SOCIALISATION IN ESN

THE IMPACT OF USER BEHAVIOURS ON THE SOCIALISATION PROCESS
IN ENTERPRISE SOCIAL NETWORKS

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ONBOARDING

NETWORK

MOTIVATION

- Effective teams are crucial for business success
- Frequent job or project changes make the onboarding of new hires or project members a recurring business challenge
- What makes a team effective? Influence of individual and group behaviour (Duhigg 2016)

Enterprise Social Networks (ESN) are
a means to improve the socialisation

User behaviours are antecedents of successful socialization (and vice versa?)

Use ESN data to explore which user behaviours fit to existing teams' communication patterns

Can we explore successful patterns?
Which behaviours are important?

ESN afford visibility of communication

RQ

How do individual user behaviours of new hires in ESN communication affect their integration into different social groups?

TEAMS AND SOCIALISATION

- Successful team communication and collaboration by building shared norms / cohesion
- Early communication fosters interpersonal relationships
- Hires must understand and adopt the behaviours of their team
- Socialisation process to integrate new employees
- Not every person fits in every team, hindering the socialisation process

Bergiel et al. (2008), Leidner et al. (2010), Maznevski and Chudoba (2000)

ESN SUPPORTING SOCIALISATION

- Communication tool (Ellison et al. 2015)
- Connecting to others (Leidner et al. 2010)
- Creating social capital (Riemer, Finke, et al. 2015)
- Higher levels of trust (Leon et al. 2017)
- Speeding up the socialisation process (Gonzalez et al. 2013)

USER BEHAVIOURS

- Different types of users differ in their communication behaviour

- Previous Identification of user behaviours to assess healthy or effective social networks

1. qualitative approach (content analysis, interviews…)
2. quantitative approach (cluster or factor analysis, network structure)

Cetto et al. (2018), Angeletou et al. (2011), Berger et al. (2014)
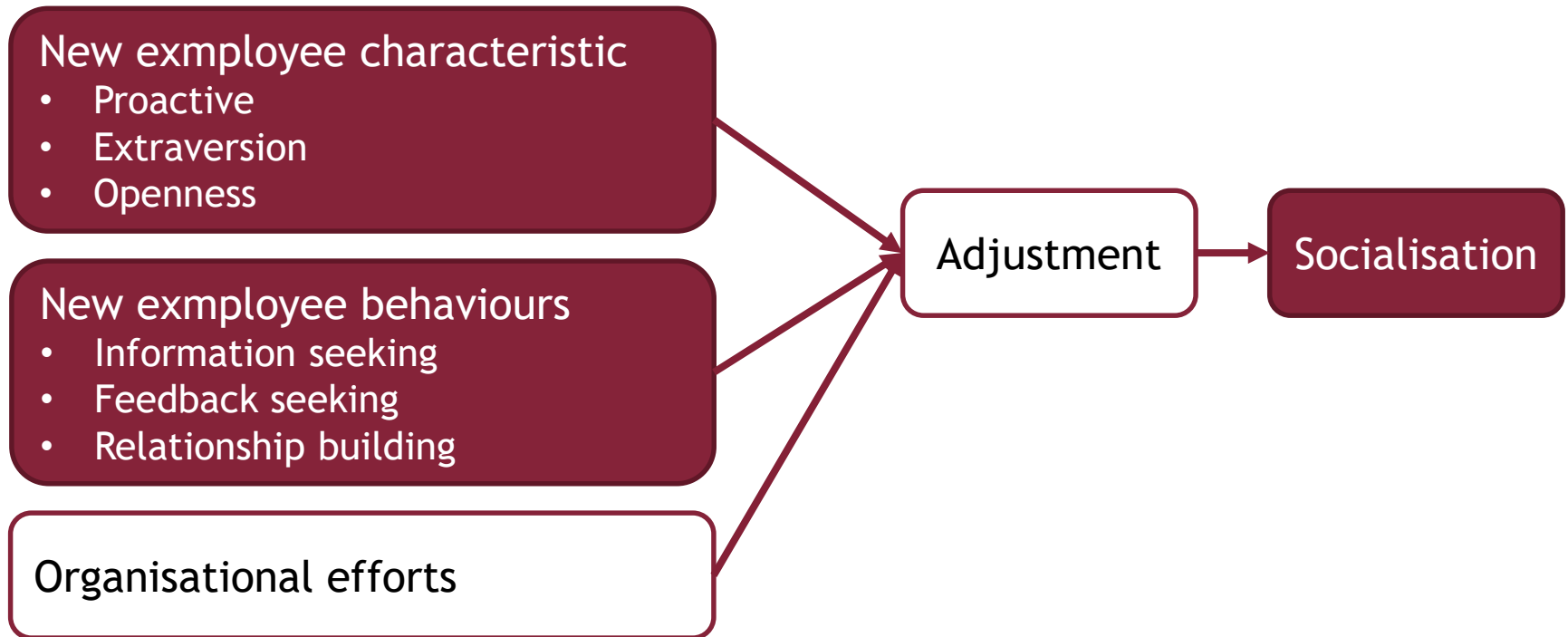
USER BEHAVIOURS FROM ESN DATA

...using communication metadata only

- Structural properties of a network

- User's distinct position in a network

- Activity patterns and contribution frequencies

- Literature search for ESN user behaviours/metrics

- 44 metrics that we mapped to behaviours important for socialisation according to Bauer and Erdogan (2011)

Angeletou et al. (2011), Gleave et al. (2009), Hacker et al. (2017), Smith et al. (2009)

SOCIALISATION MODEL

BY BAUER AND ERDOGAN (2011)

New exmployee characteristic
- Proactive
- Extraversion
- Openness

New exmployee behaviours
- Information seeking
- Feedback seeking
- Relationship building

Organisational efforts

Adjustment

Socialisation

Category	Role	Reference	Category	Role	Reference
Proactive	Focused Expert Initiator	Rowe et al. 2013	**Extraversion**	Active Contributor	Holtzblatt et al. 2013
	Discussion Starters	Hansen et al. 2010		Moderate Contributor	Holtzblatt et al. 2013
	Questioners	Hansen et al. 2010		Knowledge Contributor	Beck et al. 2014
	Question Askers	Viegas & Smith 2004		Knowledge Creator	Helms & Buijsrogge 2006
	Popular Initiator	Angeletou et al. 2011		Knowledge Sharer	Helms & Buijsrogge 2006
	Question Person	Smith et al. 2009		Bursty Contributor	Viegas & Smith 2004
	Originator	Smith et al. 2009		Givers	Cetto et al. 2018
	Conversation Starter	Hacker et al. 2017		Answer Person	Viegas & Smith 2004
	Matchers	Cetto et al. 2018	**Activity**	Distributed Novice	Rowe et al. 2013
Openness	Discourse Driver	Trier & Richter 2015		Distributed Expert	Rowe et al. 2013
	Key Value Adding User	Berger et al. 2014		Focused Novice	Rowe et al. 2013
	Elitist	Angeletou et al. 2011		Active User	Holtzblatt et al. 2013
	Joining Conversationalist	Angeletou et al. 2011		Occasional User	Holtzblatt et al. 2013
	Discussion & Comment Person	Smith et al. 2009		Newcomers	Viegas & Smith 2004
	Focused Information Sharer	Hacker et al. 2017		Mixed Novice	Rowe et al. 2013
	Niche Expert	Hacker et al. 2017		Mixed Expert	Rowe et al. 2013
	Popular Participant	Angeletou et al. 2011		Temporary User	Hacker et al. 2017
Infor...	Influencer	Smith et al. 2009	**Relationship-build...**	Central Connector	Cross & Prusak 2002, Parise et al. 2006
	Ignored	Angeletou et al. 2011		Boundary Spanner	Cross & Prusak 2002, Parise et al. 2006
Feedback...	Answer person	Smith et al. 2009		Peripheral Specialist	Cross & Prusak 2002, Parise et al. 2006
	Answer people	Hansen et al. 2010		Information Broker	Cross & Prusak 2002, Parise et al. 2006
				Boundary Spanning Expert	Hacker et al. 2017

Table 1. Mapped metrics (Inform = Information-seeking, Relationship-build = Relationship-building, Feedback = Feedback-seeking).

METRICS AND CALCULATIONS

Name	Formal representation	Reasoning
Proactive	$\dfrac{(Initiated\ Threads)}{(Total\ participated\ Threads)}$	More open conversations, asking questions → faster learning
Openness	$1 - \dfrac{(Total\ participated\ Threads)}{(Total\ Interactions)}$	More openness to new people and experiences → quicker social integration
Information ...	$(Authors\ received\ from)$	Information-seeking → faster learning
Extraversion	$(Authors\ sent\ to)$	Likes to talk to people → social integration
Feedback...	$\dfrac{(Likes\ received) + (Mentions\ received)}{(Posts\ written)}$	Receives feedback on posts → better learning
Relationship ...	$mean(Neighbors'Degrees)$	Knows people before → social integration
Activity	$\dfrac{(Days\ with\ Post)}{(Last\ Visit) - (First\ Visit)}$	Activity → prerequisite for integration

Table 2. Behaviour Metrics and Reasoning for Inclusion (adapted from Smith et al. 2009).

APPROACH
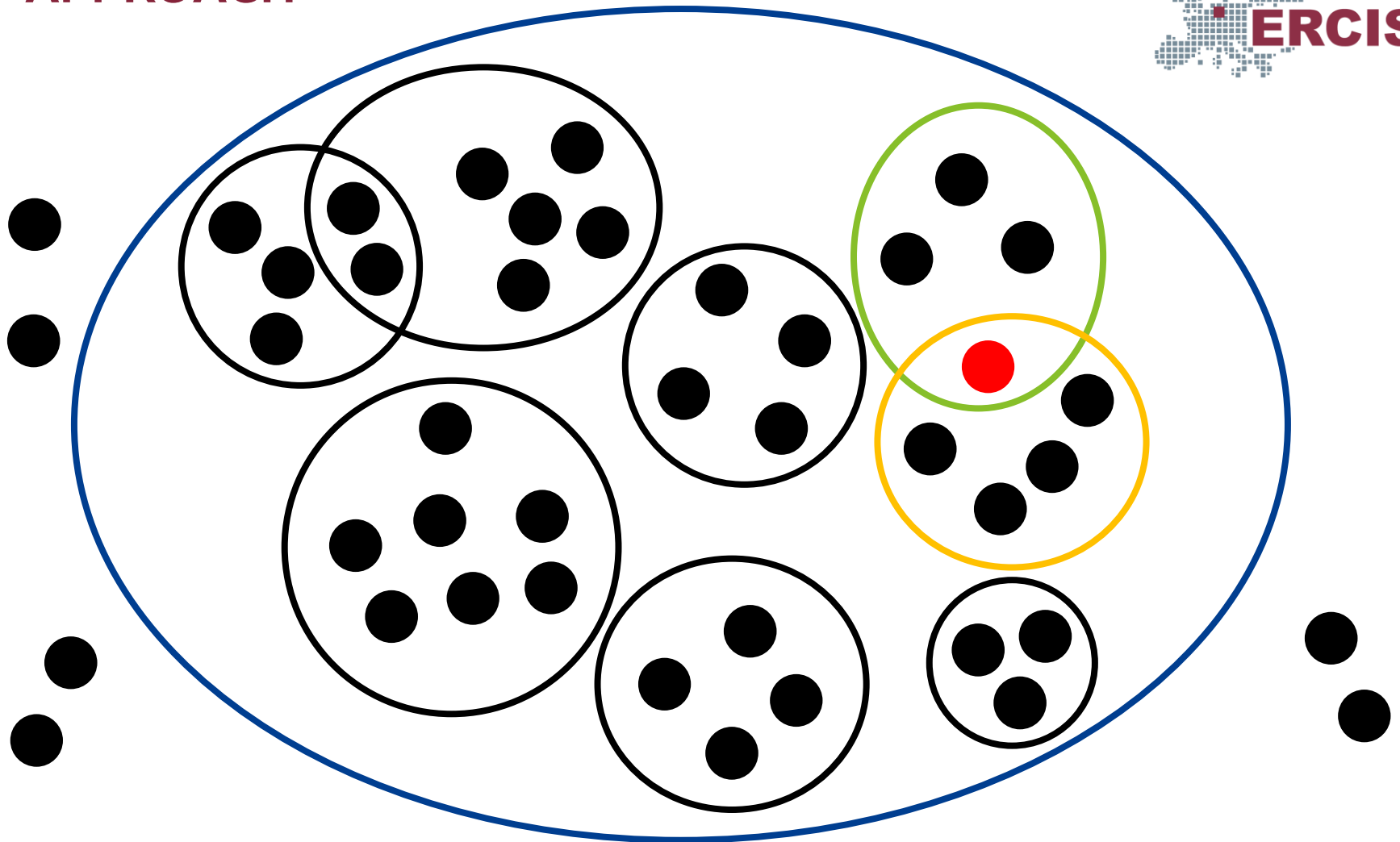
- Following the onboarding theory, we hypothesise positive linear relationships between the user behaviours and the socialisation outcome

- Linear regression model
- Statistical distribution of variables highly skewed
  - We applied log-transformation, and used a model with beta distributed residuals
- Considered group-level effects with a random-intercept model
- Replicated the study with a second data set

	Data set 1			Data set 2		
	OLS	*beta*	*mixed-effects*	*OLS*	*beta*	*mixed-effects*
Proactiveness	0.133 (0.107)	0.127 (0.089)	-0.008 (0.011)	0.045 (0.190)	0.007 (0.139)	0.025** (0.013)
Openness	0.720*** (0.143)	0.231* (0.120)	0.035** (0.014)	0.229 (0.171)	0.016 (0.125)	0.011 (0.011)
Information-seeking	0.003*** (0.001)	0.048** (0.024)	-0.0003*** (0.0001)	0.001 (0.001)	0.050 (0.038)	-0.0001 (0.0001)
Extraversion	-0.003*** (0.001)	-0.092** (0.038)	0.0002*** (0.0001)	-0.004*** (0.001)	-0.120*** (0.044)	0.0001 (0.0001)
Relationship-building	0.001 (0.001)	-0.001 (0.001)	0.0002 (0.0001)	-0.005*** (0.001)	-0.002*** (0.001)	0.0001 (0.0001)
Activity	-0.056 (0.264)	0.029 (0.207)	0.044* (0.027)	-0.224 (0.315)	0.111 (0.228)	0.018 (0.020)
Feedback-seeking	-0.045* (0.023)	-0.024 (0.019)	0.003 (0.002)	-0.067*** (0.021)	-0.041*** (0.015)	-0.001 (0.001)
Group size	-0.009*** (0.0001)		-0.016*** (0.001)	-0.008*** (0.0001)		-0.015*** (0.001)
Days	-0.0003*** (0.0001)		0.0001*** (0.00001)	-0.00004 (0.0001)		0.00001** (0.00001)
Constant	-6.938*** (0.193)	-5.627*** (0.184)	-5.323*** (0.092)	-5.693*** (0.254)	-4.995*** (0.220)	-5.384*** (0.117)
Observations	4,696	4,686	4,696	3,121	3,121	3,121
R² / R² marginal	0.734	0.020	0.84	0.649	0.041	0.84
Adjusted R²	0.734			0.648		
Log Likelihood		29,66	2,348		19,44	2,497.491
Residual Std. Error	1.175 (df = 4686)			1.326 (df = 3111)		
F Statistic	1,437*** (df=9;4686)			638*** (df=9; 111)		
*(Values are unstandardised coefficients; standard errors are in parentheses; *p<0.1; **p<0.05; ***p<0.01)*						

RESULTS

Extraversion ⬇	Openness ⬆	Proactiveness ✖
Information ⬆	Relationships ⬇	Feedback ⬇
Activity ✖	Group Size ⬇	Days ✖

DISCUSSION & CONTRIBUTION

- Contributing approach to analyse meta data to predict socialisation success though it remains challenging

- Groups and their specific characteristics or norms may have more influence on the socialisation than expected

- Social phenomena are not necessarily linear or parametric

- Mapping of user behaviours found to promote socialisation to ESN metrics
  - User behaviours were identified in offline context
  - Socialisation in ESN may work differently

THANKS FOR LISTENING

… AND FOR YOUR IDEAS HOW TO CONTINUE OUR WORK!

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