Appendix H - Operationalization

Variables

Variable	LimeSurvey	Content / Questionnaire
Facebook skills	fbskills_scale	Self reported skills or felt assurance with several tasks on Facebook, some of which are related to engaging for the NPO, see following scale construction.
Age	age	Age in years (derived from birth year).
Gender	gender (male - female)	Which sex (gender) are you? Although, in German it was asked about the sex ("Geschlecht"), this was referred to as "gender".
Degree	degree	Highest achieved degree.
Role public relations	roles-publicrelations: yes – no	Which of these tasks carry out as part of your engagement for Plan International? - Public relations.
Role web-administration	roles-webadmin: yes – no	Which of these tasks carry out as part of your engagement for Plan International? - Web-administration.
Time investment -	timeinvestment	How much time do you spend for volunteering per week in average?
Fb account	fbaccount	Do you have a Facebook account?
No account reason -	Noaccount reason- ...	Why don't you have a Facebook account? (multiple answers and open question - other)
Other social media sites	othersites	Which other social media sites do you use? (multiple answers and open question - other)
Frequency of personal Facebook usage	fbusage-frequency	I use Facebook regularly. (approval on a 1-5 Likert scale)
Enjoyment of personal Facebook usage	fbusage-enjoyment	I enjoy using Facebook. (approval on a 1-5 Likert scale)
Personal Facebook activity (scale)	fbactivity-scale	Weighed personal activity on Facebook, see following scale construction.
Motivation for using Facebook for the NPO (scale)	fbplanusage-motivation-sum	Motivation for using Facebook for the NPO, see following aggregation.
Frequency of Facebook usage for the NPO (scale)	fbplanfrequency-scale	Frequency of carrying out various, weighed activities on Facebook for the NPO, see following scale construction.
Goals of engaging on	fbgoals-mean	Approval of several goals of engaging on Facebook for

Facebook for the NPO (scale)		the NPO, see following aggregation.
Obstacles for engaging on Facebook for the NPO, associated with skills (scale)	fbobstacle-skills-sum	Approval of several obstacles, associated with skills, for engaging on Facebook for the NPO, see following aggregation.
Obstacles for engaging on Facebook for the NPO, associated with conviction (scale)	fbobstacle-conviction-sum	Approval of several obstacles, associated with conviction, for engaging on Facebook for the NPO, see following aggregation.
Manipulation check	Lfcheck	Has the AG Contact Person recently forwarded you an Facebook Guide?
Manipulation check - read Facebook Guide	IfLread	Did you read the Facebook Guide, which was forwarded to you by E-Mail?
Manipulation check - used Facebook Guide	IfLactivities - ...	Did you use the Facebook Guide and discovered new activities for you and/or your Action Group, which?
Rating of the Facebook Guide chapters	IfLchapters - ...	How helpful did you find the single chapters of the Facebook Guide? (intensity on a 1-5 Likert scale)
Improvement of the Facebook Guide	IfLimprove	How can we improve the Facebook Guide? (open question)
Interest in a Facebook training	training-fbinterest	How interested are you in a training on Facebook for Action Groups? (intensity on a 1-5 Likert scale)
Content of the Facebook training	Training fb content -	What content should be covered by the social media training? (multiple answers)
Rating of methods for the social media training	Training methods - ...	How suitable do you find these methods for the social media training? (intensity on a 1-5 Likert scale)
Rating of methods for the social media training - Guide	trainingmethods-leitfaden	How suitable do you find these methods for the social media training? - Written guide with images. (approval on a 1-5 Likert scale)
Suggestions for the social media training	trainingsuggestions	Do you have any other suggestions for the social media training? (open question)

Table 1: Variables.

Construction of the scales regarding Facebook involvement

The scale „Facebook skills" was developed on the ground of literature and then refined on the basis of the empirical results of the questionnaire, explicitly for this research project. It is the dependent variable in the field experiment and is furthermore used for exploratory analysis.

The aim of building this scale was to combine several self-assessed skills (1-5 Likert scale), necessary for successful engagement on Facebook for an NGO like Plan International.

The groundwork for the index is delivered by "The hierarchy of social media involvement", as proposed by Thomas (2018, p. 205). Which was empirically checked by the following question in the survey:

Personal Facebook activity - *How often do you undertake the following activities on Facebook? - Intensity: never (1) – always (5)*	*Mean*	*Std. Dev.*
1) News - read the news-feed and further contents	3.31	1.23
2) Like - like or similar reaction	3.03	1.04
3) Share - share posts	2.49	0.932
4) Comment - comment posts	2.44	0.909
5) Create - create posts	2.25	1.08

Table 2: Personal Facebook activity (Std. Dev. = Standard Deviation).

"The hierarchy of social media involvement" is thus empirically backed by these results. Although the hierarchy is not statistically significant, it seams empirically reasonable to apply the theoretical concept proposed in literature to this study.

The following statements about Facebook activities for Plan International, as posed in the questionnaire, can be sorted according to "hierarchy of social media involvement", and the fact that linguistic capabilities are easier then visual expressions and skills (Thomas, 2018, p. 196). This further tests the applicability of "the hierarchy of social media involvement" to the expanded social media activism for an nonprofit organization.

Frequency of Facebook usage for the NPO - *How often do you undertake the following activities on Facebook when engaging for Plan International? Intensity: never (1) – always (5)*	*Mean*	*Std. Dev.*
Planposts - read posts of Plan International in the news-feed	3	1.03
Planpages - visit pages or groups of Plan International	2.57	1.01
Network - visit pages or groups of the local AG network (f. ex. Cooperation partners)*	2.14*	0.887
Like - like posts, links, videos, images and/or events	2.78	1.23
Share - comment posts, links, videos, images and/or events	2.49	0.932
Comment - share posts, links, videos, images and/or events	2.44	0.909
Create - create own posts	2.25	1.08
New photo - post own images	2.11	1.10
New video - post own videos*	1.35*	0.789
New event - post own AG events	1.81	1.01

Page admin- manage own pages or groups for your Plan-AG	1.75	1.27
Fundraising - create own fundraising action for your Plan-AG	1.44	0.909

Table 3: Frequency of Facebook usage for the NPO (Std. Dev. = Standard Deviation; N= 36-37, Missing= 51-52;*contradictory rang).

Also regarding the frequency of digital engagement for Plan International, the hierarchy seems to be applicable overall. Except for the item "network" the assumed hierarchy, matches the empirical results. The fact that linguistic capabilities are easier then visual explains the position of "new video" (Thomas, 2018, p. 196).

Lastly the skills, related to engaging for an NPO on Facebook, as stated in the questionnaire, have been applied to the model of social media involvement by Thomas (2018).

Facebook skills - *How safe do you feel in handling the following Facebook activities? Intensity: never (1) – always (5)*	*Mean*	*Std. Dev.*
Visit - visit pages or groups of Plan International and/or the local AG network	3.43	1.28
Like - like posts, videos, images and/or events	3.64	1.22
Share - share posts, links, videos, images and/or events	3.54	1.27
Comment - comment posts, links, videos, images and/or events	3.37	1.26
Campaigns - create posts for Plan International's campaigns (f. ex. #GirlsGetEqual)	2.92	1.25
New posts - create own posts	2.89	1.41
New photos - post own images*	3.03*	1.40
New videos - post own videos*	2.36*	1.42
New events - post own AG events	2.57	1.48
AG page - manage own page for your Plan-AG	2.46	1.56
AG group - manage own group for your Plan-AG	2.40	1.50
Fundraising - create own fundraising action for your Plan-AG	2.20	1.45

Table 4: Facebook skills (Std. Dev. = Standard Deviation; N= 35-37, Missing= 51-53; *contradictory rang).

Also regarding the Facebook skills the hierarchy seems to be applicable overall. Except for two items "new photos" and "new videos" the assumed hierarchy, matches the empirical results. And this can well be explained through the additionally applied statement that linguistic capabilities are easier then visual expressions and skills (Thomas, 2018, p. 196).

Then a Reliability Analysis was undertaken with the single items of the scale "Facebook skills": The results indicate a very high reliability of the scale.

Scale Reliability Statistics

	mean	sd	Cronbach's α
scale	2.92	1.16	0.958

Table 5: Scale Reliability Statistics "Facebook skills".

Item Reliability Statistics

	if item dropped
	Cronbach's α
fbskills-visit	0.958
fbskills-campaigns	0.957
fbskills-like	0.956
fbskills-comment	0.955
fbskills-share	0.957
fbskills-newposts	0.955
fbskills-newphotos	0.955
fbskills-newvideos	0.954
fbskills-newevents	0.951
fbskills-agpage	0.951
fbskills-aggroup	0.951
fbskills-fundraising	0.954

Table 6: Item Reliability Statistics "Facebook skills".

In a following step the single items of the scale "Facebook skills" have been sorted according to their hierarchy by their means. Then coded reverse, so that the most difficult item receives the highest number. And finally divided by the standard deviation of the means of the single items, for a standardized factor. The resulting factors have been used for weighing the single items in the scale "Facebook skills". Thus the final score on the scale reflects the difficulty range or "hierarchy" of the single skills.

The scale, variable "fbskills_scale", is finally composed with the following formula:
= (`fbskills-visit`*2.86)+(`fbskills-campaigns`*3.79)+(`fbskills-like`*2.48)+(`fbskills-comment`*2.97)+(`fbskills-share`*2.66)+(`fbskills-newposts`*3.84)+(`fbskills-newphotos`*3.59)+(`fbskills-newvideos`*5.46)+(`fbskills-newevents`*4.42)+(`fbskills-agpage`*4.62)+(`fbskills-aggroup`*4.73)+(`fbskills-fundraising`*5.1)

	fbskill-item	Mean ...	reverse ...	Factor fbskill
1	fbskills-visit	3.43	1.57	2.860
2	fbskills-campaigns	2.92	2.08	3.789
3	fbskills-like	3.64	1.36	2.477
4	fbskills-comment	3.37	1.63	2.969
5	fbskills-share	3.54	1.46	2.659
6	fbskills-newposts	2.89	2.11	3.843
7	fbskills-newphotos	3.03	1.97	3.588
8	fbskills-newvideos	2.00	3.00	5.464
9	fbskills-newevents	2.57	2.43	4.426
10	fbskills-agpage	2.46	2.54	4.627
11	fbskills-aggroup	2.40	2.60	4.736
12	fbskills-fundraising	2.20	2.80	5.100

Table 7: Items of the scale "Facebook skills" with means and factors.

Descriptives	fbskills_scale
N	33
Missing	55
Mean	131
Median	120
Standard deviation	55.7
Range	186
Minimum	46.5
Maximum	233
Skewness	0.390
Std. error skewness	0.409
Shapiro-Wilk W	0.927
Shapiro-Wilk p	0.028
25th percentile	79.8
50th percentile	120
75th percentile	173

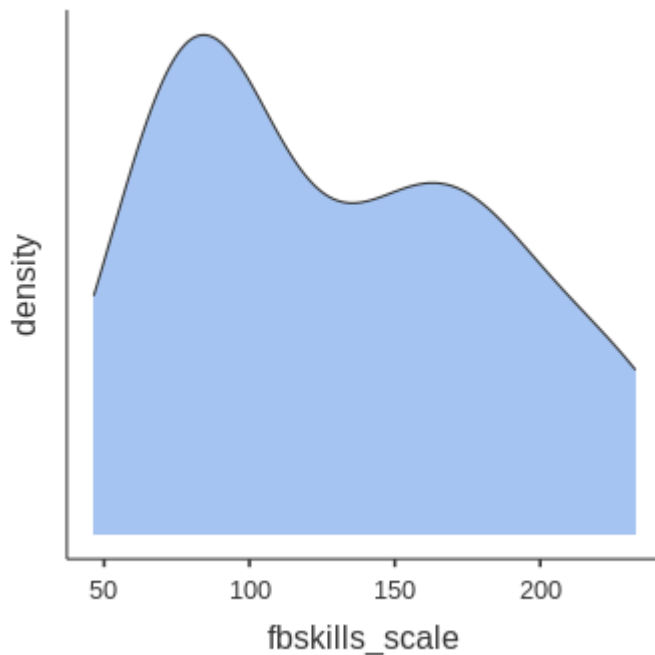Table 8: Descriptives of the scale "Facebook skills".

Figure 1: Density of the scale "Facebook skills".

The same operationalization has been undertaken to create the scales of personal Facebook activity ("fbactivities") and frequency of Facebook usage for the NPO ("fbplanfrequency"). For further information and analysis, see attached Jamovi files in appendix L.

Further aggregation of variables for exploratory analysis

Motivation for using Facebook for the NPO:
- Scale "fbplanusage-motivation-sum"
- SUM(`fbplanusage-important`+`fbplanusage-domore`)
- Public relations via Facebook is an important part of my engagement.
- I would like to publish more about Plan International on my Facebook account.

Goals of engaging on Facebook for the NPO:
- Scale "fbgoals-mean"
- MEAN(`fbgoals-outreach`,`fbgoals-events`,`fbgoals-donations`,`fbgoals-themes`,`fbgoals-contacts`,`fbgoals-credibility`,ignore_missing=0)
- What goals motivate you to get involved on Facebook for Plan International? (Approval)
- Outreach - Increase public awareness (reach) of my AG.
- Events - More guests at local events.

- Donations - Collect donations directly online.
- Themes - Draw attention to certain topics and network theme oriented.
- Contacts - Make Plan International better known among my personal contacts.
- Credibility - Strengthen Plan International's credibility and authenticity on Facebook through personal support.

Obstacles for engaging on Facebook for the NPO, associated with skills:
- Scale "fbobstacle-skills-sum"
- SUM(`fbobstacles-usefulness`,`fbobstacles-content`,`fbobstacles-datasecurity`,`fbobstacles-results`, ignore_missing=0)
- Facebook obstacles – What might be preventing you from getting involved on Facebook for the NPO?
- Usefulness - I don't know how I can use Facebook for my engagement.
  can.
- Content - I'm not sure how to create engaging content that reach many people.
- Data security - I am unsure, what about my activities for Plan International, I may or may not share (image rights, data protection and internal information).
- Results - I am dissatisfied with the reach and response of my previous Facebook engagement.

Obstacles for engaging on Facebook for the NPO, associated with conviction:
- (scale) ("fbobstacle-conviction-sum")
- SUM(`fbobstacles-nointerest`,`fbobstacles-privacy`,`fbobstacles-achievemuch`, ignore_missing=0)
- Facebook obstacles – What might be preventing you from getting involved on Facebook for the NPO?
- No interest - In principle, I have no interest in using Facebook.
- Privacy - I only want to reveal the most necessary personal information on Facebook.
- Not achieve much - I don't believe in achieving much with Facebook engagement.