

***A concept on social media measurement in crime
prevention***

von

**Axel Ebers
Prof. Dr. Stephan Lothar Thomsen**

Dokument aus der Internetdokumentation
des Deutschen Präventionstages www.praeventionstag.de
Herausgegeben von Hans-Jürgen Kerner und Erich Marks im Auftrag der
Deutschen Stiftung für Verbrechensverhütung und Straffälligenhilfe (DVS)

Zur Zitation:

Axel Ebers, Stephan Lothar Thomsen: A concept on social media measurement in crime prevention, in: Kerner, Hans-Jürgen u. Marks, Erich (Hrsg.), Internetdokumentation des Deutschen Präventionstages. Hannover 2018, www.praeventionstag.de/dokumentation.cms/4115



DPT23

Internationales Forum

11. Juni 2018, Dresden

Leibniz Universität Hannover

M.Sc. Axel Ebers

Prof. Dr. Stephan L. Thomsen



A Concept on Social Media Measurement in Crime Prevention

M.Sc. Axel Ebers
Prof. Dr. Stephan L. Thomsen

Agenda

1. The Project
2. Why Economic Assessment?
3. How to Assess Projects
4. Does the Campaign Work?
5. How to Impact Behavior
6. What Kind of Behavior Do We Want?
7. How to Measure Behavior
8. How to Relate Online Behavior to Offline Behavior

The Project

“Security Communication via Online Social Networks – An Innovative Approach to Crime Prevention (PräDiSiKo)”

Major Objectives

- Increase moral courage (violence, hate speech, radicalization)
- Generate scientific findings

Method

- Communication campaign
- Various media (social media, website, video)

Our Task

- Assess the economic efficiency

Why Economic Assessment?

Project consumes resources

Public resources are scarce

Put resources to optimal use!

Project with greatest societal benefit

Societal benefit/consumption of resources

How to Assess Projects

Benefit-Cost-Analysis

Scope of Analysis

- Whose perspective to take?
- Government, taxpayer or society?

Program Effect

- Impact evaluation
- Causal effect

Monetary Costs and Benefits

- Quantification of costs and benefits
- Inverse relationship

Present Value and Profitability

- Costs and benefits are distributed over time
- Discount

Distribution of Costs and Benefits

- Fixed costs
- Variable costs

Sensitivity Analysis

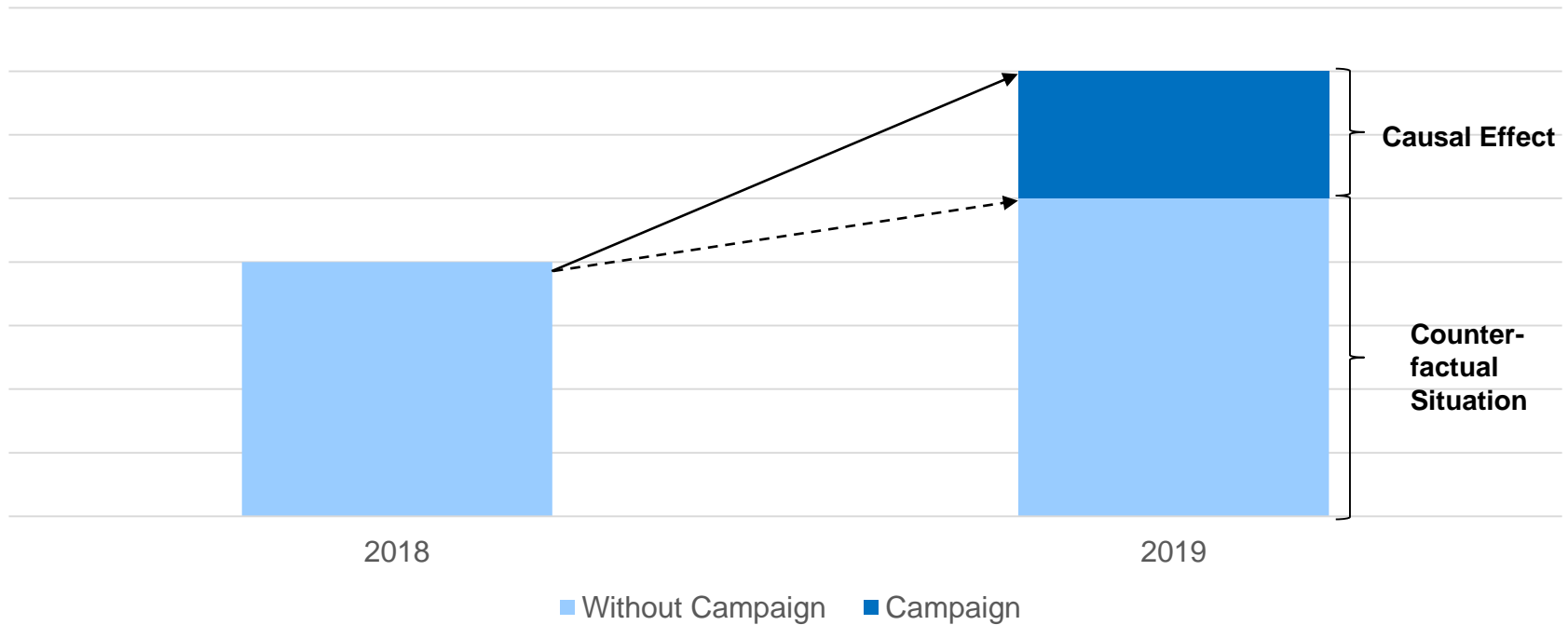
- Check robustness of assumptions
- Effect of changed assumptions and influencing factors

Source: Own representation based on Thomsen (2016)

Does the Project Work?

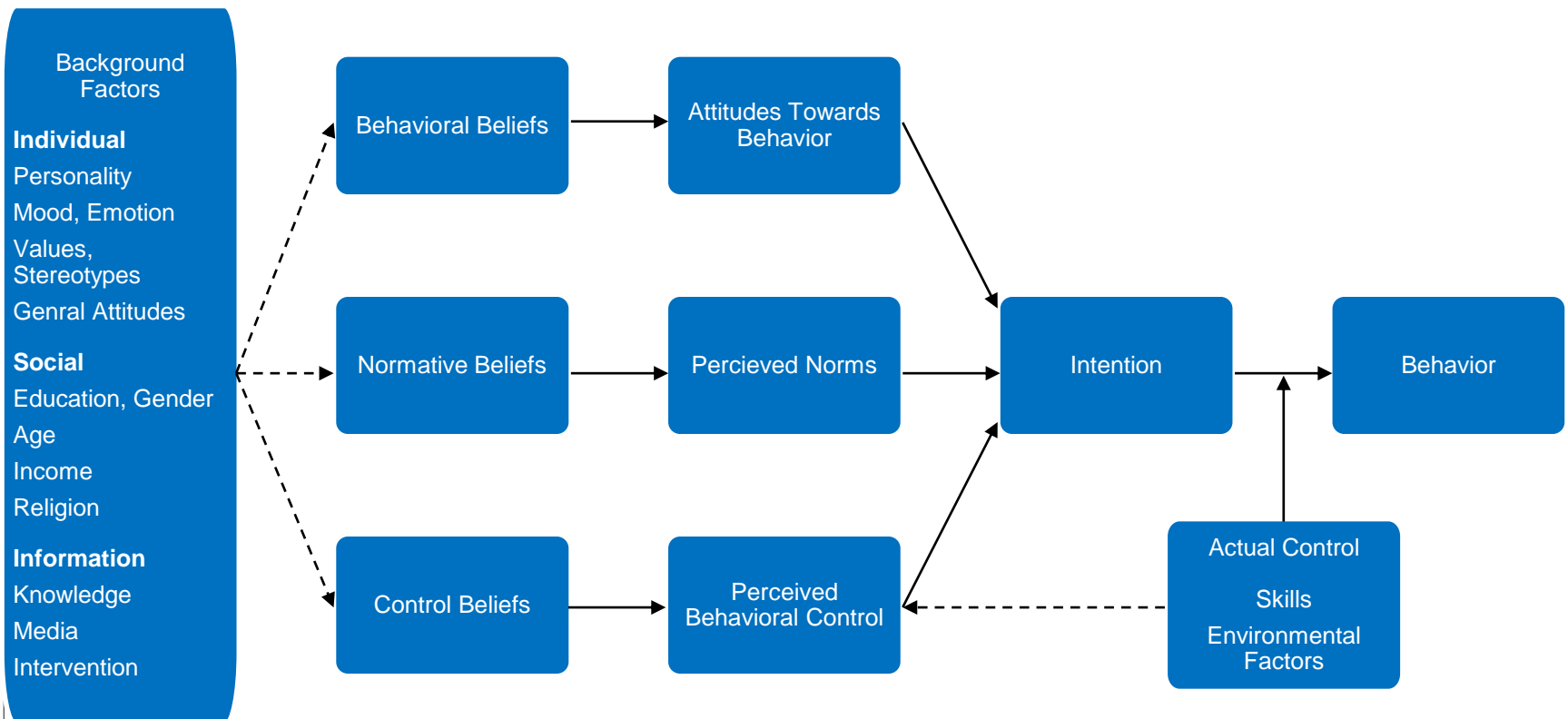
Impact Evaluation

Moral Courage



How to Impact Behavior

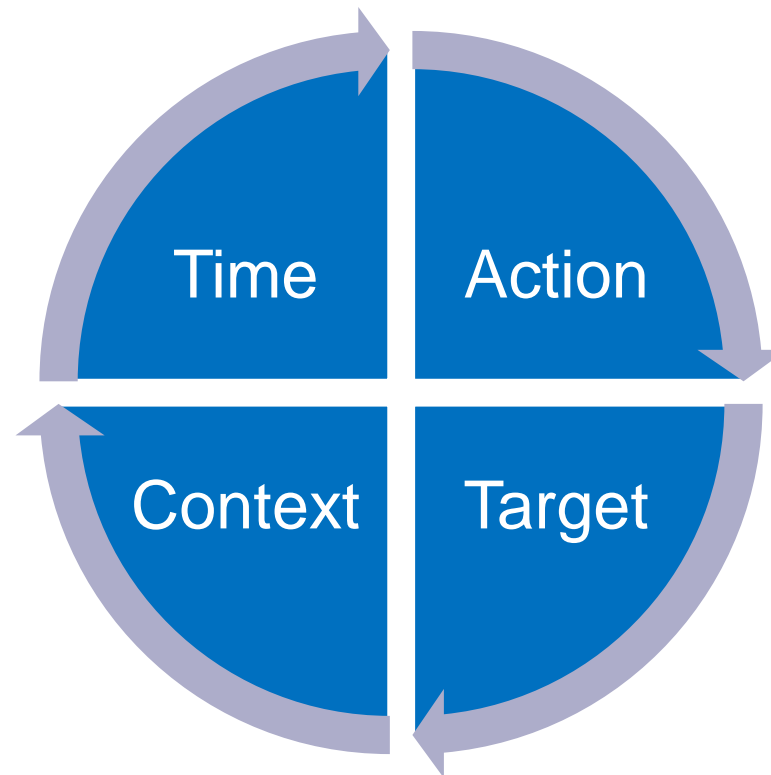
The Reasoned Action Approach (RAA)



Source: Own representation based on Ajzen & Fishbein (2011)

What is Behavior?

Definition



Source: Own representation based on Fishbein (2008)

What Kind of Behavior Do We Want?

Definition Moral Courage

Brave
Behavior

Anger and
Indignation

Enforce
Norms

Disregard
Social Costs

Source: Own representation based on Greitemeyer et al. (2007)

What Kind of Behavior do We Want?

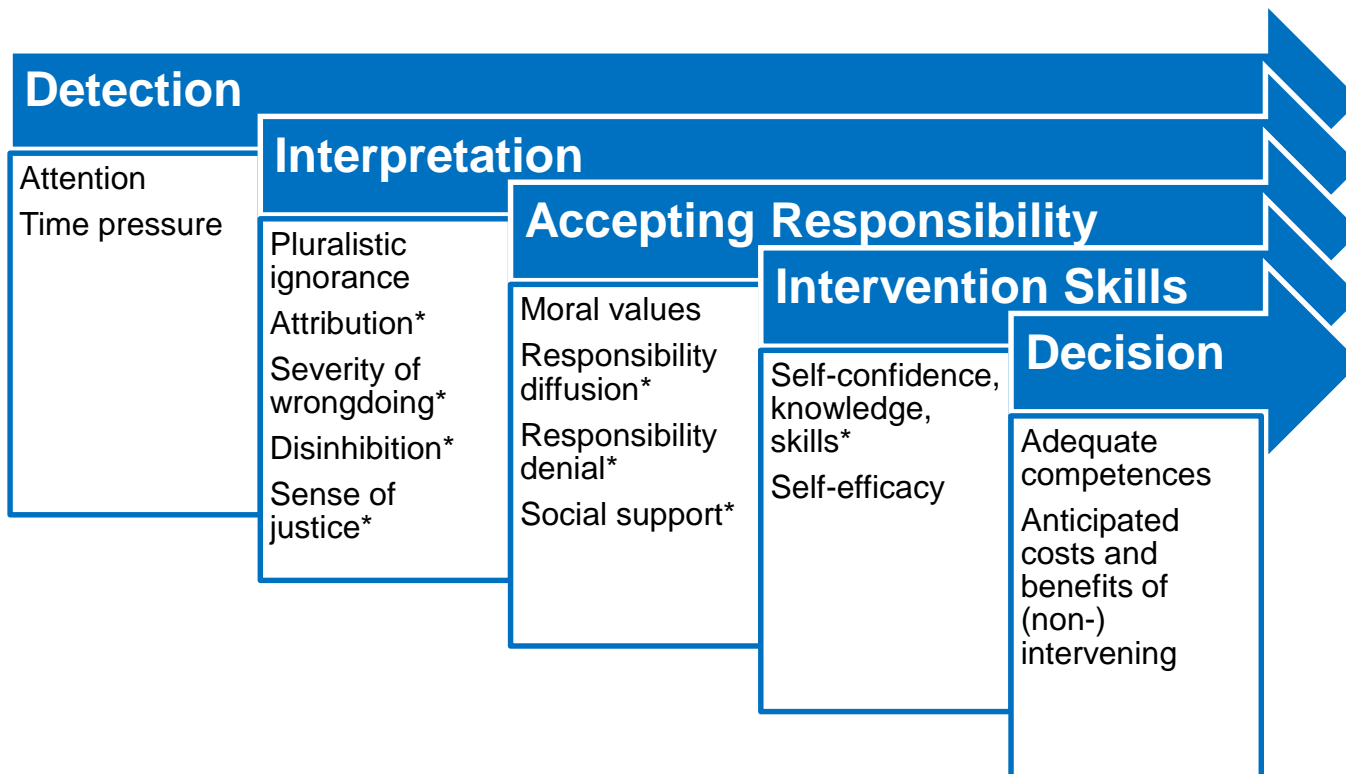
Distinction From Related Concepts

Moral Courage	Helping Behavior
Moral/democratic values	-
Potentially negative social consequences	Usually positive consequences
Triadic social constellation	Dyadic social constellation
Imbalance of power	-
Eventually norm violation	-

Source: Own representation based on Gerhardinger (2016)

What Kind of Behavior do We Want?

Decision-Making Process of Moral Courage

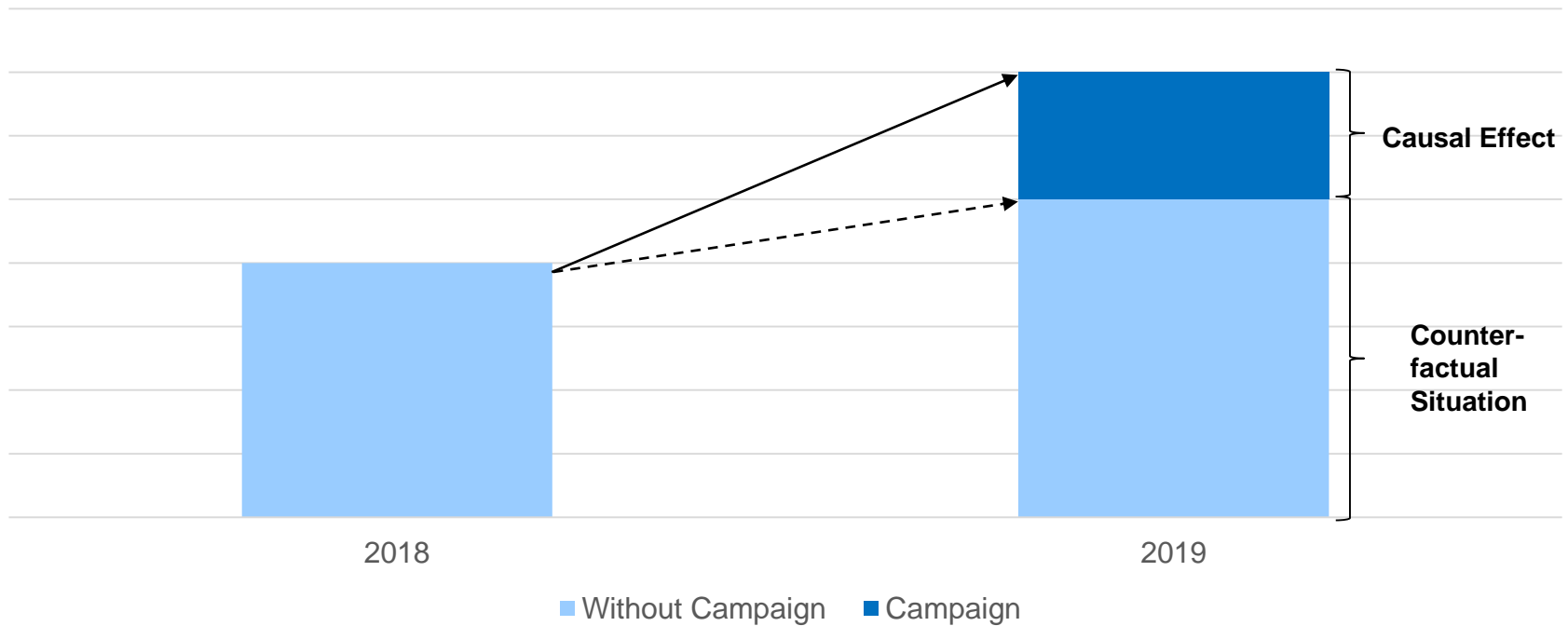


Source: Own representation based on Halmburger et al. (2016)

Does the Project Work?

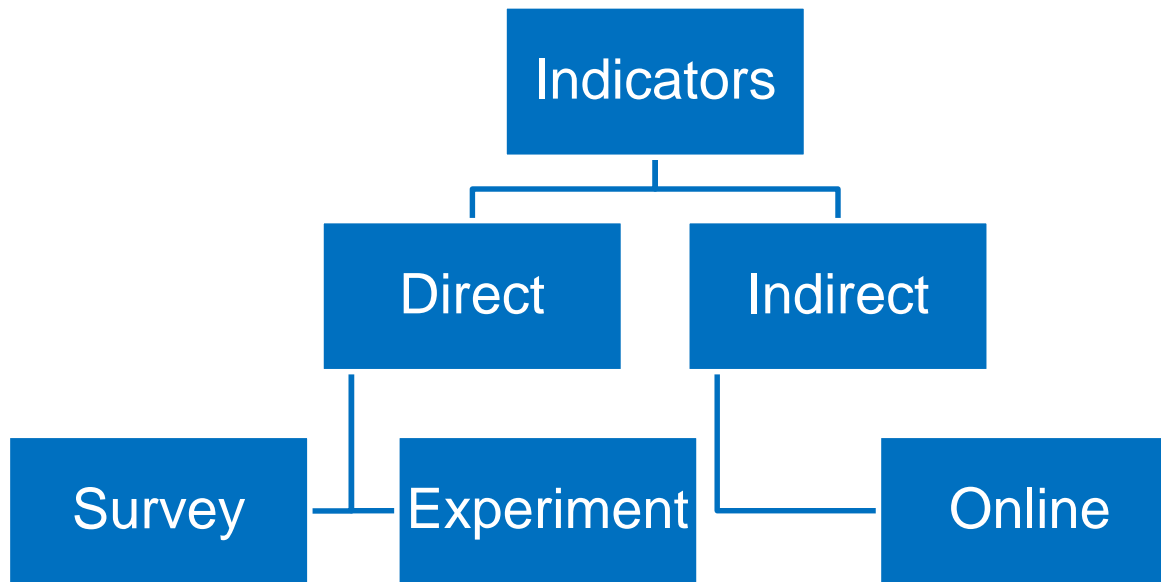
Impact Evaluation

Moral Courage



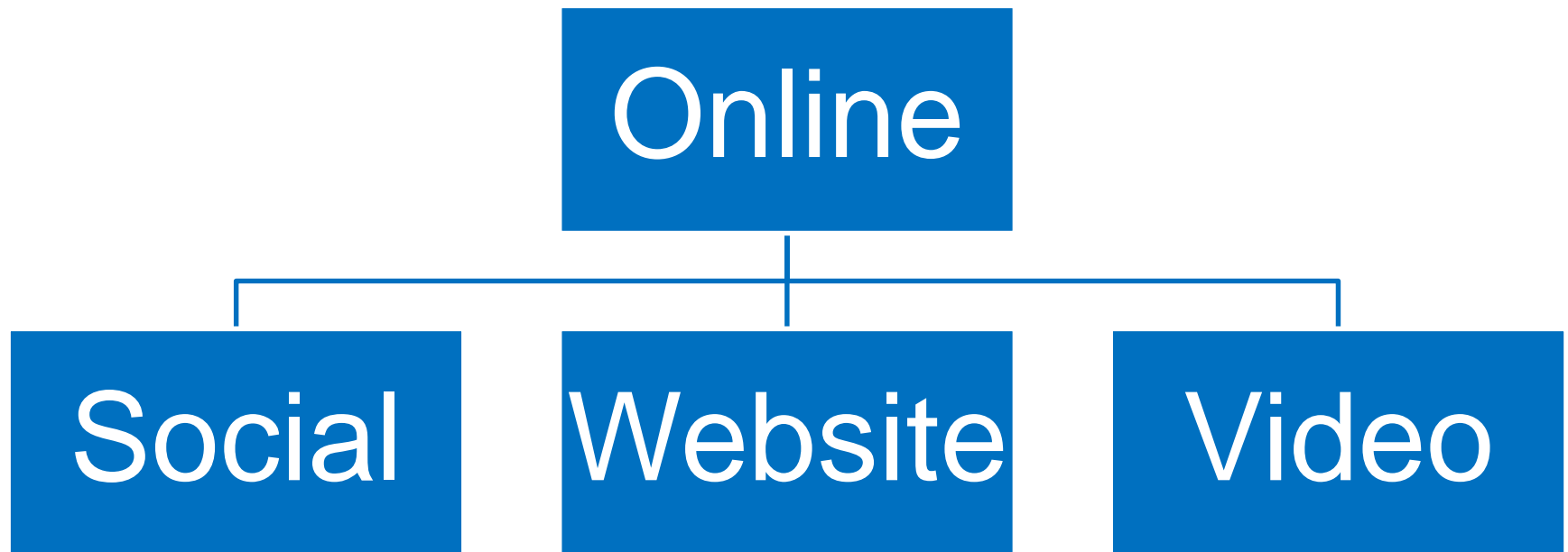
How to Measure Behavior

Systemization of Indicators



How to Measure Behavior

Systemization of Online Indicators



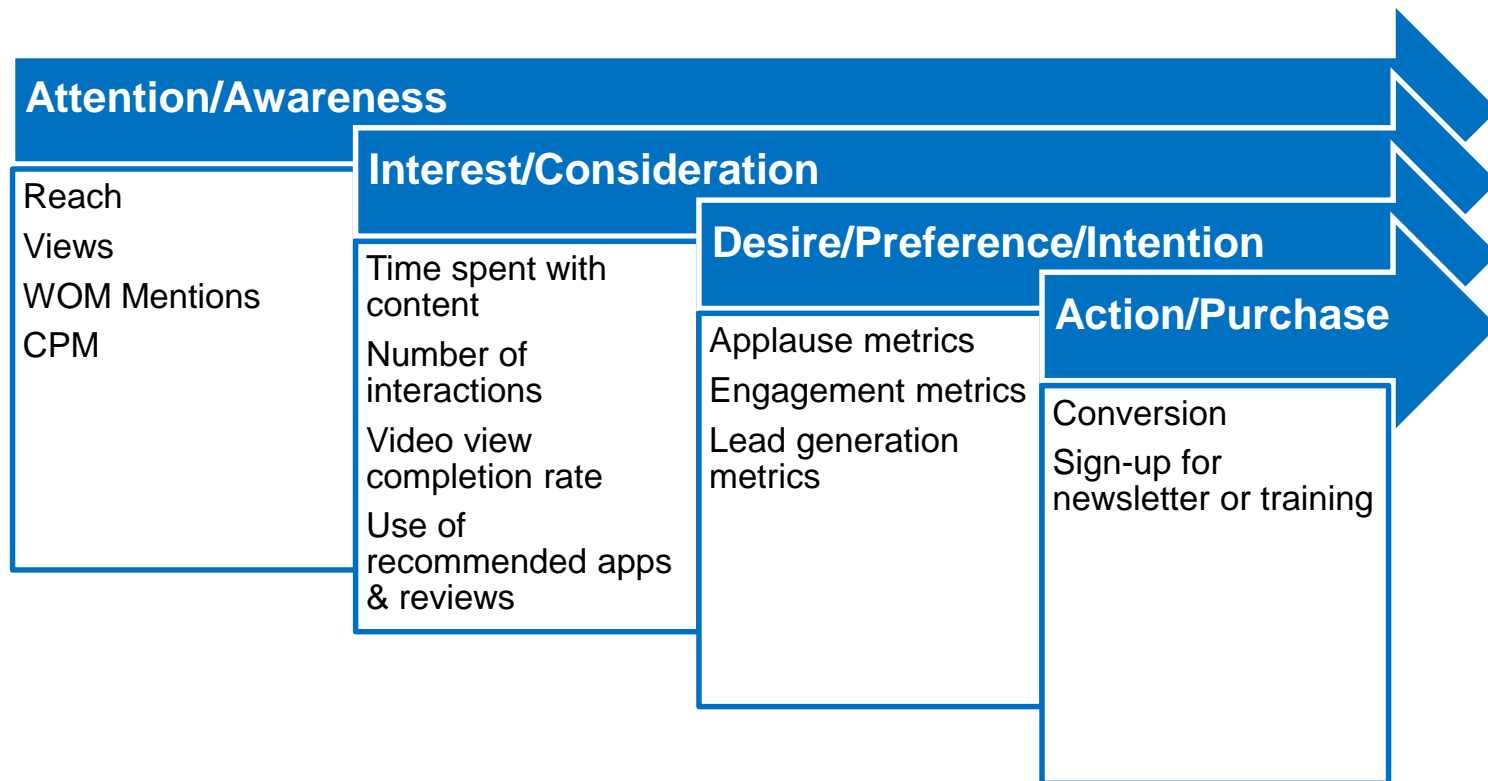
How to Measure Behavior

Systemization of Social Media Metrics



How to Measure Behavior

Systemization of Social Media Metrics



Source: Own representation based on Tuten & Solomon (2017)

How to Measure Behavior

Systemization of Social Media Metrics

Awareness

- Public awareness of the campaign
- Impression metrics
- Reach metrics
- Demography

Intention

- Best predictor of actual behavior
- Applause metrics
- Engagement metrics

How to Measure Behavior

Awareness

Impressions

- Gross number of *opportunities to see* (OTS) an item
- Regardless of frequency of display, method of accessing the item, or audience duplication

Reach

- Total number of unique individuals who had the opportunity to see an item
- Aims to eliminate repeated serving and audience duplication

Demography

- Demographic data of recipients
- Shows if campaign reached the intended target audience

How to Measure Behavior

Engagement

Definition Engagement

- User interactions with campaign content, social media accounts, websites or campaigners
- Quantity and quality of interaction
- Categorized by intensity of interaction

How to Measure Behavior

Engagement (2)

Dimension of Engagement	Description	Metrics
Involvement	The presence of a person at each social touch point	Page or profile visits; content views
Interaction	The actions people take while present at the social touch point	Likes, shares, completion rates; average time spent per interaction; comments; downloads
Intimacy	The affection or aversion a person holds for the brand	Sentiment, complaints posted in social channels, compliments posted, contribution quality, emotion expressed in UGC, brand perception, brand attitudes
Influence	The likelihood that a person will advocate for the brand	Quantity, frequency, and score of reviews and ratings; number of recommendations in social word-of-mouth communication and impressions reached due to influencer network size; referrals

Source: Own representation based on Tuten & Solomon (2017)

How to Measure Behavior

Engagement (3)

Key Performance Indicator	Definition	Metrics
ESM BFF	Earned social media brand fan following; Number of people that follow the fan page	Number of likes (FB); Number of followers (Twitter); Number of subscribers (YouTube)
ESM Engagement Volume	Earned Social Media Engagement Volume; Content that is created beyond the control of the campaign	Number of PTAT (FB); Number of retweets (Twitter); Number of views (YouTube)
OSM	Owned Social Media; Content and pages under control of the campaign	Number of own posts (FB); Number of own tweets (Twitter); Number of replies to user questions; Number of own retweets (Twitter)
Negative Valenz (ESM)	Negative affective relation between user and campaign	Number of negative posts with respect to the campaign
Positive Valenz (ESM)	Positive affective relation between user and campaign	Number of positive posts with respect to the campaign

Source: Own representation based on Colicev et al. (2018)

How to Measure Behavior

Video-Specific Engagement

Views

- Facebook: Video played more than 3 seconds
- Instagram: Video played more than 3 seconds
- Twitter: Video on whole screen for more than 3 seconds
- YouTube: Video played more than 30 seconds

Audience retention

- Amount of time viewers spend playing the video
- Absolute time or percentage of the length of the video
- Shows how interesting and engaging the content of video is for users

How to Measure Behavior

Video-Specific Engagement (2)

Absolute Audience Retention

- Number of viewers who continue watching to a certain point
- Which part of the video is the most engaging?
- How often was each part of the video played?

Relative Zuschauerbindung

- Number of viewers who continue watching to a certain point compared to similar videos
- Audience retention compared to similar videos

How to Measure Campaign Performance

Compensation Methods in Online Advertising

Clickthrough rate

- Share of users that click the content

Cost per click (CPC)

- Costs per click on an ad banner (or post)

Cost per engagement (CPE)

- Costs per engagement (Like, Share etc.)

Cost per view (CPV)

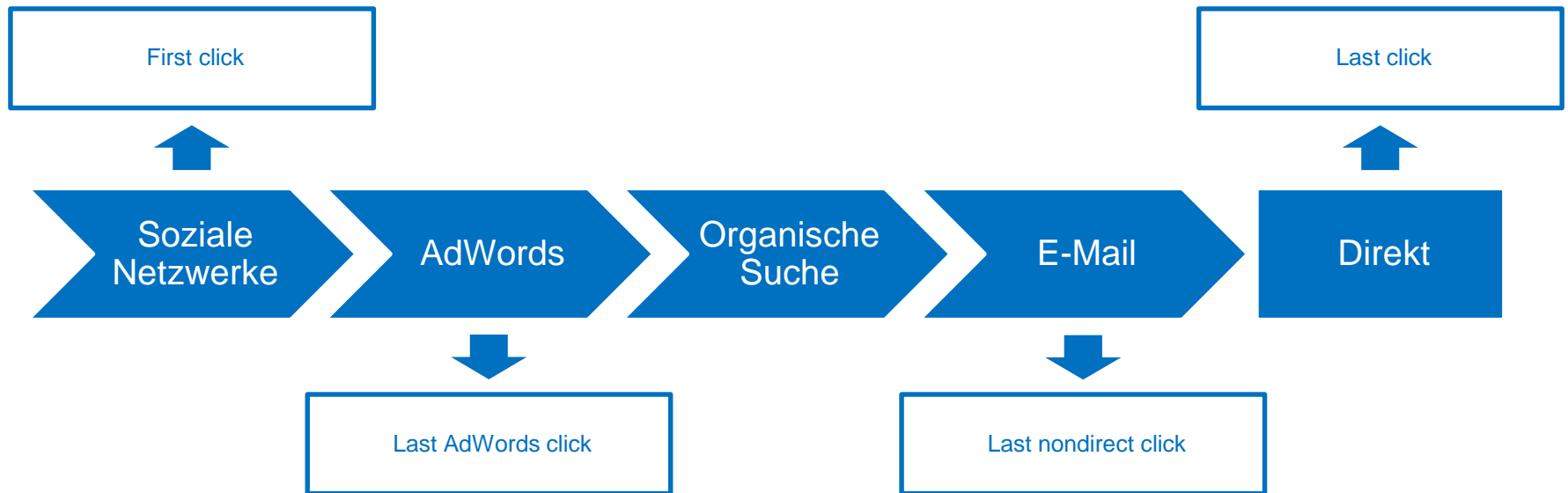
- Costs per video play

Cost per action (CPA)

- Costs per specified action
- E.g. completion of a contact form, subscription of a newsletter etc.

How to Relate Online Behavior to Moral Courage

Attribution Modeling



Conclusions

- Economic analysis supports optimal use of resources
- Impact evaluation shows whether the campaign works
- This requires clear definition of the intended behavior
- Traditionally, we measure moral courage using surveys and experiments
- We suggest using online metrics in addition
- Data-driven attribution modelling helps to relate online behavior to moral courage



Thank you for your attention.

Bibliography

- Colicev, A., Malshe, A., Pauwels, K., & O'Connor, P. (2018). Improving Consumer Mindset Metrics and Shareholder Value Through Social Media: The Different Roles of Owned and Earned Media. *Journal of Marketing*, 82(1), 37–56.
- Fishbein, M. (2008). A reasoned action approach to health promotion. *Medical Decision Making*, 28(6), 834–844.
- Fishbein, M., & Ajzen, I. (2011). *Predicting and changing behavior: The reasoned action approach*. Taylor & Francis.
- Gerhardinger, F. (2016). Zivilcourage. In *Psychologie der Werte* (pp. 295–306). Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-662-48014-4_26
- Greitemeyer, T., Osswald, S., Fischer, P., & Frey, D. (2007). Civil courage: Implicit theories, related concepts, and measurement. *The Journal of Positive Psychology*, 2(2), 115–119.
- Halmburger, A., Baumert, A., & Schmitt, M. (2016). Everyday Heroes. *Handbook of Heroism and Heroic Leadership*, 165.
- Neiger, B. L., Thackeray, R., Van Wageningen, S. A., Hanson, C. L., West, J. H., Barnes, M. D., & Fagen, M. C. (2012). Use of social media in health promotion: purposes, key performance indicators, and evaluation metrics. *Health Promotion Practice*, 13(2), 159–164.
- Thomsen, S. L. (2016). On the Economic Analysis of Costs and Benefits of Crime Prevention. In *20th German Congress on Crime Prevention* (Vol. 5, pp. 8–20).
- Tuten, T. L., & Solomon, M. R. (2017). *Social media marketing*. Sage.
- Solomon, M. R. (2014). *Consumer behavior: Buying, having, and being* (Vol. 10). Prentice Hall Upper Saddle River, NJ.