Applicative Approach to Risk Management

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Abstract

Order, symmetries, correspondences and proportionalities that served as hypothesis for any economical theories are frequently infirmed by the contemporary reality. The new theoretical approaches take into consideration chaos, as an endogenous feature of simple nonlinear systems and synergetic of some minor variabilities with multiple resonance and interactions that could induce major changes in the systems behaviour. The higher the variability of a phenomenon, the higher is the probability not to obtain the estimated result. The expansion of globalized markets at planetary level and the volatility of some variables that have an impact on the whole system expose any business to an entire range of risks, thus the businesses administrations have the responsibility of risk management and avoiding of the blending of exogenous and endogenous risks, as an absolute condition of survival.

Keywords: *risk, interaction, management, risk evaluation, decision*

JEL classification: D57, D61, D63, G32

1. The concept of risk and interferences between its components

Risk is exhaustively defined as a possible variability from the level expected in the future, in a negative way. As opposed to risk, the opportunity is seen as potentiality of the variability in a positive way, and it should rather be perceived as a chance to be developed with different degrees of intensity or not at all. The higher the variability generally economically expressed by the distribution of probability, the higher is the risk not to obtain the estimated value of an indicator.

At present, risk management is an essential feature of the business administration that needs to inventorize all possible risks, to mention them in the Register of risks pointing out, as much as possible, the type, the probability of

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appearance, the risk favouring or inhibiting factors, the intensity and largeness of the impact on the activity, and to accordingly establish the required measures.

The risk chart any business might be confronted with could have the following configuration.

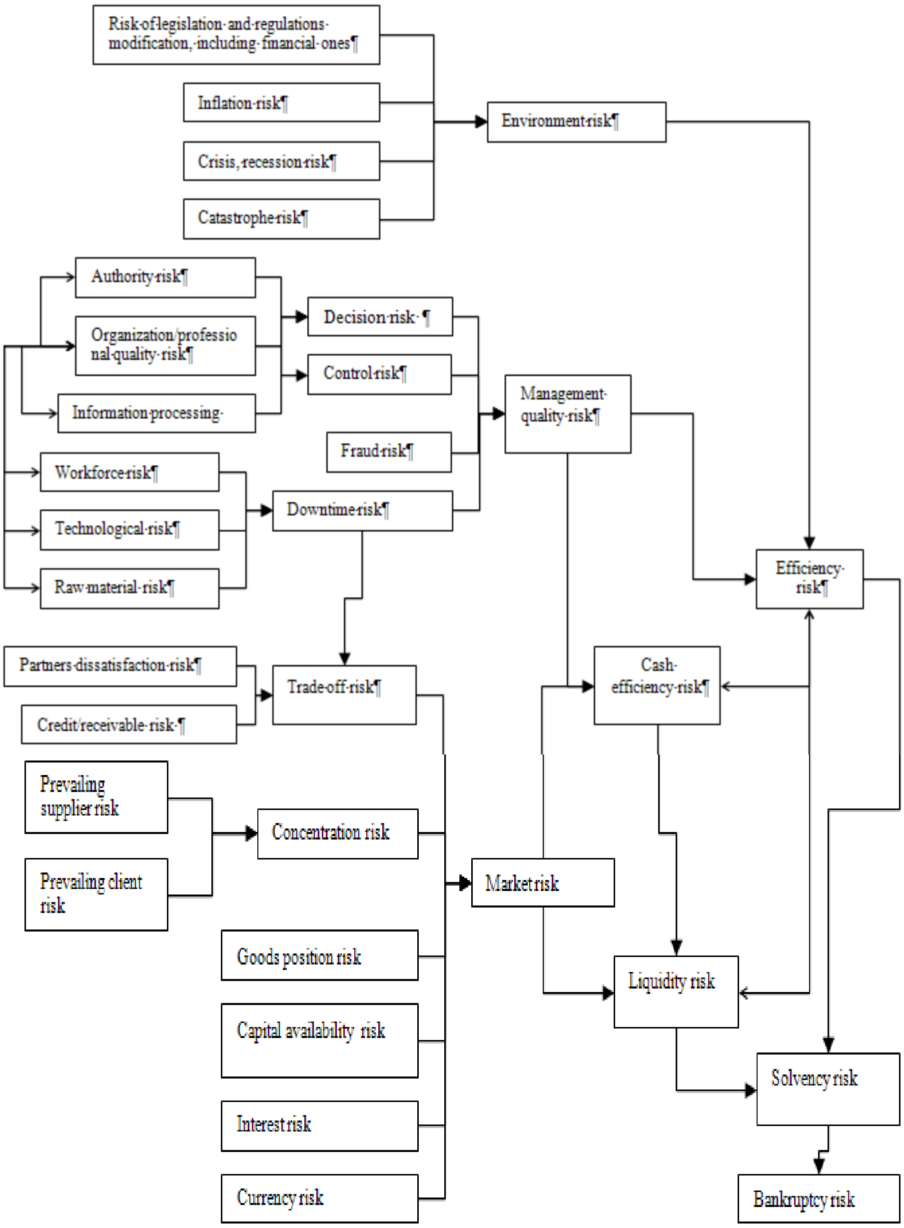

Figure 1 Structuring of business risks

This presentation does not mention all the risks the business is exposed to, however it is useful and sufficient to this approach.

The configuration marks out components specific both to the external environment, at the level of the two considered interest areas: macroenvironment and microenvironment, consisting of services suppliers, material and financial resources, competition and clients, and to the internal environment. Throughout this presentation, the macroenvironment impact is limited to the political and economical components, with an emphasis on instability and propagated effects, as well as on potential risks induced by natural environment.

As a decisive factor in mediating the internal exigencies and confronting them with the external constraints of the business, management represents the centre of the risk problematics, on which depends the transformation of potentialities into effectivity or the inhibition of their negative incidences. A correct and prompt response of the management to the changes of the endogenous variables that it administers and of the exogenous ones it needs to harmonize with, as a decisive factor in assuming responsibilities, guarantees the business maintainability. Hence, the management risk is considered a major risk, especially due to its decisional and control constituents.

2. Case study

In order to exemplify the importance of risk management we further demonstrate the evolution of a business whose object of activity consists in the distribution of chemical products, especially plastics and inks used in the packaging industry and for other prints.

The business environment has the following features:

- the number of market competitors is relatively low;
- the number of internal products suppliers decreases significantly and external suppliers are called upon, more and more frequently;
- the bankruptcy of some producers of packaging and other prints reduces the number of consumers.

Social capital owners anticipated the accomplishment of the following conditions, through the management contract:

- ➢ turnover at the level of 20 million lei, taking into account the fact that the social capital investment of 32,000 lei is recovered throughout the first year;
- ➢ remuneration of managers according to the sales volume, any excess being remunerated and any failure, sanctioned;
- ➢ financial profitability of min. 8%;
- ➢ client balance of maximum 10% of the turnover;
- ➢ keeping some prices slightly above the market average, considered adequate for the quality assurance and able to ensure operational profitability;
- ➢ maintaining a very diversified range.

During the elaboration process of these objectives, the administration didn't analyze the risk with the highest probability of effectivity and the highest impact, considering that the investment is easy to recover, if the activity takes place in rented endowed spaces. The evolution of the relevant business indicators, throughout 7 years of functioning, is the following:

Table 1 Values of indicators relevant for the business description

Indicators	N	N+1	N+2	N+3	N+4	N+5	N+6
CA	23,930,868	28,153,962	20,779,875	19,611,105	20,386,467	32,787,687	36,722,209
Clients (account 4111)	2,040,305	2,556,829	2,992,591	1,826,788	2,149,736	3,708,000	4,190,040
Liquid assets	97,458	1,387,754	214,718	410,792	92,969	102,266	46,020
Suppliers	1,240,845	1,316,999	1,164,691	906,435	750,567	2,181,529	2,399,682
Total debts	1,590,585	3,562,872	3,975,259	3,539,334	3,238,608	4,842,080	5,616,813
Equity	291,508	316,288	353,218	403,105	126,142	3,498	-369,412

In addition, we also present the other indicators reported and taken into account for the evaluation of the business activity:

Table 2 Values of indicators used for the business evaluation

	N	N+1	N+2	N+3	N+4	N+5	N+6
Financial profitability %	89.02	7.83	10.46	12.38	Negative	negative	negative
%clients in CA	5.39	6.61	11.45	6.94	7.57	8.49	8.07

(the adjusted value of clients was considered)

Since the regulation is not sufficiently clear, the business administration reports the clients' balance adjusted with the losses and provisions for the clients' depreciation. According to this calculation method, losses from clients triggered the receiving of a lower client weight in the turnover and proper remuneration of managers.

We also mention the following decisions taken throughout this 7 years interval:

➢ in the year N+1, following the analysis of the financial statements of the business for the year N, the administration decided to use a short term credit that should cover the liquidity gap created by the unfavorable distance between the days sales outstanding (the contract stipulations were for 30 days, and 31 days at the level of clients unadjusted to provisions) and the payment period required by the suppliers, of under 20 days on average (some external suppliers require the advance payment of the delivery);

➢ the credit was secured with a business property. The analysis of the year N data (first year of activity) illustrated an exceptional situation: a financial profitability of almost 90%, the level of clients' balance was half from the one required, and a turnover 20% higher than the anticipated limit. The fact that the operational profitability affected by the provisions for clients older than 270 days was much smaller than the interest rate was left out of consideration, as it was hoped to remedy the situation along the way;

- in the year N+4, following the analysis of the results for the year N+3 and taking into account that the administration could not surpass the 20 million turnover, the sales representative with the best results and a very well built portfolio of clients is appointed interim manager; in order to confirm and to permanently keep the job, the new manager obtains a 61% turnover growth, with an adequate increase of the clients' balance, without reaching the 10% considered limit.

At the end of the year N+4, the business marks a negative result of the financial year, but the equity is still 4 times bigger than the one initially invested. However, this year represents the beginning of equity erosion.

A graphical representation of the curve described by the turnover evolution (CA) parallel to those of clients' adjustment, financial result (rf) and equity, allows an easier observation of the fact that the increase of clients and financial losses together with the increase of debts because of the permanent use of short term credits, cancels the positive effect of the increasing turnover and sets a descendant curve for the equity:

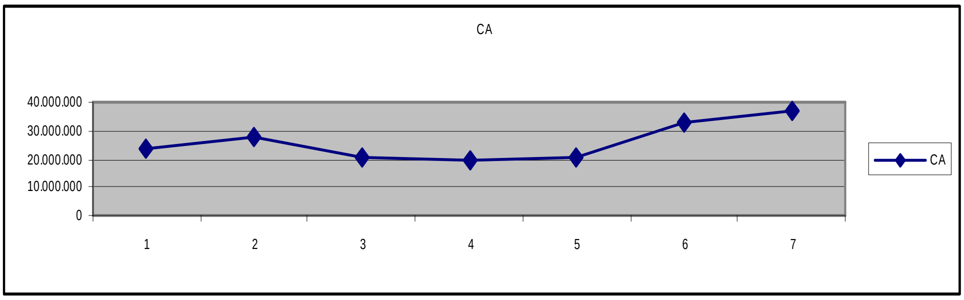

Chart 1 Turnover evolution

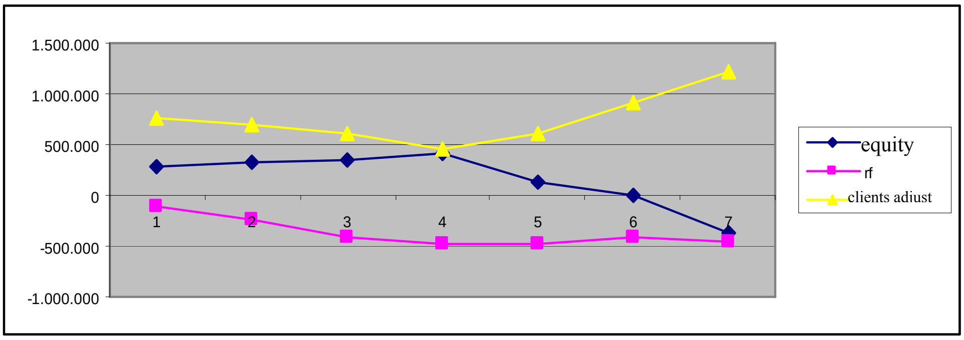

Chart 2 Evolution of clients' adjustment, financial result and equity

Table 3 Values of financial result and clients' adjustment

Indicators	N	N+1	N+2	N+3	N+4	N+5	N+6
Financial result	-112,358	-231,207	-422,671	-475,872	-483,188	-413,933	-466,720
Clients adjustment	751,316	696,527	613,919	464,905	607,301	923,492	1,228,190

A qualitative analysis of the way in which the business builds and preserves its assets is presented in the chart below, together with the evolutions of the operation result (re) as an indicator of efficiency and efficacy of the operational activity, the financial result (rf) as an illustration of specific elements incidence and, consequently, the curves for the exercise result (REX) and equity:

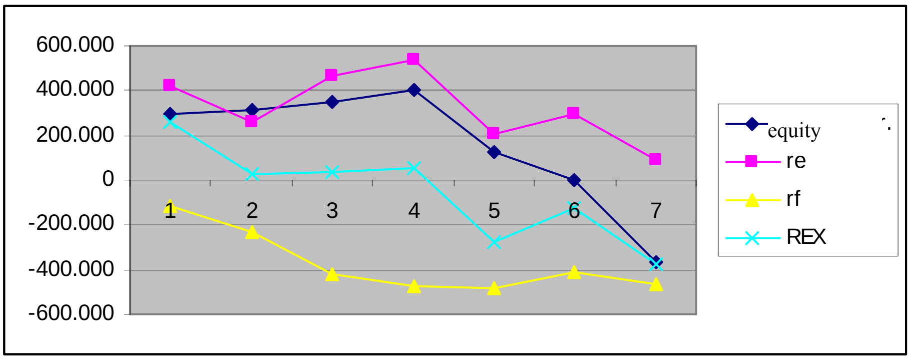

Chart 3 Evolution of business assets

Table 4 Values of indicators with an impact upon assets

Indicators	N	N+1	N+2	N+3	N+4	N+5	N+6
Equity	291,508	316,288	353,218	403,105	126,142	3,498	-369,412
re	421,296	260,708	466,635	535,262	206,225	291,290	93,810
rf	-112,358	-231,207	-422,671	-475,872	-483,188	-413,933	-466,720
REX	259,508	24,780	36,929	49,887	-276,963	-122,644	-372,910

The erosion of the operational result due to losses of clients and sharp decrease in operational profitability under the debt level, collapses the activity efficiency from a financial point of view, under the conditions of a spectacular turnover growth, which can only set a temporary and insufficient increase of the operating income (in the year N+5). The business faces great losses of bankrupt clients during a period of three years (N+1, N+6 and N+7).

In all cases it is noticed later that there is a large delivery of quantities at the same time or in several instalments to these clients in difficulty, without paying the previous ones, which clearly implies the manager's responsibility.

The sharp growth of financial expenses associated with the interest payment (even at the lowest market level) and the unfavourable exchange rate differences, which most of the time are higher than the positive ones (except for the year N+5 when the national currency appreciates) emphasizes the decline of the exercise result and the capital decrease. Practically, in the year N+6, the business slides into payment incapacity and loses its property in favour of the bank.

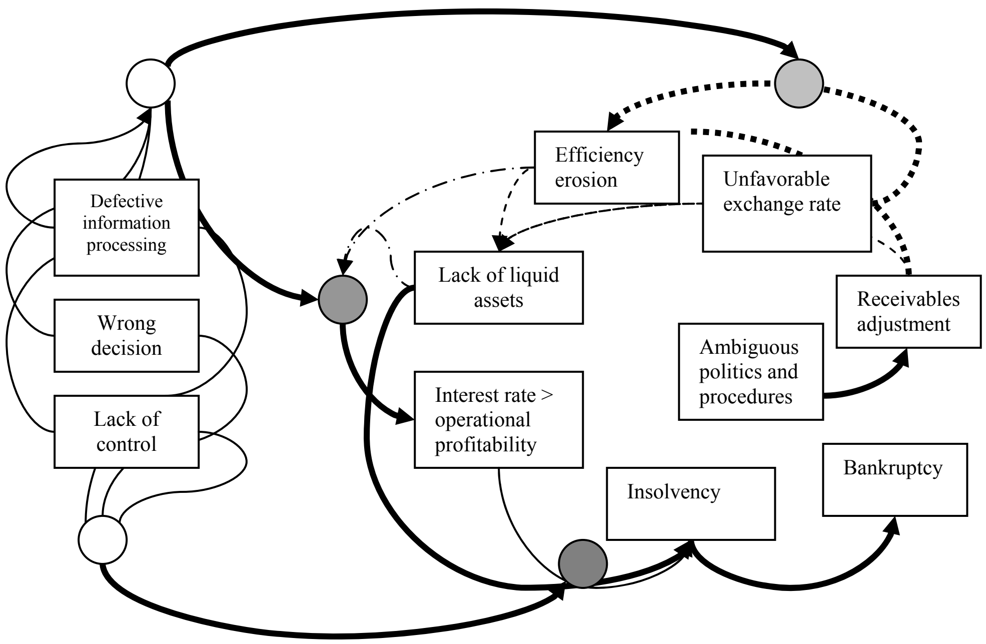

Figure 2 Factors that generate the difficult situation of the business

Practically, starting from incomplete and ambiguous politics and procedures, there was the possibility of accumulating uncollected receivables that turned into losses. Aggregated with the effect of negative exchange rate for the suppliers' payment, the receivables adjustments eroded on one hand the business efficiency and, on the other hand, they determined a liquidity gap.

The incorrect processing of information regarding macroenvironment and microenvironment, as well as those regarding the internal situation and lack of control, lead to wrong decisions, financial issues and payment incapacity. The circles mark the points where the internal audit of the business should have intervened.

A minimal evaluation on three levels of the risks that the business should have inventoried is presented in the table 4.

A more thoughtful evaluation is certainly possible, at least at the level of risk typology previously presented, or even more thoughtful than that, according to the specific of the strategic area or areas of activity, if the business has a pool of activities from different characteristic industries.

The way in which these risks aggregate is presented in the figure 3.

Table 4. Inventoried risk levels

Aggregated risks		Primary risks	Level 1	Level 2	Level 3	Weight (P)	Risk level (N)
Solvency risk (RS) P=0.6 N=3.6	Liquidity risk (RL) P=0.3 N=1.8	Receivables adjustment risk (RAC)	5% of operation result	20% of operation result	30% of operation result	0,24	1,44
	Financial risk (Rfn) P= 0.3 N=1.8	Daily sales outstanding risk (RDI)	Dc>df	Dc=df	Dc<df	0,06	0,36
	Efficiency erosion risk (REF) N=0.41 P=2.43	Foreign exchange risk (RCV)	Positive exchange rate	Constant exchange rate	Negative exchange rate	0,06	0,36
		Interest risk (RD)	Rd<re	Rd=re	Rd>re	0,24	1,44
Management quality risk (RCM) P=0.25 N=1.5		Information processing risk (RPI)	Sufficient information correct processing	Incomplete information and processing	Insufficient information and processing	0,09	0,53
		Decision risk (RH)	Correct on schedule decisions	Delayed decisions, insufficiently justified	Wrong decisions	0,09	0,53
		Politics/ procedures risk (RPP)	Sufficient politics and procedures	Incomplete, insufficient politics and procedures	Ambiguous, wrong politics and regulations	0,08	0,45
Control risk (RC) P=0.15 N=0.9			Efficient on schedule control	Insufficient control	omission	0,15	0,9

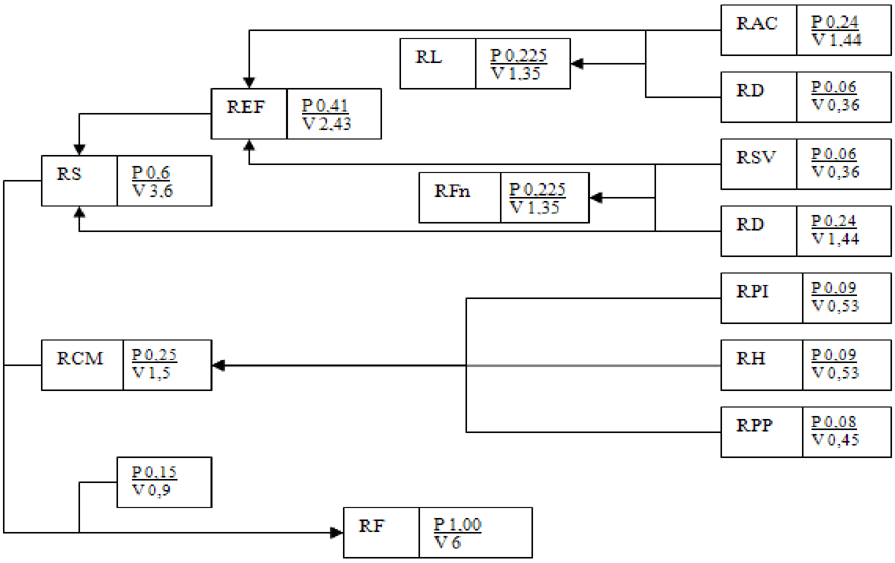

Figure 3 Aggregation of business risks

The aggregation result of all the risks of the business may be seen as bankruptcy – RF, which is level 6 in the given example.

The administration analyzes several alternatives in order to correct the business performance, dependant on its partners:

- negotiating with suppliers in order to shift the due dates for the debt payment;
- transforming the short term credit into a long term credit with a grace period, not at all indicated from an economical point of view, since current needs are maintained from permanent resources, with a negative effect on long term.

We think that the following measures are appropriate, amended in the following order:

- modification of internal policies and regulations;
- selling the property and paying the loan;
- capital infusion from the owners to surpass the first exigibilities;
- notifications and processes for the thorough monitoring of clients;
- change in the business administration;
- renegotiation of contracts with suppliers and requesting for the extension of the payment period in a reasonable way for both parts (suppliers may bear a part of the business losses in case of bankruptcy from the creditors group of bankrupt clients, with unrecovered receivables).

Moreover, if we add the conditions of a macroenvironment under recession, instability and precarity of the legal system, we can come to the conclusion that the business may be dramatically and irreversibly affected by the three major risks at the same time.

Conclusions

Theoretization of arguments regarding risk is a complex process that has difficulties in defining the introspected problematics, in establishing typologies and framing data, in noticing interferences, building rigorous exhaustive scales, necessary to the ordering of the many considered structural components. Risk evaluation is an iterative process, which has three steps in a logical holistic order, in the reverse order of the phenomenon, starting from the effect to the multiple interactive generating causes: components are selected and then the activities with the highest risk within these components, from which are emphasized operations with high potential risks.

In the organizational culture of contemporaneity, risk management is an essential feature of top administration, and the analysis of exogenous and endogenous factors, potential risk generators, is a permanently updated process, useful for the substantiating of pertinent decisions, which should be able to ensure the appropriate answers of the business for the challenges of environment, defined on dynamic, globalized space-temporal coordinates.

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