

# *What happened to my credit management ?*

Ludo Theunissen  
Budapest November 2018



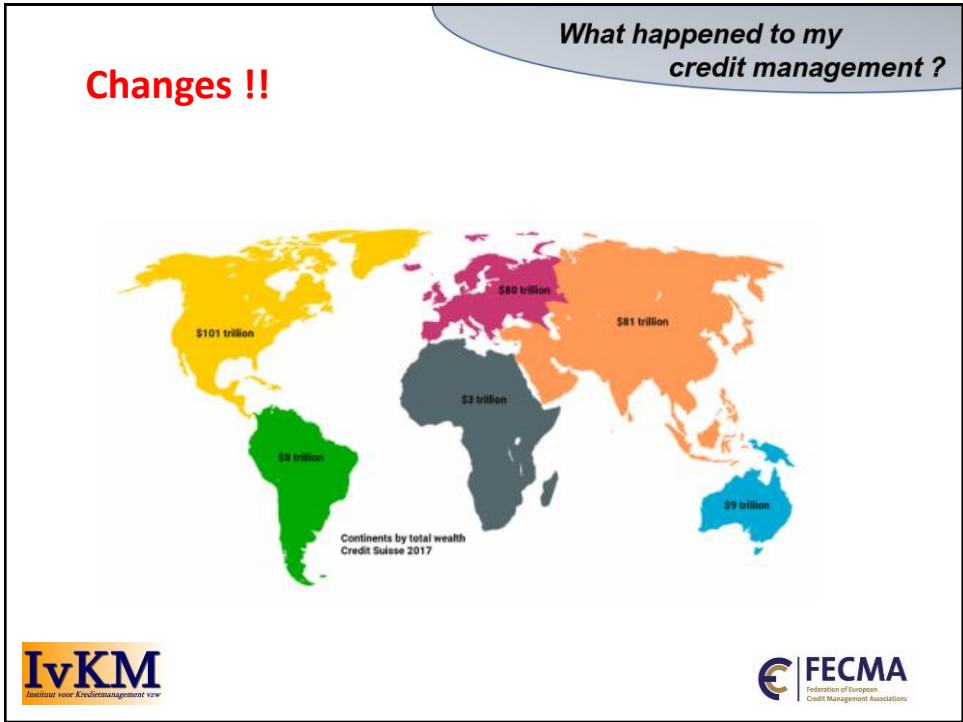
## *What happened to my credit management ?*

### **Changes !!**

The world is changing  
The economy is changing  
Technology is changing  
People are changing  
Jobs are changing

What about Credit management ?

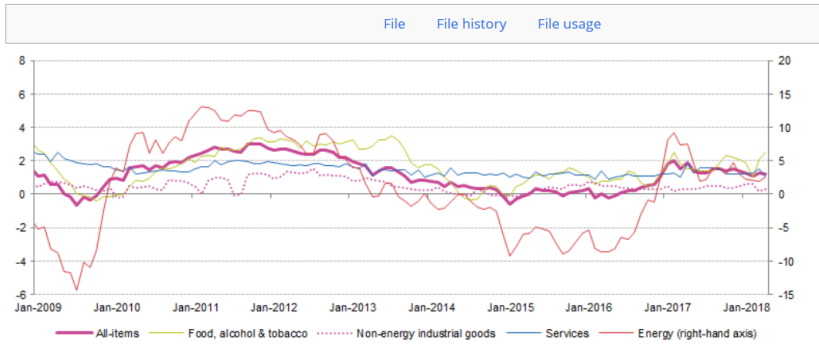




*What happened to my credit management ?*

Changes !!

File: Euro area annual inflation and its main components ( January 2008-April 2018 (estimated).png



*What happened to my credit management ?*

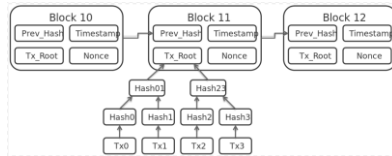
Changes !!



10 MB



256 GB



Blockchain

Technology has changed



*What happened to my credit management ?*

**Changes !!**



Janet Bell-worth voor British Gas als in een versmooierdijl voor de 2 jaar gedragde de de Britse boordheid London mag 2014 in de verdragen, verdragen van 2014. 12-11-14



Technology has changed jobs



*What happened to my credit management ?*

**Changes !!**

Internet !!!

How many times did you check your email today ?

Financial information  
&  
Social (?) networks



Useful for credit managers ?

Technology has changed people



*What happened to my credit management ?*

# Are we intelligent ?

We are  
We think we are .....



Auguste Rodin



The thinker



*What happened to my credit management ?*

# Are we intelligent ?

We are  
We think we are .....

Where the \*\*\*\* did I leave my underpants ??



Auguste Rodin



The thinker

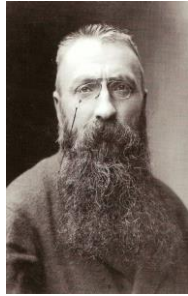


*What happened to my  
credit management ?*

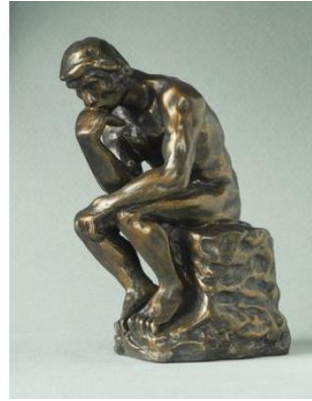
## Are we intelligent ?

We are

We think we are .....



Auguste Rodin



The thinker

*What happened to my  
credit management ?*

## Why are they (we?) lying ?

Cooking the books ?



### [The Misrepresentation of Earnings](#)

Dichev, Ilia; Graham, John; Harvey, Campbell R.; et al.,  
FINANCIAL ANALYSTS JOURNAL, Volume: 72 Issue: 1 , P. 22-35  
Published: JAN-FEB 2016

## Social media & insolvency prediction



IGNobel

### 2016 PSYCHOLOGY PRIZE

[BELGIUM, THE NETHERLANDS, GERMANY, CANADA, USA] — Evelyne Debey, [Maarten De Schryver](#), [Gordon Logan](#), [Kristina Suchotzki](#), and [Bruno Verschuere](#),

for asking a thousand liars how often they lie, and for deciding whether to believe those answers.

REFERENCE: "[From Junior to Senior Pinocchio: A Cross-Sectional Lifespan Investigation of Deception](#)," Evelyne Debey, Maarten De Schryver, Gordon D. Logan, Kristina Suchotzki, and Bruno Verschuere, *Acta Psychologica*, vol. 160, 2015, pp. 58-68.

## What happened to my credit management ?

### Why are they (we?) lying ?

The misrepresentation of earnings

Survey 400 CFO's : definition and drivers of earnings quality completed with 12 in depth interviews

### Key Questions

- 
- What exactly is earnings quality (EQ)?
  - What drives earnings quality?
  - How often are earnings intentionally misrepresented?
  - What is the magnitude of the misrepresentation?
  - Why misrepresent earnings?
  - How can outsiders detect earnings misrepresentation?

*What happened to my credit management ?*

## The misrepresentation of earnings

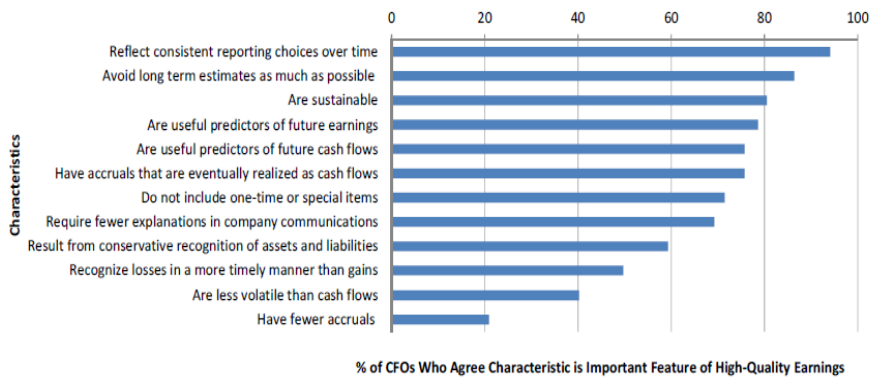
Figure 1. Importance of Earnings for Specific Uses



*What happened to my credit management ?*

## The misrepresentation of earnings

Figure 2. Characteristics of High-Quality Earnings

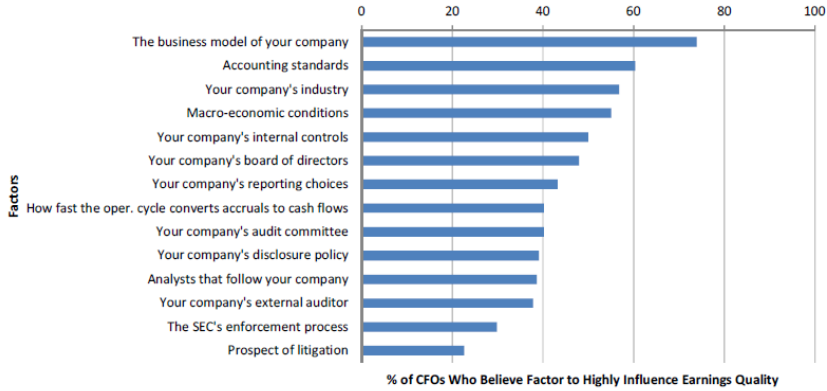




*What happened to my credit management ?*

The misrepresentation of earnings

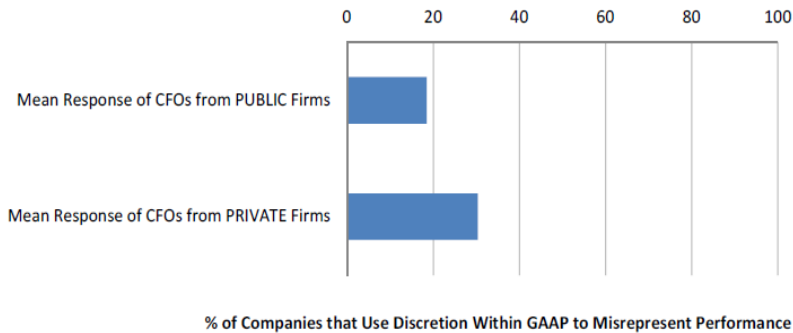
Figure 3. Factors that Influence Earnings Quality



*What happened to my credit management ?*

The misrepresentation of earnings

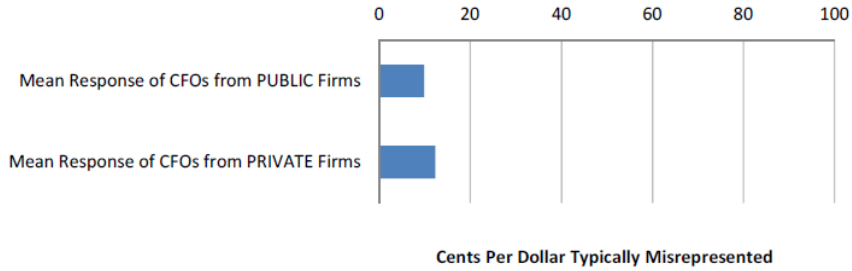
Figure 5. Prevalence of Within-GAAP Earnings Misrepresentation



*What happened to my credit management ?*

The misrepresentation of earnings

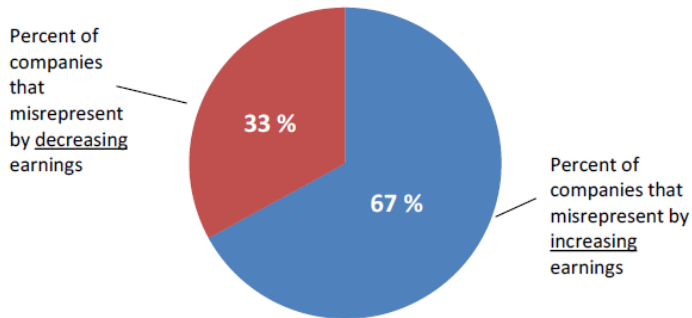
**Figure 6. Extent of Within-GAAP Earnings Misrepresentation in Companies that Misrepresent Earnings**

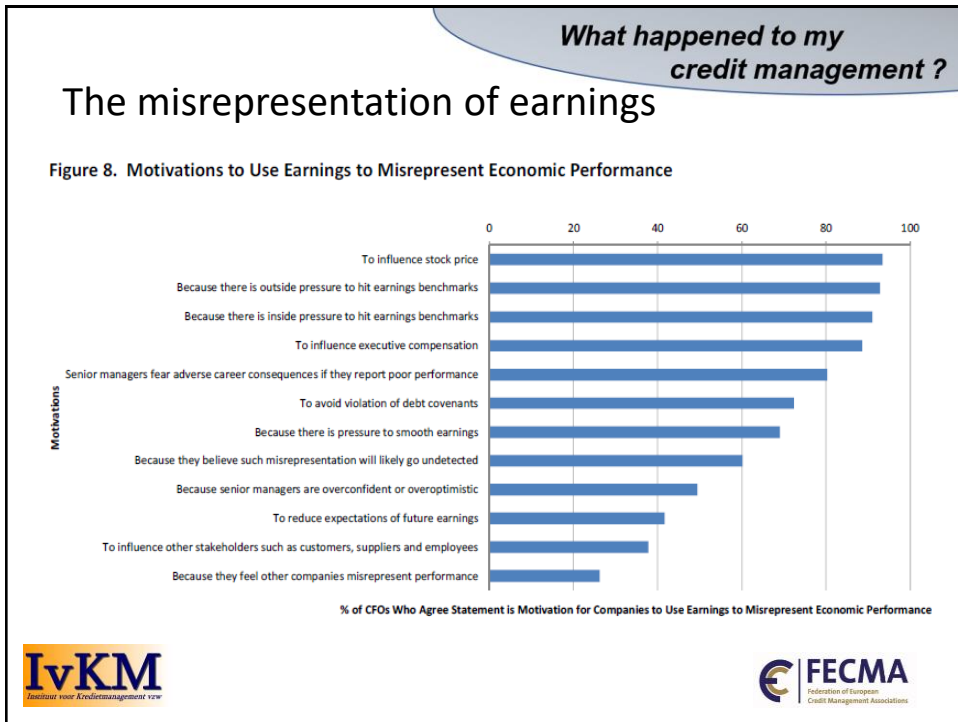


*What happened to my credit management ?*

The misrepresentation of earnings

**Figure 7. Direction of Misrepresentation in Companies that Misrepresent Earnings**







### What happened to my credit management ?

## The misrepresentation of earnings

Earnings Misrepresentation Red Flags		% of responses (public firms)
Rank	Red Flag	
1	GAAP earnings do not correlate with cash flow from operations; Weak cash flows; Earnings and cash flow from operations move in different direction for 6-8 quarters; Earnings strength with deteriorating cash flow.	34%
2	Deviations from industry (or economy, peers') norms/experience (cash cycle, volatility, average profitability, revenue growth, audit fees, growth of investments, asset impairment, A/P, level of disclosure)	24%
3	Consistently meet or beat earnings targets (guidance, analyst forecasts)	17%
4	Large/frequent one-time or special items (restructuring charges, write-downs, unusual or complex transactions, Gains/Losses on asset sales)	17%
5	Lots of accruals; Large changes in accruals; Jump in accruals/Sudden changes in reserves; Insufficient explanation of such changes ; Significant increase in capitalized expenditures; Changes in asset accruals, High accrued liabilities	15%

## What happened to my credit management ?

### The misrepresentation of earnings

6	Too smooth/too consistent of an earnings progression (relative to economy, market); Earnings and earnings growth are too consistent (irrespective of economic cycle and industry experience); Smooth earnings in a volatile industry	14%
7	(Frequent) Changes in (significant) accounting policies	10%
8	Using non-GAAP (and/or changing) metrics	8%
9	High executive turnover; Sudden change in top management; Change in financial management; Sudden director turnover; Employee (non-management) turnover	8%
10	Inventory build-up/age of raw materials; Build-up in work-in-progress; Mismatch between inventory/COGS/reserves	7%

## What happened to my credit management ?

### The misrepresentation of earnings

#### Conclusion

Many companies do it !

Sometimes easy to discover but not always.

Experienced and intelligent credit managers needed !

*What happened to my  
credit management ?*

## Are we intelligent ?

According to a research at Cambridge University, it doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be at the right place. The rest can be a total mess and you can still read it without problem. This is because the human mind does not read every letter by itself, but the word as a whole.

We are !! But .....



*Social media &  
insolvency prediction*



IGNobel

2016 MEDICINE PRIZE

[GERMANY] — [Christoph Helmchen](#), [Carina Palzer](#), [Thomas Münte](#), [Silke Anders](#), and [Andreas Sprenger](#),

for discovering that if you have an itch on the left side of your body, you can relieve it by looking into a mirror and scratching the right side of your body (and vice versa).

REFERENCE: "[Itch Relief by Mirror Scratching. A Psychophysical Study](#)," Christoph Helmchen, Carina Palzer, Thomas F. Münte, Silke Anders, Andreas Sprenger, PLoS ONE, vol. 8, no 12, December 26, 2013, e82756.



**What happened to my credit management ?**

Financial information is not always reliable

→ Other information sources :

- Management reports
- Payment behaviour
- Personal contacts
- .....

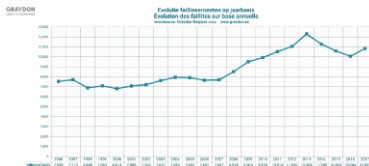
What about PRESS ?  
and Social Media ?

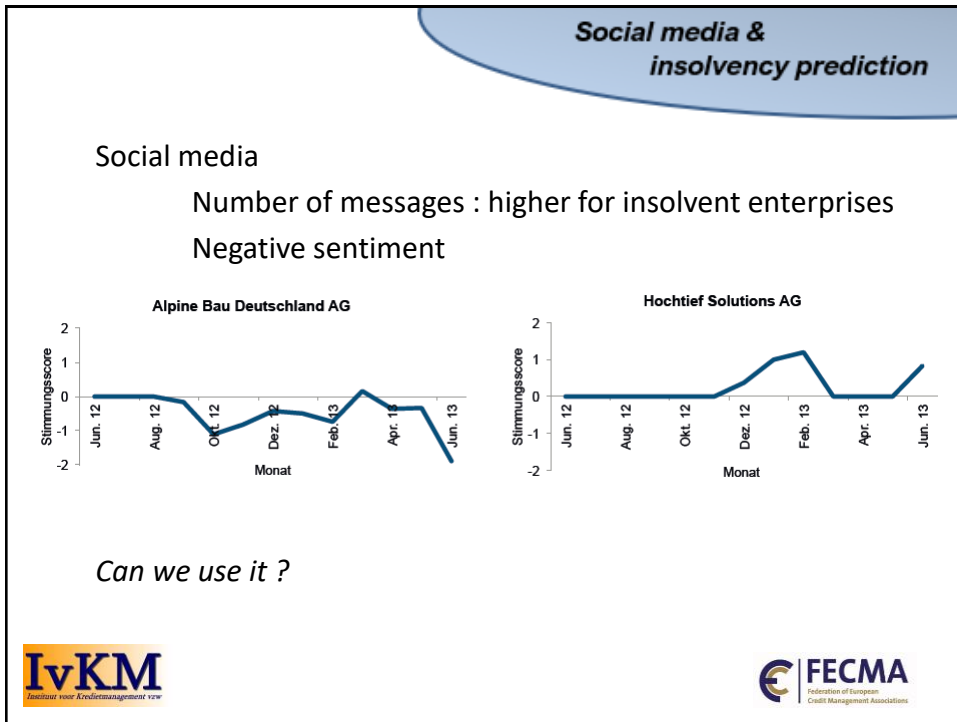
dr. Aaron Mengelkamp

Informationen zur Bonitätsprüfung auf Basis von Daten aus sozialen Medien,  
Cuvillier Verlag Göttingen 2017 - ISBN 978-3-7369-9628-1




**Can we use social media in insolvency prediction ?**





**Social media & insolvency prediction**





## Questions

Can messages on social media be signals for potential problems ?

Are they better than traditional media ?

Can it be automated ?

**Social media &  
insolvency prediction**



Case study : SCHLECKER

Founded by Anton Schlecker 1975

Retail : cosmetics, healthcare, household products

14000 shops – Germany, Austria, Spain

260 shops in Netherlands closed in 2010

up to 52000 employees


turnover close to 5 bio €; market share in Germany 40 %

Bankruptcy in 2012





**Social media &  
insolvency prediction**





**IGNobel**

**2016 CHEMISTRY PRIZE**

[GERMANY] — [Volkswagen](#),

**for solving the problem of excessive automobile pollution emissions by automatically, electromechanically producing fewer emissions whenever the cars are being tested.**

REFERENCE: "[EPA, California Notify Volkswagen of Clean Air Act Violations](#)", U.S. Environmental Protection Agency news release, September 18, 2015.





**Social media & insolvency prediction**

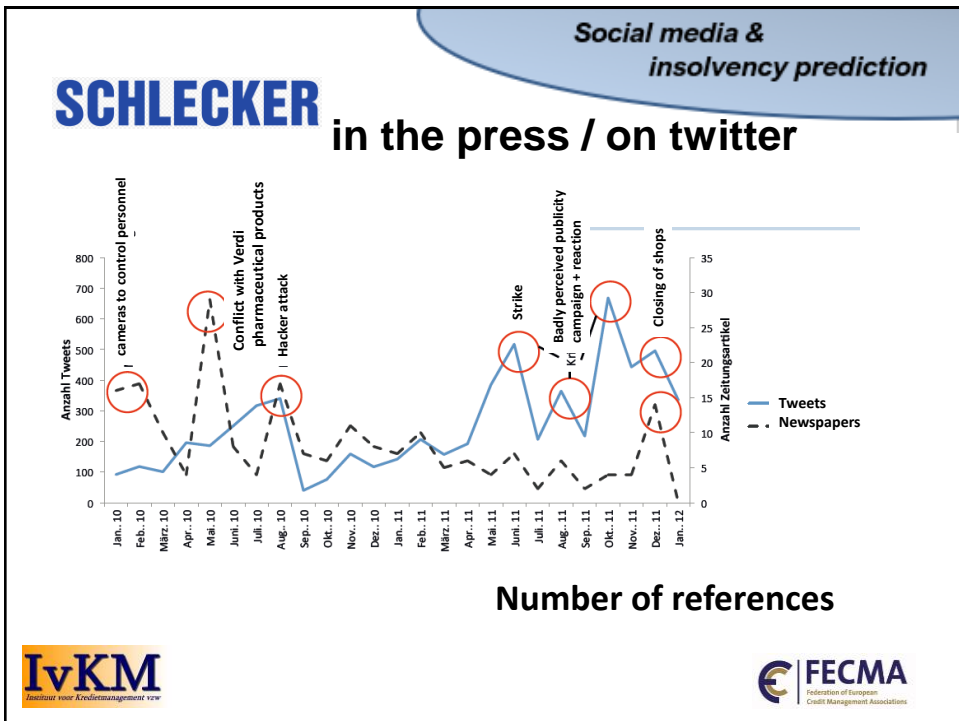
# SCHLECKER

## in the press / on twitter

**General press : 4 leading newspapers in Germany  
2010-2012 : 262 articles**

**Social media : twitter  
7307 tweets**



## What happened to my credit management ?

### Schlecker vs. Bildungsniveau (2011)

Schlecker veröffentlicht neuen Werbeslogan "For You. Vor Ort."

Slogan wird durch Fachzeitschrift "Deutsche Sprachwelt" kritisiert

Schlecker-Pressesprecher verteidigt sich mit der Aussage den durchschnittlichen Schlecker-Kunden anzusprechen, was Menschen mit niedrigem bis mittlerem Bildungsniveau sind

Viele negative Reaktionen auf entsprechenden Kanälen



Quelle: [ComputerBild](#)

## Social media & insolvency prediction

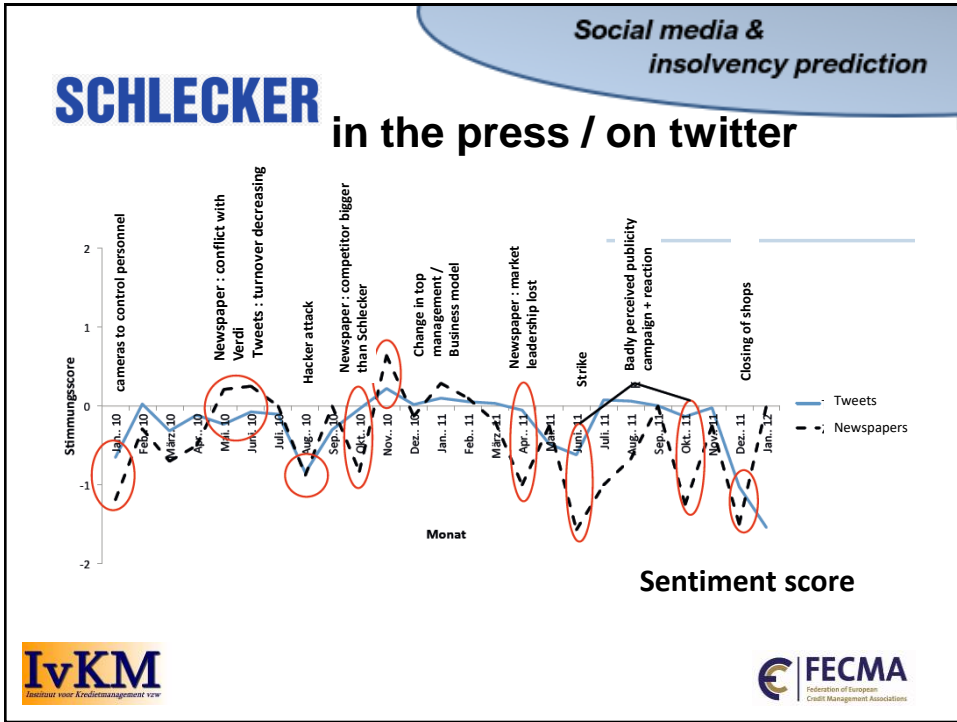
# SCHLECKER

## in the press / on twitter

### Sentiment score

- 2 text refers to financial instability
- 1 no reference to financial instability but message is negative
- 0 No specific sentiment
- +1 no reference to financial stability but message is positive
- +2 tekst refers to financial stability

	Scores					Summe
	-2	-1	0	1	2	
Newspapers	70 (30 %)	19 (8 %)	105 (46 %)	34 (15 %)	2 (1 %)	230 (3 %)
Tweets	1809 (25 %)	396 (5 %)	4694 (64 %)	364 (5 %)	44 (1 %)	7307 (97 %)



## Social media & insolvency prediction

Automating text analysis

Manual Sentiment analysis ?  
time consuming and expensive

Classify based on 'sentiment dictionary' ?  
60-70 % correct

Machine learning algorithms  
better results – up to 90 %

## Social media & insolvency prediction

	Data extraction	Data preparation	Data Analysis
Traditional media	- Access limited – paying	+ quality of syntax + correct language	+ authentic - limited to specific topics - publication can be delayed
Both	- Crawling/scraping necessary - Result of query can be influenced by provider - Procedure to be adapted in case of change of Layout or format of data	- selection needed of relevant / irrelevant content , e.g. publicity - different data formats - Procedure to be adapted in case of change of Layout or format of data	+ reference to financial instability is easily identified
Social media	+ Data available - acces can be limited or subject to fee	- no formal language, dialect, argot, slang	+ huge range of topics + real time - fake news ?

## Social media & insolvency prediction

### Conclusion

Number of messages : higher for insolvent enterprises

Negative sentiment

→ Social media are useful

Automated analysis necessary but requires important investment

Reliability of social media ?

Further development is needed

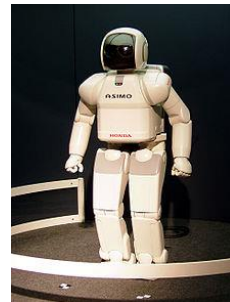


## Social media & insolvency prediction

Human intelligence ?

Is this the credit manager of the future ?

And the collector ?



**Social media &  
insolvency prediction**



**IGNobel**

**2017 FLUID DYNAMICS PRIZE**

[ [SOUTH KOREA, USA] — Jiwon Han,  
for studying the dynamics of liquid-sloshing, to learn  
what happens when a person walks backwards while  
carrying a cup of coffee.

REFERENCE: "[A Study on the Coffee Spilling Phenomena in the Low Impulse Regime](#)," Jiwon Han, *Achievements in the Life Sciences*, vol. 10, no. 1, 2016, pp. 87-101.



**Social media &  
insolvency prediction**

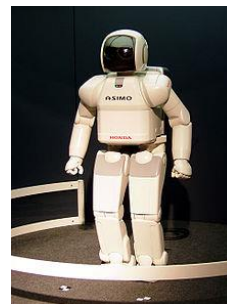
**Human intelligence ?**

**Is this the credit manager of the future ?**

**98 % Credit Analysts**

Analyze credit data and financial statements of individuals or firms to determine the degree of risk involved in extending credit or lending money.  
Prepare reports with credit information for use in decision making

**And the collector ?**



## Social media & insolvency prediction

### The credit manager of the future ?



## Social media & insolvency prediction

### IGNobel



### 2014 PSYCHOLOGY PRIZE

[UK, FINLAND, AUSTRALIA, USA]: [Peter K. Jonason](#), Amy Jones, and [Minna Lyons](#),

**for amassing evidence that people who habitually stay up late are, on average, more self-admiring, more manipulative, and more psychopathic than people who habitually arise early in the morning.**

REFERENCE: "[Creatures of the Night: Chronotypes and the Dark Triad Traits](#)," [Peter K. Jonason](#), Amy Jones, and Minna Lyons, *Personality and Individual Differences*, vol. 55, no. 5, 2013, pp. 538-541.

**Social media &  
insolvency prediction**

**The credit manager of the future ?**



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