of the biggest challenges that may influence the performance of a decision. It is important to quantify and analyze risks in order to substantiate decisions on a realistic basis.

One of the major investment trends in the decade ahead will be the integration of environmental, social and corporate governance (ESG) into investment analysis, decision-making and stewardship. For the debate on responsible investment to move from 'why' to 'how', asset owners, managers and service providers must all play their parts (Engshuber, 2011).

This study highlights the inverse influence of industry risk in including the principles of sustainable management on investment decision making.

The objective of further research is to develop a decision-making model to assist decision-makers and researchers in understanding the effect of multiple sustainable criteria decision-making (Tang & Chang, 2012) on a capital budgeting investment.

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