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THE IMPACT OF FINANCIAL LEADERSHIP ON THE SUCCES OF SMES IN THE MANAGEMENT OF CRISIS

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In this paper we present the results of an empirical study about Financial Leadership. A questionnaire with 17 questions in 6 categories were developed and sent to 4069 SMEs in the producing sector in Austria. The questionnaire was answered by 318 companies. With the data we wanted to find out if Financial Leadership can prevent companies from suffering a company-crisis or can help companies to overcome a company crisis.

Keywords: Financial Leadership, CFO, Crisis, Quantitative Study.

Introduction and Theoretical Background

The concept of Financial Leadership is not explicitly defined in literature. Financial Leadership combines the professional and social skills a CFO should have. Starting point of the theoretical discussion is the Chief Financial Officer (CFO). This position has drawn the attention in the last few years (Zehetner 2013). The Financial Management of firms changed and improved radically during the last century. Up to the 1950ies accounting played the central role in the financial management of a firm. Although since 1925 the cost accounting (Schmalenbach 1925) was implemented in most incorporated companies in Europe. With the achievements of the Modern Finance (Markowitz 1952, Modigliani/Miller 1958, Sharpe 1964) during the 1950ies and 1960ies, the influence of the Financial Markets grew significantly. Primarily the income approaches (net present value) replaced the asset value approaches in the theory of company-valuation. So the classical accountant was replaced by the cost accountant during the 1970ies. In the 1980ies the Controller was the manager in charge of financial management in companies. During the last decade further issues like mergers and acquisitions, initial public offerings or the emission of corporate bonds became managerial functions in companies – the position of the CFO was established. But during the last years “soft factors” became an important thing in the financial management in companies, too. Both, in society and, interestingly, also in science, "soft" factors, partly also moral objections play an increasing role nowadays. The proliferation of "Corporate Social Responsibility" (CSR) reflects this impressively (Lee, 2008). CSR is not created because there has been a rethinking in the economy in the way that there are "new values", but mostly from the pursuit of optimization of shareholder value (Friedman, 1962, Parguel, Benoit Moreau, Lacreneux, 2011. Müller 2007. Suchanek, Lin-Hi., 2010 Lee 2008). The decision “how much” Corporate Social Responsibility a company “applies” is a decision that also pursues the goal of rational utility maximization (Porter/Kramer 2002). The reason for the increasing importance of soft factors like CSR is the higher level of information people have and want to have about companies and their products. In former days the financial manager of a company decided

primarily by financial considerations. But when people and non-governmental organizations (NGO) became aware of, for example, the bad working conditions in shoe-companies in certain countries, or the bad effects of the production-relocation of German car producers to low-cost countries on the national unemployment-rates countries, they refused to buy products of these firms any longer. So CFOs had to consider soft factors in their decisions – they had to develop themselves further to "Financial Leaders".

Therefore we summarize briefly: The requirements for Financial Leadership include on the one hand the whole range of so-called "hard skills" so all the "content" skills that must be mastered by CFOs. This includes the traditional skills of an accountant, controller, as well as the skills in the financial sector and skills in general business such as strategy. On the other hand, "soft factors" got of increasing importance. This includes all the skills in dealing with employees, suppliers, and customers. Which demands CFOs must fulfill, so that one can be seen as "Financial Leader" were content of several studies. Most of the studies concentrated on using qualitative methods. CFOs were asked to their expectations regarding future requirements financial leaders should have. (PricewaterhouseCoopers 2009, Deloitte/Institute of Financial Management 2008 - 2011).

The results of these studies are the theoretical background on which our quantitative analysis is based. Accordingly, Financial Leadership includes the following categories: *strategy and risk management* (Thomson 2008 Fahrngruber 2013), *cash management and innovation* (Fahrngruber, 2013), and *stakeholder relationship management* (Hewertson 2012). As soft factors, *communication*, as well as *negotiation and cooperation*, were identified (Zehetner, 2013).

Definition and Scale Implementation

According to the theoretical principles just described, Financial Leadership can be defined as a combination of profound knowledge and the application of hard skills and the perception of communication and management tasks. The aim of our study was to find out whether those professional skills contributes to crisis prevention or crisis management.

For the definition and measurement of Financial Leadership a specification of the necessary technical skills is of central importance. The literature, as shown above, provides a rough guide, which knowledge is essential for CFOs. To select the final categories for our questionnaire the study-authors employed a two-step process: First, the four volumes of the interview books "Financial Leadership in Austria" (Deloitte/Institute of Financial Management, 2008-2011) were evaluated. The qualitative study showed that especially the topics *risk management* and *cash management* (Fahrngruber, 2013) play a central role in Financial Leadership. Concerning *cash management* the broader term *treasury* was chosen for proper logical reasons. As central points also *growth/strategy*, as well as *innovations* were mentioned in nearly all interviews. These two points appear too general, so the following concretions were made: *growth/strategy* was divided into the topics *strategy-oriented financial management* and *stakeholder relationship management*. *Strategy-oriented financial management* can be seen as long-term planning of corporate-finance. In this area, the increasing importance of planning tasks, strategic tasks as well as forward-planning tasks in the work of CFOs is taken into account (Fahrngruber, 2013). With regard to *innovations* the study-authors thought that the term is too wide. On substantive considerations, this area was divided into *open-mindedness towards alternative forms of financing* Alternative forms of financing can have advantages compared to established forms of financing. The active search and the open-mindedness to new funding opportunities can distinguish Financial Leaders.

The authors see the second item in terms of innovation as given, when CFOs are *open-minded towards modern controlling instruments*.

Based on the evaluation of the qualitative study and taking into account other existing studies, these six categories are used to measure if a CFO can be seen as Financial Leader, or not.

Data Collection and Measurement

A questionnaire with 17 questions to these six categories was constructed.

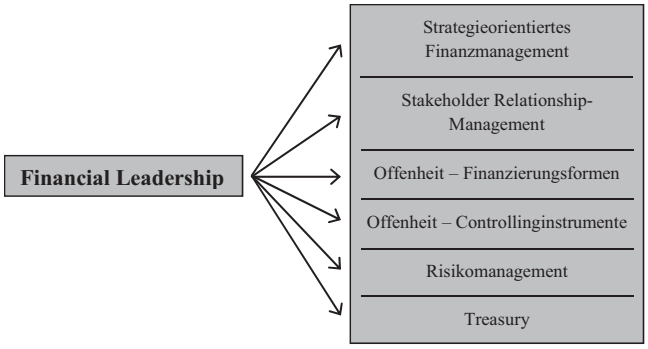

Figure 1. Financial-Leadership model.

A seven-ary bipolar likert-scale was employed. The answers on the right site of the scale were answers we expected from Financial Leaders. In the questionnaire the single questions were not classified into the six categories. Some of the questions were "reversed coded", so the Financial Leadership-answer was on the left side. These adaptions should ensure valid answers. As mentioned above we got a data-set with the answers from 318 CFOs of small and medium sized enterprises in Austria.

Financial Leadership was measured as an overall variable that means the results out of the answers of the single questions were summarized. The emerging variable was called *overall Financial Leadership*.

In a next step the reliability of the data was verified. Therefore we employed the "Cronbachs-Alpha-analysis": For the *overall Financial Leadership*-variable we got a value of 0,702, which can be interpreted - according to Himme (2009) as, an acceptable value. The reliability of the six categories was tested in the same way. Unfortunately the six categories turned out to be not selective in the sense of a sufficient "Cronbachs Alpha". Because of this we employed a factor analysis. This statistical method helped us to find three categories which are very stable[1] and sufficiently selective[2].

As factor-solution we identified three categories:

Factor 1: Proactive, strategic and operative financial-planning

Factor 2: Open-mindedness towards investors and provider of capital

Factor 3: Open-mindedness towards alternative forms of financing

[1] The Guadagnoli and Venicer-Test showed the value 0.919 which can be interpreted as "good" value.

[2] The „Kaiser-Meyer-Olkin-criterium" indicated that the factor analysis is a useful method to find categories. The test showed a value of 0.696 which can be interpreted as sufficient.

This three factors include items from the six categories mentioned above and were used as new categories as they showed improved statistical characteristics compared with the six old categories.

Methodology

In preparation for further statistical tests we examined whether the distribution of responses in the total variable *overall Financial Leadership* corresponds to a normal distribution. This was visually evaluated and examined by Kolmogorov-Smirnov test and Shapiro-Wilk test.

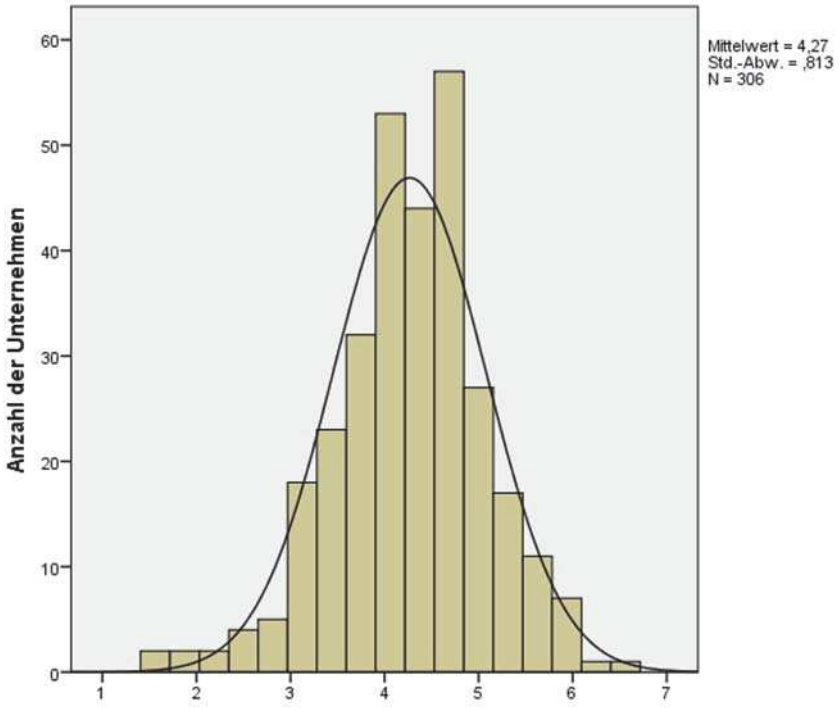

Figure 2. normal distribution.

The visual assessment of the distribution of the variable *overall Financial Leadership* attests a fairly good approximation to a normal distribution. In addition the standard tests were conducted: the Kolmogorov-Smirnov-test certifies normal distribution at a 1% significance level.[3] The more powerful Shapiro-Wilk test, attests normal distribution at the 5% significance level.[4]
The test for normal distribution was performed analogously to verify the normal distribution for the three factors detected. The results show that all the three factors are normally distributed, too.[5]

[3] The test showed a value of 0.025, what means the H_0=*There is no difference between the existing-distribution and a normal-distribution* can be rejected only at the 1%-significance-level.

[4] The test showed a value of 0.055, what means the H_0=*There is no difference between the existing-distribution and a normal-distribution* can be rejected at the 5%-significance-level.

[5] The Kolmogorov-Smirnov-test assets all three factors that they are normally distributed on a 5% significance-level. Therefore the H_0=*There is no difference between the existing-distribution and a normal-distribution* can be rejected.

As all the variables are normally distributed we can employ parametrical statistical tests. We used two different methods to control the following postulated interdependencies:

First, we tested if Financial Leadership (both: The variable overall Financial Leadership and the three factors determined above: proactive, strategic and operative financial-planning, open-mindedness towards investors and provider of capital and open-mindedness towards alternative forms of financing) has a positive effect on the ability to avoid a company crisis.

Secondly, we controlled whether Financial Leadership (both: The variable overall Financial Leadership and the three factors determined above: proactive, strategic and operative financial-planning, open-mindedness towards investors and provider of capital and open-mindedness towards alternative forms of financing) has a positive effect on the ability to overcome a company-crisis.

For these two steps we had to define if the companies polled suffered from a company crisis during the last few years (2007-2011) and - if they suffered from a company crisis – whether they managed to overcome this crisis, or not. Therefore we prepared several questions and added them to the questionnaire mentioned above.

As a result we were able to divide the companies in groups:

Group one: Suffered from a company-crisis (Yes/No)

Group two: (if Group one = Yes): Overcame the company-crisis (Yes/No)

So we got two binary-coded variables. As we wanted to control if there is an influence of Financial Leadership on crisis-prevention or the ability to overcome a crisis, we had to employ a form of regression-analysis. As our dependent variables (*Suffered from a company-crisis* and *Overcame the company-crisis*) are binary-coded, the classical linear-regression is not the appropriate method for answering this question. Instead we used the binary-logistic-regression (logit), which can be used for binary-coded dependent variables.

Thirdly, we controlled if Financial Leadership (both: The variable overall Financial Leadership and the three factors determined above: proactive, strategic and operative financial-planning, open-mindedness towards investors and provider of capital and open-mindedness towards alternative forms of financing) has a positive effect on the company-turnover, company profit.

Therefore we were able to use the classical linear regression as statistical method as the dependent variables *company-turnover* and *company-profit* are metrical variables.

Additionally to the variables mentioned, we added *company size*, *the age of the company* and *environmental dynamics* as control variables in the analyses.

Financial Leadership and Crisis Prevention

A total of 263 cases were included in the analysis. This is the intersection of those respondents who answered all the questions that were included in the questionnaire. With the methods mentioned above we tested the following hypothesis:

H_1 = Financial Leadership (in form of the variable "overall Financial Leadership") has a significant impact on the ability to avoid company crisis.

The results of the logistic regression:

	Sig.	Exp(B)	Beta
Overall Financial Leadership	0.783	0.957	-0.044
Age of the company	0.222	0.953	-0.048
Company size	0.688	1.001	0.001
Environmental dynamics	0.558	1.071	0.069
Constant	0.900	0.902	-0.103

Table 1: Logistic regression, avoidance, overall FL

As you can see in the first row of table 1 the significance value of the variable *overall Financial Leadership* is 0.783. This value is above all acceptable significance levels (0.1, 0.05, 0.01). That means that our hypothesis H_1 must be rejected that means Financial Leadership companies (in form of the variable *overall Financial Leadership*) are not more successful in avoiding a company-crisis. All the control variables show non-significant values.
In a next step we replaced the variable *overall Financial Leadership* with the three factors we detected. You can see the results in table 2. Unsurprisingly the three factors have no effect on the ability to avoid a company crisis, too.

	Sig.	Exp(B)	Beta
Proactive, strategic and operative financial-planning	0.603	1.072	0.069
Open-mindedness towards investors and provider of capital	0.854	0.977	-0.023
Open-mindedness towards alternative forms of financing	0.635	0.939	-0.062
Age of the company	0.222	0.953	-0.048
Company Size	0.688	1.001	0.001
Environmental dynamics	0.558	1.071	0.069
Constant	0.900	0.902	-0.103

Table 2. logistic regression, avoidance, factors.

Financial Leadership and Overcoming a Crisis

In reference to crisis prevention, neither the construct *overall Financial Leadership*, nor the three factors identified, could make a contribution. As a further step we investigated whether financial leadership can contribute to crisis management.
In this logistic regression a total of 192 cases were included to both the analysis of the influence of the *overall Financial* Leadership as well as for the analysis of the influence of the three factors. The following hypothesis was tested:

H_2 = Financial Leadership (in form of the variable overall Financial Leadership) has a significant impact on the ability to overcome company crisis.

The logistic regression shows the following:

Table 3. logistic regression, overcoming, overall FL.

	Sig.	Exp(B)	Beta
Overall Financial Leadership	0.059	1.468	0.384
Age of the company	0.417	0.961	-0.039
Company-size	0.035	1.007	0.007
Environmental dynamics	0.372	1.135	0.127
Constant	0.139	0.212	-1.550

In crisis management, the construct *overall Financial Leadership* has a tendentious significant impact (probability of error less than 6%), as shown in the first row of table 3. The exp. regression coefficient is 1.468. That means that a higher value of this variable by 1 means that the company has a by about 50% increased chance to overcome the crisis in comparison to a company with an appropriate lower value. Moreover, the variable company size has an effect on the ability to overcome crises (probability of error: 3.5%). The regression coefficient (Beta) is 0.007. Therefore a company with 50 employees more, has a by about 40% higher probability to overcome a crisis than an appropriate smaller company. The other independent variables have no explanatory power for the ability to overcome a company-crisis. As we found significant impacts of independent variables we must take a look on the logistic-regression quality criteria: The coefficient of determination "*Nagelkerkes R²*" has a value of 0.082. This means that our model can explain 8.2% of the variation in the variance of the dependent variable. As we did not had the aim to find out all the impact-factors on *the ability to overcome a company crisis* but only had the aim to show a significant impact of Financial Leadership on *the ability to overcome a company crisis* this is an acceptable value.

In a next step we replaced the variable *overall Financial Leadership* with the three factors to find out which of the three factors can help companies to overcome company crisis:

Table 4. logistic regression, overcoming, factors.

	Sig.	Exp(B)	Beta
Proactive, strategic and operative financial-planning	0.087	1.324	0.280
Open-mindedness towards investors and provider of capital	0.868	1.026	0.026
Open-mindedness towards alternative forms of financing	0.080	1.332	0.287
Age of the company	0.389	0.959	-0.042
Company-size	0.028	1.007	0.007
Environmental dynamics	0.578	1.086	0.082
Constante	0.718	1.341	0.293

Table 4 shows that the factor proactive, strategic and operative financial-planning as well as open-mindedness towards alternative forms of financing have a tendentious significant impact on the ability to overcome company crisis. The exp. regression coefficient of the factor proactive, strategic and operative financial-planning is 0,280. That means that a higher value of this variable by 1 means that the company has a by about 32% increased chance to overcome the crisis in comparison to a company with an appropriate lower factor-value. The exp. regression coefficient of the second tendentious significant factor open-mindedness towards alternative

forms of financing is 0.287 what means that a higher value of this variable by 1 means that the company has a by about 33% increased chance to overcome the crisis in comparison to a company with an appropriate lower factor-value.
Unsurprisingly the variable *company size* has an effect on the *ability to overcome crises*, again. All the other variables have no significant impact on the dependent variable. In reference to the logistic-regression quality criteria: The coefficient of determination "*Nagelkerkes R²*" the same as mentioned before is valid.

Financial Leadership and Operating Figures

In a last step the influence of Financial Leadership on the operating figures *company profit* and *company turnover* is tested. As mentioned above this analysis can be done by employing a classical linear-regression model, as the dependent variable *company profit*, respectively *company turnover* is metrically scaled.
First we tested, if *overall Financial Leadership* has a significant impact on the *company turnover*. The hypothesis tested is:

H_{3a} = Financial Leadership (in form of the variable overall Financial Leadership) has a significant impact on the company turnover.

The results of the linear regression:

Table 5. linear regression, turnover, overall FL.

	Standardisierte Koeffizienten	**Sig.**
	Beta	
Overall Financial Leadership	0.089	0.168
Age of the company	0.075	0.232
Company-size	-0.006	0.926
Environmental dynamics	0.077	0.227
Constant		0.001

The value for the significance is 0.168, what means it is above all acceptable levels. Our Hypothesis H_{3a} has to be rejected: *Overall Financial Leadership* has no effect on the turnover of a company. As all the other significance-levels are higher than 0.1, none of the control-variables has an effect on company-turnover.

Again we replaced the *overall Financial Leadership* with the factors. As you can see in the table below the factors have no influence on the company turnover, either.

Table 6. Linear regression, turnover, factors.

	Standardisierte Koeffizienten	**Sig.**
	Beta	
Proactive, strategic and operative financial-planning	0,069	0,298
Open-mindedness towards investors and provider of capital	0,059	0,346
Open-mindedness towards alternative forms of financing	0,049	0,445
Age of the company	0,073	0,249
Company-size	-0,005	0,942
Environmental dynamics	0,070	0,288
Constante		0,000

Secondly, we tested, if *overall Financial Leadership* has a significant impact on the *company profit*. The hypothesis tested is:

H_{3b} = Financial Leadership (in form of the variable overall Financial Leadership) has a significant impact on the company profit.

The linear regression below shows that Financial Leadership has a tendentious significant impact on the *company profits*. The significance value is 0.081 and lies above 0.05 but below 0.1:

Table 7. Linear regression, profit, overall FL.

	Standardisierte Koeffizienten	**Sig.**
	Beta	
Overall Financial Leadership	0.112	0.081
Age of the company	0.042	0.505
Company-size	0.017	0.786
Environmental dynamics	0.051	0.422
Constant		0.001

This means that the value of the *company profit* will rise 11.2% when the *overall Financial Leadership* value raises 1 unit.

When we take a look on the impact of the three factors on the *company profit*, surprisingly we recognize that none of the factors seem to have an impact on the *company profit*:

Table 8. Linear regression, profit, factors.

	Standardisierte Koeffizienten	**Sig.**
	Beta	
Proactive, strategic and operative financial-planning	0.104	0.112
Open-mindedness towards investors and provider of capital	0.060	0.333
Open-mindedness towards alternative forms of financing	0.063	0.325
Age of the company	0.038	0.551
Company-size	0.020	0.755
Environmental dynamics	0.037	0.573
Konstante		0.000

As you can see in the table above all significance values are above 0.1. This means that the factors have no influence on the *company profit*. In this case we have to reject our hypothesis H_{3b}. This is contradictory to our result of the linear regression between *overall Financial Leadership* and *company profit*. As the coefficient of determination R^2, which can be seen as quality criteria, has a very low value from about 0.01, we have to acknowledge that the linear regression shows no stable and reliable results.

Conclusion

Our empirical study shows that Financial Leadership has no positive effects on the ability to *avoid* company crisis but furthermore it shows that there is a positive effect of Financial Leadership on the ability to *overcome* a crisis.

First of all we want to explain why Financial Leadership cannot help companies to avoid company crisis. The current economic crisis, which started in 2007 and thus during our survey period, was an "exogenous shock". This might be the reason why even Financial Leadership companies had no possibility to escape the immediate effects of the crisis. During the crisis a situation of fundamental uncertainty occurred, even if companies did a good financial planning in the sense of *Financial Leadership* they had no possibility to forecast the appearance or the effects of the crisis as it was not possible to do successful planning with established models as they did not provide reliable results.

Our study shows that *Financial Leadership* has a positive effect on the ability to overcome a company crisis. We think this is because *Financial Leadership* companies are more successful in communicating their ability to overcome the crisis to banks, governments and clients and get their confidence even in times of recessions. What is more Financial Leadership companies have better Finance and Controlling tools. These tools cannot prevent them from an exogenous shock but can help them during the crisis.

A more detailed look on the results shows that the factors p*roactive, strategic and operative financial-planning* and o*pen-mindedness towards alternative forms of financing* have tendentious significant impact on the ability to overcome a crisis.

Surprisingly the more medium to long-term oriented factor *proactive, strategic and operative financial-planning* has positive effects on the ability to overcome a company crisis. In the most cases crisis-management must be done rather short-term and unplanned. But on the contra-

ry, a key point in crisis management and in times of credit crunch is to raise capital and therefore the submission of long-term financial plans is a key factor in whether you get capital from banks or investors, or not.

The impact of the second factor o*pen-mindedness towards alternative forms of financing* is more coherent as companies which have alternative possibilities to raise capital have an advantage against companies which have no interest and/or no experience in alternative financing forms, primarily in times when banks exacerbate their lending-policy.

Concerning the impact of Financial Leadership on *company profits* and *company turnover* we found no stable results.

Final conclusion: Financial Leadership has positive effects on the management of crisis. Even if Financial Leadership cannot help companies to avoid suffering from a crisis, it helps companies in really hard times: During a company crisis.

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