

CORPORATE SOCIAL RESPONSIBILITY AS A SUCCESS FACTOR FOR M&A TRANSACTIONS

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ABSTRACT

This paper examines the effect of corporate social responsibility (CSR) on purchasing companies' success in carrying out an M&A. The possibility of integrating CSR into the M&A process will be investigated and developed using the risk management approach. The resulting hypotheses will be examined empirically in order to produce recommendations for the integration of CSR into the M&A process.

Keywords: M&A success, CSR, abnormal return, risk management.

1. INTRODUCTION

Due to the greatly increased relevance of corporate social responsibility (CSR) to society and to management practice researchers have also become more interested in the area. A central and frequently asked question is whether, and how, a company's CSR performance has an effect on its economic success (the 'business case for CSR'). A clear sign of this convergence between societal and commercial goals is the advantage that any social responsibilities taken on by companies are no longer considered as cost but as success factors in company practice (Schreck, 2009).

The background for this research question is the numerous studies that have been devoted to carrying out empirical analysis into the 'CSP-CFP link' over the last forty years. These test whether there is an empirical correlation between the adoption of societal responsibility (corporate social performance, CSP) and a company's economic success (corporate financial performance) (Griffin & Mahon 1997; Margolis & Walsh 2003; Orlitzky, 2008; Schreck, 2009). However, as meta analyses of this topic show, there is no substantial evidence for a general (positive or negative) correlation between a company's economic and societal performance, regardless of the methodology, the chosen data basis or the way the concept of CSR is applied (Schuler & Cording 2006).

As a definite link between CSP-CFP at the corporate level has never been verified, a second research option is to examine sections of company management to see if it is possible to establish a link there. One of the most interesting sections of strategic company management are mergers and acquisitions (M&As). The main aim of M&A transactions is to increase a company's worth, defined by the market worth of its net assets. The problem is that the goal of increasing worth is rarely reached. As many empirical studies show, the failure rate of M&As is over 50 percent (Sudarsanam, 2010; Frensch, 2007, Bauch, 2004; Tuch & O'Sullivan, 2007, Weinmann, 2004, Bühner, 1990).

As part of an attempt to find ways of solving this problem the business consultancy Deloitte demanded the incorporation of CSR into the M&A process. In their 2009 article 'How Green Is The Deal? The Growing Role Of Sustainability In M&A' they put forward the thesis that the probability of increasing worth during an M&A increased with the integration of CSR (Deloitte, 2009). From a purchaser's perspective a timely consideration of the target company's engagement with CSR should enable a comprehensive appraisal of the integration problem, as the method, content and organisation of the target company's CSR activities offers an insight into the culture at the company or into its norms and values. At the same time, taking CSR criteria into consideration when managing an M&A provides a comprehensive picture of any risks. In this way any transaction costs which come up during the integration of both companies can be assessed more effectively (Deloitte, 2009).

However, a different study shows that over 70 percent of CFOs from multinational companies in 10 countries believe that sustainability plays a more important role in areas such as compliance and risk management. Overall only 20 percent thought that sustainability themes would become more significant in strategic company decisions over the next two years. 38 percent were of the opinion that this would happen gradually over the next few years and a third thought there would be no change at all. Only 29 percent of CFOs believed that themes such as available resources at a location, environmental damage or foreseeable regulatory developments play a significant role during the preparation and evaluation of M&A transactions when asked to assess the extent to which sustainability plays a significant role during acquisitions, fusions and takeovers. 71 percent of the CFOs questioned ranked sustainability as a secondary aspect of M&A activities (Deloitte, 2011).

The partially paradoxical nature of the views on the necessity of integrating CSR into the M&A process allows room for further analysis. This paper will therefore address the question of whether and to what extent engagement with social responsibilities can be a success factor during M&A transactions.

2. The contribution of CSR to the M&A process

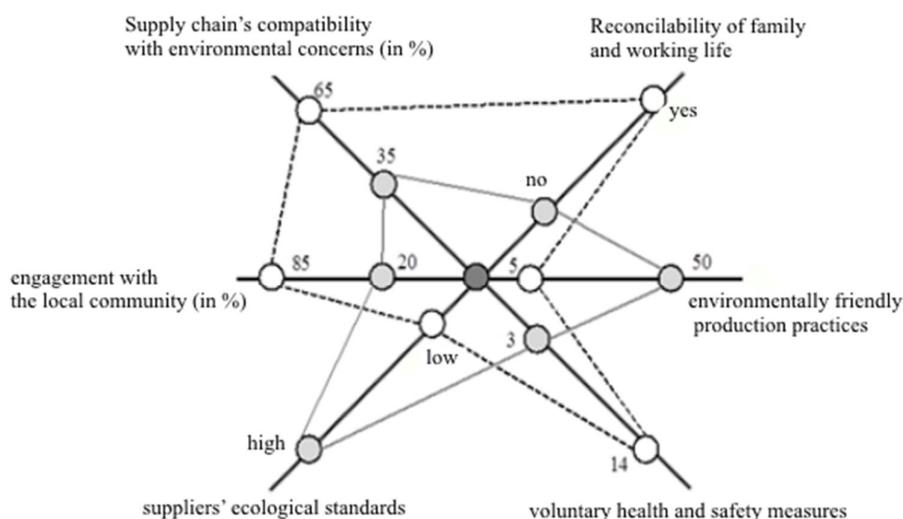
2.1 Theoretical grounding

There are many different opinions regarding the definition of CSR. Up until now no standardised definition has developed in management literature (Müller & Schaltegger, 2008). The European Commission defines CSR as '(...) companies' responsibilities for their effect on society (Green Book of the European Commission, 2011). It calls upon companies to use practices which integrate social, ecological, ethical and human rights issues in association with stakeholders in the company's management and in its core strategy (Green Book of the European Commission, 2011). A search for academic publications on the theme of the incorporation of CSR into M&A management shows that up until now, little attention has been paid to it (Lin & Wei, 2006). After a comprehensive literature research, only two publications dealing explicitly with the interface between CSR and M&As could be found (Morgan 2009; Guenster, 2010); however neither provide a conclusion regarding the theoretical contribution of CSR to M&As. The following section describes how CSR can be integrated into the M&A process and demonstrates that CSR can act as an instrument for risk management during M&A transactions (Meckl & Theuerkorn, 2013).

Already with the selection of basic strategy, it is possible to integrate ecological and social points of view into the consideration of an M&A. For example, it is possible to strengthen a company's market or competitive position through a CSR-based service offer or a product portfolio based on sustainability. This enables access to new customers and means the company can position itself in attractive, growing niches (Austin & Leonard, 2008).

In order to accommodate the increasing volatility of ecological and social risks during the search for takeover candidates, it is conceivable that the exclusion criteria could be expanded to include CSR factors. CSR exclusion criteria include, for example, controversial business sectors such as alcohol, pornography, arms or tobacco. Using contentious business practices, such as controversial environmental and economic behaviour, animal testing or breaches of employment law as exclusion criteria, could also be possible. With the expansion of the risk control parameter for the polarity profile, it would be practical to include CSR aspects when analysing the cultural fit between the purchasing and target companies, as there is a high interdependence between a company's culture and its engagement with CSR (Maaß, 2009). For example, the frequently used 'cultural web' instrument could conceivably be modified. Modifying the cultural web to make it a 'responsibility web' could happen with the use of observable secondary criteria, which in turn would provide reference points for the organisation and extent of the acquisition object's engagement with CSR. These secondary indicators could include: the supply chain's compatibility with environmental concerns; the compatibility between raising a family and working at the company; assessing the proportion of production techniques that are environmentally friendly; aspects such as voluntary health and safety measures; and the introduction of ecological standards and internationally agreed principles for all suppliers. These could be quantified by the company's own specific characteristics and compared to the acquisition object's 'should profile' or, in addition, the purchasing company's 'is profile' (see Figure 1).

Figure 1 Responsibility web (Clarke, 1987, p. 18)



The supply chain's compatibility with environmental concerns (in %) - the reconcilability of family and working life- environmentally friendly production practices - voluntary health and safety measures - suppliers' ecological standards - engagement with the local community (in %).

In order to quantify ecological and social risk in the context of due diligence, it would be feasible to introduce a CSR due diligence process which would be divided into two sub-sections for examination. Aspects such as the extent to which the target company values an environmentally friendly management, the analysis of 'green' products or services available or criteria regarding the target company's ecological efficiency, come under the ecological dimension. In contrast the social dimension includes aspects such as staff, suppliers and society which could be examined. It would also be possible to assess the target company's corporate governance and business ethics. The integration of information sources external to the company can be used alongside internal sources, such as the analysis of sustainability reports or interviewing staff from the target company, to obtain information assessing the target company's engagement with CSR. With the help of data base research carried out by NGOs, academic institutions or public authorities, as well as scrutinising media such as international dailies and trade journals, newsletters and data bases such as Factive/Reuters and the analysis of the RepRisk index or the CPI (corruption perceptions index), the necessary information can be acquired. This guarantees an improved objectivity of CSR due diligence. A quick and simple method of collecting and assessing information is resorting to information provided by CSR ratings agencies. By now there are more than 56 ratings agencies specialised in assessing companies using social and ecological criteria (for an overview of the internationally available ratings agencies see Schäfer et al., 2006).

Alongside identification, quantifying the ecological and social risk components is essential during the course of a detailed valuation. This can be implemented with the help of a modified version of the environmental shareholder value matrix (ESV matrix) developed by Figge and Hahn (2002) (Table 1).

Table 1: CSR shareholder value matrix (Figge & Hahn, 2002)

Value driver Environ- mental aspect	Duration of the value increase	Top line growth	Trading profit margin		Effective tax rate	Investments	Capital costs	Total
			Price	Costs				
xyz	++	++	++	-	0	-	-	-
Key: ++ strong value-increasing influence; + value-increasing influence; 0 neutral; - value-destroying influence; – strongly value-destroying influence								

Given its qualitative nature, the ESV matrix is aimed at measuring the influence of ecological risks on the value drivers of shareholder value. Following the structure of a scoring model, a qualitative valuation of the influence on each individual value driver can be found (Figge & Hahn, 2002). However, before the modified ESV matrix can be used, a discussion of the ecological and social interdependencies within the company is needed. Here analysis processes, such as the examination -of the CSR chance-risk profile or the analysis of the ecologically- and socially influenced value added chain using a CSR strong-weak profile, are useful. Establishing a modified ESV matrix does not avoid the complex process of analysis, but rather helps to aggregate it in a constructive manner. Additionally, a structured portrayal of the directions and strengths of influence found in the discussion becomes possible (Figge & Hahn, 2002). The problem is that appraisals of the strength and direction of ecological and social factors' effects on the company's value drivers are just as dependent on expectations and estimations as, for example, the predicted and future cash flow projections calculated using the DCF method. Based on the direction and strength of the effects of the ecological and social aspects found in the qualitative analysis on the individual value drivers of shareholder value, an appraisal of the quantitative influence can be carried out, alongside a calculation of the ecological and social deductions for risk as a second step. Here the qualitative information, which was collected during the analysis methods used to compile the ESV matrix, must be quantified, although this is often associated with the creation of uncertainties.

One consideration of CSR in the context of employee integration would be the creation of a code of conduct for M&As, which would be written out during the transaction phase and based on the human resources integration measures. The communication of underlying values and norms would strengthen the trust of the staff involved in the restructuring and transformation process. It would be possible for a company to make its claim of having 'good' business conduct seem believable by introducing a code of conduct for M&A transactions. Taking on social responsibility therefore functions as an information platform through which the verification of a company's integrity is possible (Maaß, 2009).

2.2 Defining the hypotheses

If knowledge about the role of CSR in the context of M&As is summarised, the following correlation can be assumed: purchasing companies with a distinct CSR engagement are in a position to assess and control acquisition risks more comprehensively during the course of strategic company decisions because of the integration of ecological and social aspects in their risk management approach. This increases the likelihood of the M&A transaction being successful. From this cause and effect correlation the following hypothesis can be drawn:

H1: The higher the CSR engagement of the purchasing company, the higher the success of its M&As.

However, it is obvious that not all CSR measures automatically have the same level of influence on M&A success. So it is conceivable that social and ecological risks do not determine the success of the transaction to the same degree, given different general conditions as well as the varying meaning of social and ecological risks in different business environments. Differentiating between the analysis of the effects of ecological and social CSR measures on M&A success therefore seems advisable.

H2a: The higher the social responsibility of the purchasing company, the higher the success of the M&A.

H2b: The higher the environmental responsibility of the purchasing company, the higher the success of the M&A.

3. Methodology and modus operandi for the empirical analysis

3.1 Putting the variables into operation

A capital market-orientated method of assessment, drawing upon the ‘abnormal return’ (AR), is used to evaluate the success of an M&A. This is defined as the difference between the real observed return of the company under consideration and the expected value of return if the M&A transaction had not occurred. The principle of the ‘event study’ approach follows the basic idea that an abnormal return can be measured if it can be traced back to an analysable event, such as the announcement of an M&A transaction (Armitage, 1995; MacKinlay, 1997; Kaup, 2009). The forecast and the amount of the unexpected, abnormal return consequently shed light on the success of the relevant event (from the point of view of the shareholders).

$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

In order to produce statements relating to the market trend following an event which can then be generalised, the average effect across the whole sample must be determined. Hereby the arithmetic mean must be established from the abnormal returns of the research sample. This should ensure that unsystematic market reactions to a certain event lead to the alignment of the whole result. In such a case, the average value would tend to be around zero, which would signal that no clear market change could be expected from the event (Binder, 1998).

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t}$$

Assuming that in theory new information on the capital market is immediately and comprehensively processed, one could concentrate on the day d_0 , on which the new information enters and influences the market, when calculating and analysing the average abnormal return. As the validity of this assumption is questioned both in the world of academia as well as in practice, the abnormal return will not only be calculated on the event day d_0 in this event study but an event window will be established, which will include the event day d_0 (McWilliams & Siegel, 1997; Oerke 1999). A ‘cumulative average abnormal return’ from the research sample will result from this:

$$CAAR_{e_1-e_2} = \sum_{t=e_1}^{e_2} \overline{AR}_t$$

Positive values for $CAAR_{e_1-e_2}$ signal that the result will make a profit for the shareholders in the company being analysed. Negative values imply that the result will have no or a negative influence on the value of the company (Beaver; 1968).

As it is not possible to observe the expected return in contrast to the return achieved in reality, the expected return must be estimated. The market model for estimating the expected return is the accepted

method of analysis in simulation studies as well as in practice (Beaver 1968). It is based on the assumption that there is a linear relationship between the yield on shares and the whole market yield (Glaum & Hutzschenreuter, 2010). Furthermore it can be assumed from this, that the return from a share is composed of a systematic and an unsystematic component (Modigliani & Pogue, 1974). The systematic return ($\hat{\alpha}_i * R_{m,t}$) factors in risk influences which are generated throughout the entire capital market and therefore influence all companies' returns. The unsystematic return ($\hat{\alpha}_i + \hat{\alpha}_{i,t}$) represents the component generated by the company and is calculated independently of the systematic return.

$$E(R_{i,t}) = \hat{\alpha}_i + \hat{\alpha}_i R_{m,t} + \hat{\alpha}_{i,t}$$

To define the parameters of the market model ($\hat{\alpha}_i$ and $\hat{\alpha}_{i,t}$) the period before and after the event has to be divided into an estimation and event period. The estimation period serves to define the parameter of the 'normal' (expected) return. The length of the estimation period varies from study to study. As a rule of thumb it is usually between 100 and 300 days (Bradley et al. 1988; Böhmer & Löffler 1999; Cybo-Ottone & Murgia 2000). This analysis comprises a period of 230 days. A long-term period of [-20;20] days, a medium event window of [-5;5] days as well as the announcement day itself (T=0) will be investigated.

In order to analyse the extent to which the abnormal returns examined in this study are random or can be linked to the event being investigated inductive statistical tests were used (Kaup, 2009). As abnormal returns often do not fulfil the necessary statistical requirements for parametrical tests¹, these will be standardised using the method developed by Boehmer et al. (1991). The test statistic z will be used to see if the *average abnormal return* ((AR) $\bar{}$) during the event period differs significantly from zero (Boehmer & Musumeci & Pulsen, 1991):

$$z = \frac{\frac{1}{N} \sum_{i=1}^N SR_{i,t}}{\sqrt{\frac{1}{N(N-1)} \sum_{i=1}^N \left(SR_{i,t} - \sum_{i=1}^N \frac{SR_{i,t}}{N} \right)^2}}$$

with:

$$SR_{i,t} = \frac{AR_{i,t}}{\sqrt{s_i \left(1 + \frac{1}{T} + \frac{(R_{M,t} - \bar{R}_M)^2}{\sum_{t=1}^T (R_{M,t} - \bar{R}_M)^2} \right)}}$$

If there is a normal curve of distribution for the abnormal returns, the test statistic z is Student's t-distribution with T-2 degrees of freedom (Pauser, 2007). If there is not a normal curve of distribution of the population, the non-parametrical Wilcoxon signed-rank test is available as an alternative.

The purchasing company's corporate social responsibility performance can be measured using a performance-based approach in the form of a rating. Here the CSR rating of the German ratings agency Oekom Research will be used. The rating process is carried out using an indicator-based approach, the 'Frankfurt-Hohenheimer guidelines', which represent the basis of a criteria catalogue including around 500 indicators. On average 100 indicators are chosen from this pool to evaluate social and ecological performance. About one third of these criteria are defined in a way specific to their sector. Each criterion is weighed and evaluated separately, and finally aggregated into an overall score. The aggregation of the indicators into overarching factors is carried out using a ranking model, in which corporate ranking is on the

¹ It is shown that abnormal returns are repeatedly characterised by a change in variance as well as anomalies in the normal curve of distribution because of the collinearity of the returns; see Brown & Warner 1980, p.217.

first level, followed by social rating on the second and environmental on the third. The rating of corporate ranking is carried out using a 12 step scale from A+ (excellent) to D- (poor) (www.oekomresearch.de).

3.2 Method of analysis

As a first step, univariate methods of analysis will be used to analyse the influence and effect of CSR on the success of an M&A transaction. In doing this it will be whether the purchasing companies' abnormal returns significantly differ from one another depending on their CSR engagement. To do so, the whole data sample will be divided into two sub-samples, namely into companies listed as prime or under prime². The criteria used for dividing them will be the extent of their CSR engagement. Using parametrical and non-parametrical significance tests it will be investigated whether the two sub-samples differ from each other significantly³. In the second step, a multivariate regression model will be used. The cumulative abnormal return will be the dependent variable. The rating from OEKOM RESEARCH will be used to determine the value of the independent variables. Overall two regression models will be created to test the hypotheses. The difference between them is the degree of itemisation of each CSR component under analysis⁴. The profitability of the purchasing company will be used as the control variable. This will be measured using the return on assets with the help of the return on assets ratio (ROA). The following equations give a formal mathematical representation of the specified regression models:

1st regression model:

$$CAR_{i,e_1-e_2} = \hat{a} + \hat{a}_1 CRR_{i,J} + \hat{a}_2 ROA_{i,J} + \hat{a}_{i,e_1-e_2}$$

2nd regression model:

$$CAR_{i,e_1-e_2} = \hat{a} + \hat{a}_1 SCR_{i,J} + \hat{a}_2 ER_{i,J} + \hat{a}_3 ROA_{i,J} + \hat{a}_{i,e_1-e_2}$$

3.3 The choice of the sample and its structure

Oekom Research's company list and the Thomson One Banker Deals database were used to find transactions which were announced and completed between 01.01.2006 and 31.12.2010. To be included companies had to be listed on the stock exchange and their ownership in the target company had to have been zero percent before the transaction and more than 50 percent afterwards.

Confounding events during a time period of twenty days before and after the announcement of the deal were found using the Factive database. Special attention was paid to M&A transactions carried out simultaneously by the purchasing company. These transactions were eliminated from the data set if a further transaction lay within the time window. The purpose of this was to guarantee that the abnormal returns found, would not be 'biased' by other M&A transactions happening at the same time. The method of selection resulted in a data sample of 54 companies who had carried out 113 transactions which met the criteria described above during the observation period (01.01.2006 to 31.12.2010). The companies under consideration in this analysis, come from six different sectors with a focus on 'machinery' and 'metals/mining'. They come from 15 different countries, with a predominance of companies from the USA and Germany.

²Companies listed as 'prime' are above average for the sector according to Oekom Research's evaluation. 'Under prime' companies are under average for the sector according to Oekom Research's evaluation.

³ Here the average value difference test was used, following the approach adopted by Hawawini & Swary, 1990, Tourani Rad& van Beek, 1999 and Beitel/Schiereck & Wahrenburg, 2004. If no normal distribution was present, the Wilcoxon rank-sum test was used.

⁴CRR stands for the company's overall engagement with CSR; SCR and ER are sub-divisions of the overall CSR engagement and stand for social engagement and environmental engagement

4. Results from the empirical analysis

4.1 Results from the univariate analysis

The results of the univariate analysis show that the abnormal returns in each sub-sample differ significantly. Purchasing companies who are listed as having a ‘prime’ CSR level, have considerably lower abnormal returns than those whose corporate rating was listed as under prime (table 4). This difference is most obvious in the [-5;5] event window and on the day of the announcement. The difference between the CAAR achieved can be substantiated by the statistically significant test values from the parametrical and non-parametrical test models for the event period [-5;5]. In both significance tests it was shown that the CAAR (average abnormal return) differs with a probability of error of 5 percent (p-value <0.05). The differences calculated for the other event periods could not be proved/substantiated using the significance tests.

Table 2 Results of the univariate analysis on corporate rating

Event period	Prime	Under prime	Average value difference test		Wilcoxon rank-sum test	
			z-value	p-value	z-value	p-value
CAAR [-20;20]	0.6949%	2.8582%	-1.4944	0.1379	-1.4716	0.1411
CAAR [-5;5]	-0.2168%	1.9956%	-2.4859	0.0144 **	-1.9640	0.0495 **
AAR [0]	-0.0083%	0.0412%	-0.1261	0.8999	-0.0406	0.9677

Average cumulative abnormal returns (CAAR) from N=49 (prime) and N=64 (under prime). The statistical significance of the results from the parametrical average value difference test and the non-parametrical Wilcoxon rank-sum test is expressed using *, **, *** to signify the 10%, 5% and 1% levels respectively.

The purchasing companies’ *social rating* was used as the second criteria for separation. The CAARs calculated from this show results which are not as conclusive as those from the *corporate rating* section. After dividing the whole sample using the *social rating* of the purchasing companies it was particularly noticeable that purchasing companies listed as ‘under prime’ first begin to feature higher CAARs during the [-5;5] and [-20;20] time windows (0.9% vs. 3.1% and 0.4% vs. 1.7%). ‘Prime’ purchasing companies began to exhibit a higher CAAR from the announcement day onwards. So here it is shown that transactions carried out by ‘under prime’ purchasing companies are characterised by having negative CAAR values. However, the significance tests only confirmed the differences between the abnormal returns for the long term evaluation of success (event window [-20;20]). The Wilcoxon rank-sum test shows significant p-value results (table 3). In contrast the average difference test showed no significant anomalies.

Table 3 Results of the univariate analysis on social rating

Event period	Prime	Under prime	Average value difference test		Wilcoxon rank-sum test	
			z-value	p-value	z-value	p-value
CAAR [-20;20]	0.9323%	3.1211%	-1.5144	0.1328	1.6905	0.0909 *
CAAR [-5;5]	0.4459%	1.7538%	-1.5013	0.1361	1.2924	0.1962
AAR [0]	0.0752%	-0.4780%	0.3211	0.7488	-0.4500	0.6527

Average cumulative abnormal returns (CAAR) from N=62 (prime) and N=51 (under prime). The statistical significance of the results from the parametrical average value difference test and the non-parametrical Wilcoxon rank-sum test is expressed using *, **, *** to signify the 10%, 5% and 1% levels respectively.

Environmental rating was used as the third separation criteria to add another dimension. Here it was shown that all the ‘prime’ purchasing companies exhibit negative CAAR values for every time period, so this can be declared as value-destroying. In contrast the ‘under prime’ companies had positive CAAR values and the absolute difference value between the two increased over time (table 4). The parametrical average difference test as well as the non-parametrical Wilcoxon rank-sum test confirmed the significant differences between the CAARs with highly significant z-values for the time periods [-5;5] and [-20;20].

Table 4 Results of the univariate analysis on environmental rating

Event period	Prime	Under prime	Average value difference test			Wilcoxon rank-sum test		
			z-vlaue	p-value		z-value	p-value	
CAAR (-20; 20)	-0.1926%	3.3183%	-2.3855	0.0188	**	-2.9502	0.0032	***
CAAR (-5; 5)	-1.1390%	2.4757%	-4.3097	0.0000	***	-3.9355	0.0000	***
AAR (0)	-0.3200%	0.2445%	-1.4239	0.1573		-0.9677	0.3332	

Average cumulative abnormal returns (CAAR) from N=45 (prime) and N=68 (under prime). The statistical significance of the results from the parametrical average value difference test and the non-parametrical Wilcoxon rank-sum test is expressed using *, **, *** to signify the 10%, 5% and 1% levels respectively.

4.2 Results from the multivariate regression analysis

The short-, medium- and long-term consideration of success using the regression model showed that *corporate rating* has no significant influence on the cumulative abnormal return, no matter how long of the event period was set (table 5). The quality of the regression model also confirms the fact that corporate rating does not have a particularly high potential for explanation for abnormal returns.

Table 5 Results from the regression model for corporate rating

Regression model	(1)	(2)	(3)
Variables			
CRR	-0,00183824 (0,7859)	-0,0181683 (0,2347)	0,0115143 (0,6728)
ROA	0,000207903 (0,6025)	-0,000203607 (0,8035)	-0,00342907 (0,0176**)
const	0,00286405 (0,8457)	0,0533539 (0,0971*)	0,0181628 (0,7478)
Quality of the model			
R ²	0,003477	0,016911	0,062542
adjusted R ²	-0,014641	-0,000963	0,045497
F-value	0,147553	1,019886	3,442241
p-value (F)	0,862987	0,364020	0,035479**
N	113	113	113

Model 1 relates to the AR of the announcement time period T=0 while model 2 relates to the CAR of the event period [-5;5]. The third model (3) shows the independent variable CAR of the time period [-20;20]. The p-values from the regression coefficients are given in brackets (here robust standard errors are used). The significance level of the regression coefficients are given to the *10%, **5% and ***1% levels (double-sided T-test).

In the course of dividing CSR engagement into ‘social rating’ (SCR) and ‘environmental rating’ the results of the cross-section regression showed that *social rating* also does not have a significant influence on the (cumulative) abnormal return. The p-values were not lower than the 10 percent significance level in the short-, medium- or long-term time periods measuring success (table 6). However, *environmental rating* led to a significant oscillation in the event period [-5;5]. The p-value is even highly significant at the 1 percent level. However, the resulting regression coefficient is negative. Consequently the conclusion that purchasing companies which are heavily involved with environmental aspects achieve significantly lower abnormal returns can be drawn.

Table 6 Results from the regression model for social and environmental rating

Regression model	(1)	(2)	(3)
Variables			
SCR	0,00420114 (0,6079)	0,0115428 (0,4844)	0,0212129 (0,4825)
ER	-0,00445836 (0,4754)	-0,026869 (0,0163**)	-0,00443629 (0,8112)
ROA	0,000210598 (0,6021)	-0,000131046 (0,8747)	-0,00343703 (0,0168**)
const	-0,00103246 (0,9478)	0,0454994 (0,1889)	0,00531151 (0,9319)
Quality of the model			
R ²	0,008730	0,038091	0,067852
adjusted R ²	-0,018553	0,011617	0,042196
F-value	0,282840	2,047713	2,308858
p-value (F)	0,873328	0,111442	0,080452*
N	113	113	113
Model 1 relates to the AR of the announcement time period T=0 while model 2 relates to the CAR of the event period [-5;5]. The third model (3) shows the independent variable CAR of the time period [-20;20]. The p-values from the regression coefficients are given in brackets (here robust standard errors are used). The significance level of the regression coefficients are given to the *10%, **5% and ***1% levels (double-sided T-test).			

The environmental rating results contradict the assumption posited in hypothesis H_{2B} that the ER variable has a significant positive influence on the success of an M&A. It is also clear that once again, none of the regression models have a high explanatory potential. Although the corrected coefficient of determination is only negative for the period measuring short-term success, all the R² are still under 10 percent. Furthermore, the division of the more general corporate rating hardly changes the significance missing in the regression models. Up until the third regression model (event period [-20;20]) the p-values (F) are repeatedly lower than the 10 percent significance level. It can therefore be concluded that the significant negative influence of the environmental rating on abnormal returns is only applicable to the underlying data material. Transferring the method to the whole population is not possible.

5. Limitations of the analysis

The first limitation of the interpretation of the empirical results is related to the underlying data basis. There is a danger of selection bias given the criteria for selection used in section 3.2. Firstly, the bias exists because of the requirement (without which the study’s concept would not have been applicable) that the companies being investigated had to be listed on the stock exchange. Secondly, the choice of companies to be investigated was not random, but dependent on whether the purchasing companies belonged to the Oekom Research Universe. In addition, the sample amount of 113 transactions is noteworthy; a more extensive data sample, which could have been generated using a longer period of observation (for example), may have guaranteed more reliable results from the empirical analysis. Further limitations can be linked back to the methodology used in the analysis. The success of the transactions was only measured in a one-

dimensional manner, namely from a capital market perspective. As the CSR concept is multidimensional, alternative success factors which would consider the influence of CSR on the success of M&As from another perspective could lead to different findings. As the measurement of success only focused on the purchasing company's perspective, the influence of CSR on the success of M&As from the perspective of the target company as well as the whole company was excluded. Any conclusions relating to the question of whether differences in CSR between the purchasing and target company affect the success of M&As therefore cannot be drawn.

6. Conclusion and implications for management research and practice

The analysis showed that 'prime' transactions achieved significantly lower abnormal returns than transactions listed as 'under prime', regardless of the chosen CSR dimension. In response to the research question posited at the beginning, a business case for CSR regarding M&As cannot be made; on the contrary, a high level of engagement with CSR can be seen to have value-destroying implications for M&As. However, the results from the multivariate analysis suggest that there is no general correlation between a purchasing company's CSR performance and the success of any M&A transactions it carries out. Overall it can be concluded that any potential for increasing value during the M&A process by taking on social responsibility is simply not recognised on the capital market. In some cases it can even be supposed that the capital market is more likely to see the acceptance of social responsibility as value-destroying. It can therefore be presumed that the negative abnormal returns found in cases where the purchasing company had a high environmental rating can be explained by the fact that the capital market assumes that this will mean higher costs during the M&A transaction so that this status can be maintained.

Regarding the question of the extent to which purchasing companies should integrate the concept of CSR into the M&A process, it is recommended to management practice, that a holistic integration approach should be avoided – at least as the research stands. It would be advisable to opt for a less comprehensive approach to integrating CSR in the M&A process as this seems to be more advantageous in terms of the cost-benefit effect for the moment. For example, rather than creating an explicit CSR 'must profile' during the preparatory phase, it would be advisable to simply broaden the exclusion criteria that involve a CSR perspective. For due diligence it should be decided how beneficial implementing a separate due diligence for CSR would be, in relation to the cost-benefit aspect of the quality of the decision-making bases, depending on the objectives, the nature of the transaction, the risk appetite and the capacities employed. The extent to which CSR activities can work as signals for reducing discord during the integration period, is dependent on whether the purchasing company is successful in communicating the nature of its own existing CSR activities. From the perspective of management research the theoretical correlations between CSR and M&As as examples for the validation of CSR as an important aspect of company management should be researched more thoroughly, using different theoretical approaches from the risk management approach. For example, empirical research could generate more reliable results by overcoming the limitations of this analysis outlined in section 5. However, it can be expected that the threshold for the acceptance of CSR as a success factor in M&As will be overcome in the foreseeable future.

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