

# Evaluating altmetrics acts through their creators – how to advance?

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***Altmetrics17 Workshop – The Dependencies of Altmetrics***

**Toronto, 26th September 2017**



# Altmetrics' diversity, a double-edged sword

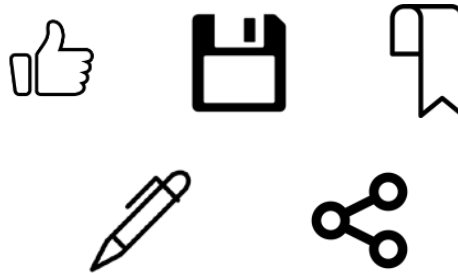


# Altmetrics' differing premises

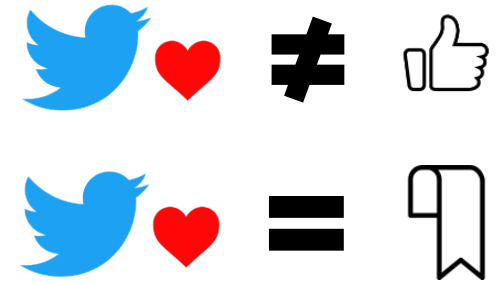
## Types of Platforms



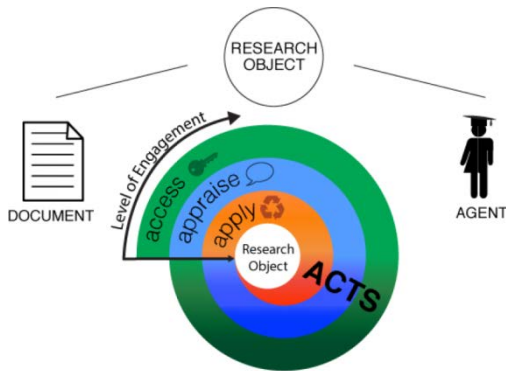
## Types of Actions



## Intentions



## Degrees of Involvement<sup>1</sup>



## Actors



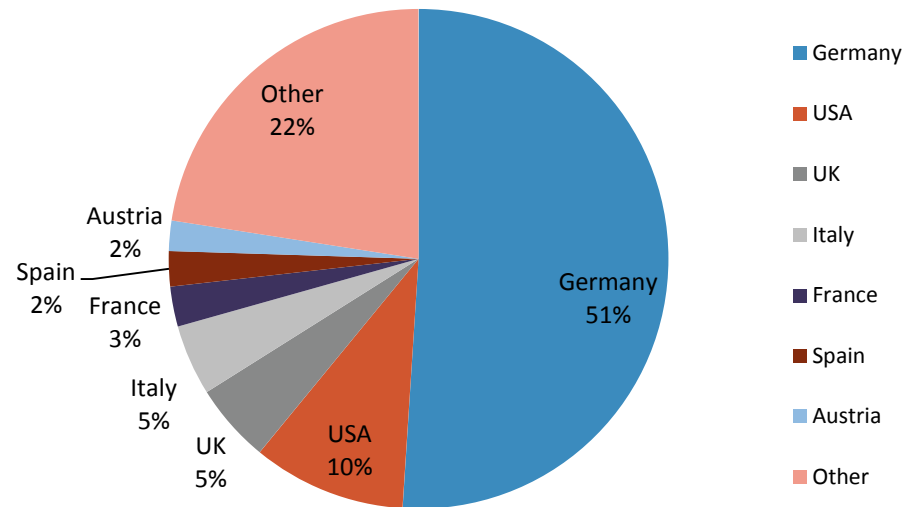
...

<sup>1</sup>From: Haustein, S., Bowman, T. D., & Costas, R. (2016). Interpreting 'Altmetrics': Viewing Acts on Social Media through the Lens of Citation and Social Theories.

# \*metrics Survey on Social Media Usage by Researchers



- **Online survey, running for six weeks over March-May 2017**
- **3,400 respondents, emphases on economists (60%) and social scientists (22%)**
- **13-20 questions about professional usage of 90 social media services**
- **Participants from 84 countries**



**Countries of current (or last) affiliation of the survey's participants**

# Usage Frequency of Actions



## How often do you...?

	Several times a day	About once a day	Several times a week	About once a week	About once a month	Less often	Never	No answer
post about academic research on Facebook	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
send a tweet about academic research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
write a post about academic research on LinkedIn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
write a post about academic research on Google+	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
review academic research on F1000Research	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
write a post about academic research on Reddit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
write a post about academic research on StackOverflow	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
review academic research on Amazon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

# Usage of Actions: Differences in Frequency

- **Welch test - comparison between early-stage researchers and professors:  
from 107 actions, 30 are used with significantly different frequencies**



**Early-stage researchers (n = 1,010) :**



**Downloading**



**Bookmarking**



**Professors (n = 1,419) :**



**Writing**



**Facebook**



**Twitter**

# Assumption!

**A metric's meaning is shaped by who performed the action leading to its occurrence.**

**A possible implication, based on the previous slide:**

- **Counted occurrences of an action that is more frequently performed by professors than by early-stage researchers better reflect the respective article's impact upon more experienced researchers**

# Usage of Actions: Correlations “Frequency - #recent publications”

- Actions that correlate positively and significantly with the number of traditional publications during the last 5 years:

Action	r	Action	r
Cite academic research on Wikipedia	0.12***	Reply to a tweet about academic research	0.18**
Comment on a post about academic research on Facebook	0.21***	Retweet a tweet about academic research	0.19**
Comment on a post about academic research on Google+	0.17**		*
Comment on a post about academic research on LinkedIn	0.14***	Send a tweet about academic research	0.22**
Comment on a post about academic research on wordpress	0.14**	Share a post about academic research on Facebook	0.22**
Comment on a scientific video on Vimeo	0.23*		*
Comment on an article on PLoS	0.16**	Share a post about academic research on LinkedIn	0.14**
Dislike a scientific video on Youtube	0.11***		*
Favor a tweet about academic research	0.17***	Share a scientific video on Youtube	0.22**
Like a post about academic research on Facebook	0.12**		*
Subscribe to a research(er's) channel on Youtube	0.21*	Write a post about academic research on Google+	0.19**
		Share an article on SSRN	0.13**
			*
		Write a post about academic research on Facebook	0.26**
			*
		Write a post about academic research on LinkedIn	0.22**
			*
		Write a post about academic research on wordpress	0.14**

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$





# Questions to Discuss

- **What do you think – is weighting altmetrics based on their originators a desirable approach at all?**
- **If so, what might be meaningful platform-related factors to base different “classes” of altmetrics upon?**
  - **Relative share of users with scientific background**
  - **Coverage of a certain discipline**
  - **Users’ average degree of scientific experience**
  - **Users’ average productivity by bibliometrical means**
  - **Geographical aspects**
  - **...**

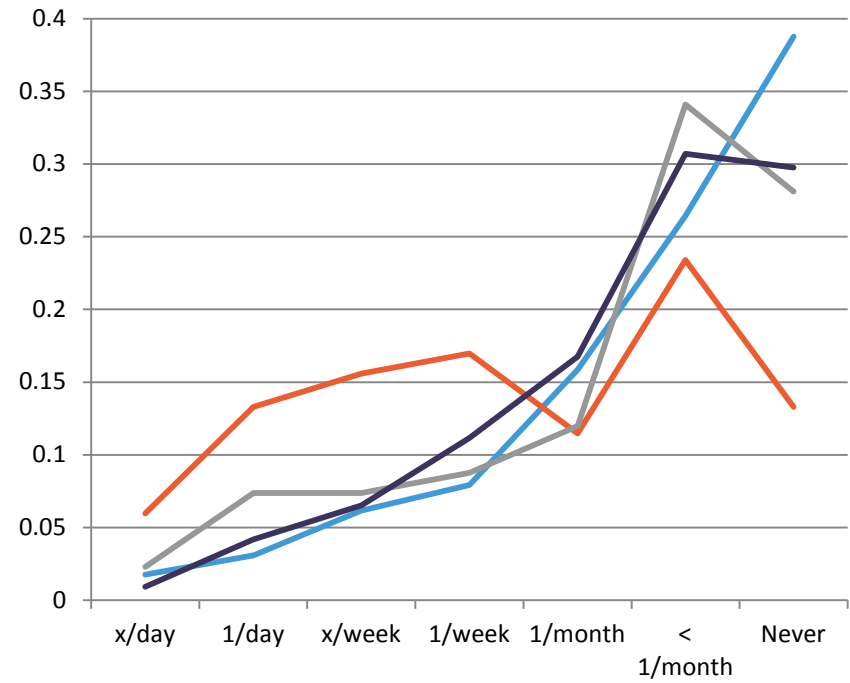
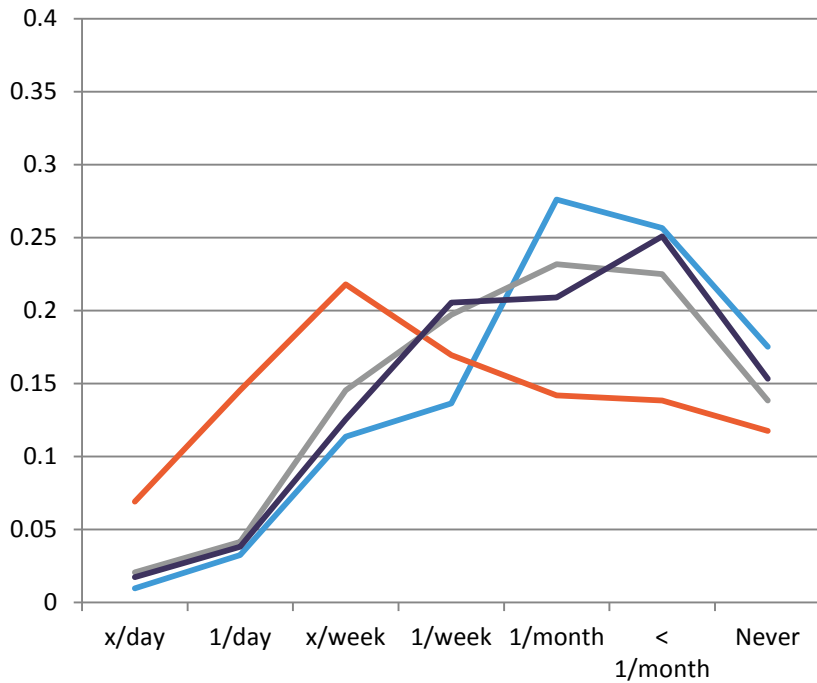
## Thank you! Any questions?

- **Web:** [metrics-project.net](http://metrics-project.net)
- **Email:** [s.lemke@zbw.eu](mailto:s.lemke@zbw.eu), [m.mehrazar@zbw.eu](mailto:m.mehrazar@zbw.eu)
- **Twitter:** @metrics\_project
- **Facebook:** metricsproject



# Usage of Actions:

## Facebook



— post about academic research    
 — like a post about academic research    
 — share a post about academic research    
 — comment on a post about academic research

# Usage of Actions: Differences in Frequency (Welch test)

- **Actions that are used significantly more frequently by...**



## **...early-stage researchers:**

- **Download a publication from ResearchGate**
- **Download a repository from GitHub**
- **Download a sample from EBSCO**
- **Download an article from Academia.edu**
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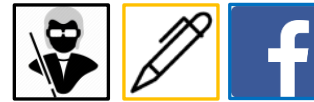
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