Understanding Organization and Open Source Community Relations
through the Attraction-Selection-Attrition Model

Georg Link & Debora Jeske

OpenSym, Galway   Ireland (Aug 23rd, 2017)

WARNING – WARNING - WARNING

- This is not a normal paper.

- We take no responsibility for ideas you get.

- No shame in copying ideas.

- Get ready for a thought experiment.

# ORGANIZATIONAL-COMMUNAL ENGAGEMENTS

LF Projects

LF Members

- Open Source Ecosystem is maturing
- 430,000 projects on SourceForge
- 64 million projects on GitHub
- In 2008, $10.8 billion for Linux Fedora 9 distro
- In 2015, $5 billion for only 17 other projects
- 271 companies are Linux Foundation members
  - 15+ joining each month

- **Organizational-Communal Engagements are increasingly important**

What are evident complexities in attracting and retaining contributors, especially from organizations, to open source communities?

Research Question

THE ASA-MODEL
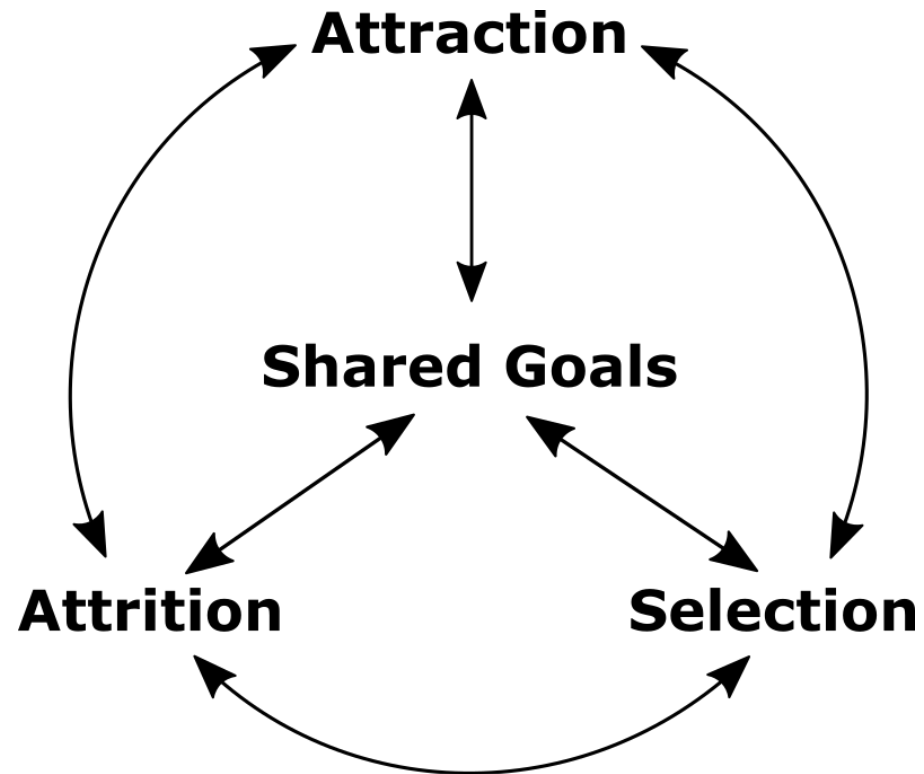
- Introduced by Schneider (1987)
  - Understand how people shape organizations

- Butler et al. (2014) simulated an online community based on the ASA-Model

- Crowston and Fagnot (2008) suggested using the ASA-Model for understanding self-selection in OSS
  - Person-organization fit - turnover in OSS (Sharma, Daniel, & Chung, 2010, 2015)

ASA-MODEL: <u>ATTRACTION</u>

RQ1: What rewards or incentives encourage a passive organizational user to become an active contributor to an open source community?

- Open Middleware Agnostic Messaging API (OpenMAMA)

- Built on top of Message Oriented Middleware

- New York Stock Exchange, closed sourced, 150 world's largest banks

- Open sourced in 2011 to create a vibrant customer community

Germonprez, M., Allen, J. P., Warner, B., Hill, J., & McClements, G. (2013). Open source communities of competitors. *ACM Interactions*, *20*(6), 54–59. https://doi.org/10.1145/2527191

RQ2: What rewards and incentives attract organizations or employees working for commercial entities to contribute to open source communities?

- Influence the direction of development
- Gain legitimacy to use the software
- Benefit from the expertise of a large base of skilled users
- Need 'man on the inside' to get the job done

Dahlander, L., & Wallin, M. W. (2006). A man on the inside: Unlocking communities as complementary assets. *Research Policy*, *35*(8), 1243–1259. https://doi.org/10.1016/j.respol.2006.09.011

RQ3: What are the selection criteria for new contributors (individuals or organizations) to choose an open source community?

Email exchange:

- April 13th: "We're currently evaluating software for license analysis of source code, as part of our compliance process. We got several recommendations by different people to check out fossology. However, our first steps were not very successful:"

- May 2nd: Response from community.

- May 3rd: "I hope we'll have time to continue with fossology again, it's currently put on hold due to resource constraints."

https://lists.linuxfoundation.org/pipermail/fossology-devel/2017-April/002910.html

RQ4: How does selection unfold in organizational-communal engagements?

- *Bitcoin* popularized the blockchain technology after 2009 debut
- *Ethereum* innovated smart contracts in 2013-2015
- Experimental implementations at different organizations
- *Hyperledger* began in 2016 from scratch and released version 1.0 on July 12, 2017
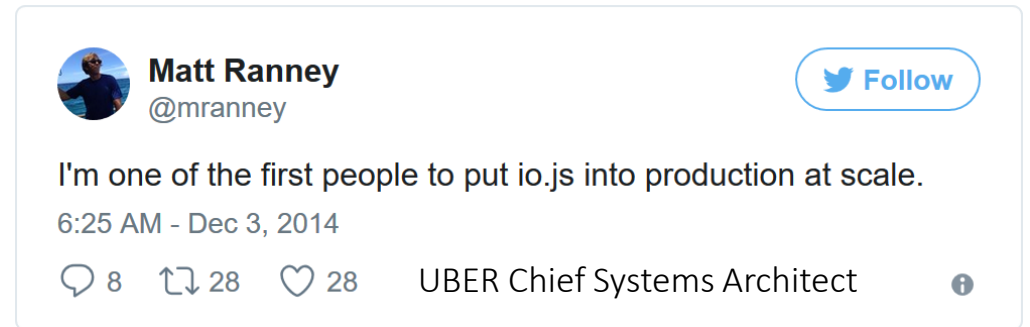 - 100+ organizational members

ASA-MODEL: <u>ATTRITION</u>

node js vs. **io**
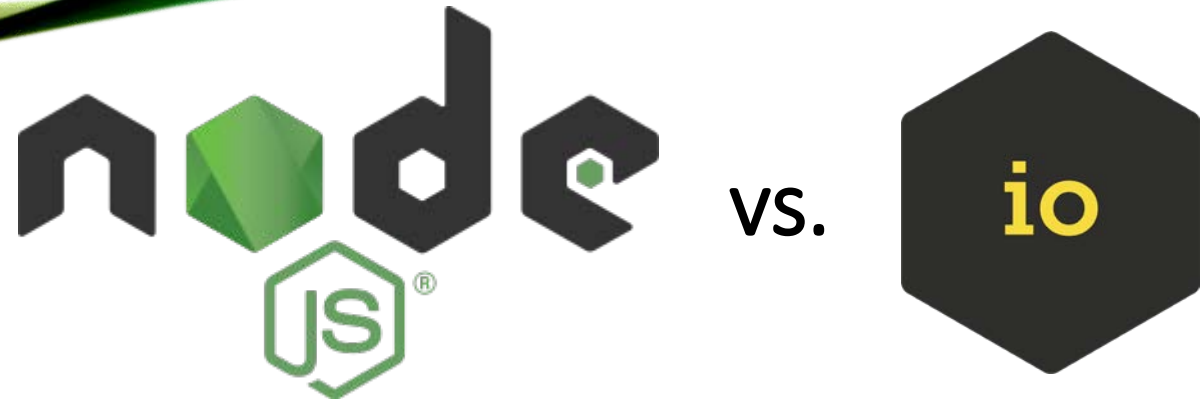
- RQ5: Are the motives of voluntary developers leaving an open source community similar or different to the motives of paid volunteers or organizational employees?

- Forked in December 2014
- We don't want to have just one person who's appointed by a company making decisions. We want contributors to have more control, to seek consensus.
  - *Mikeal Rogers, io.js project team member*
- Re-united under Node.js Foundation in June 2015
  - With help of Linux Foundation
  - Joyent, Inc. continues to hold the Node.js trademark

Matt Ranney
@mranney   Follow

I'm one of the first people to put io.js into production at scale.
6:25 AM - Dec 3, 2014

💬 8   ↱ 28   ♡ 28   UBER Chief Systems Architect

- RQ6: How do forks evolve from organizational-communal engagements and are these forks different from fully volunteer driven forks?
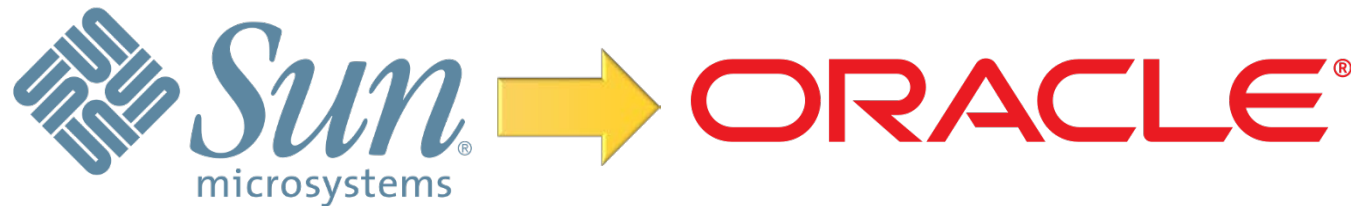
Gamalielsson, J., & Lundell, B. (2014). Sustainability of open source software communities beyond a fork: How and why has the LibreOffice project evolved? *Journal of Systems and Software*, *89*, 128–145. https://doi.org/10.1016/j.jss.2013.11.1077

CONCLUSION

- ASA-Model provides lens for understanding organizational-communal engagements

- We offer questions suitable for future work in relation to the ASA-Model

THANK YOU!

Contact details:

Georg Link
glink@unomaha.edu

Debora Jeske, PhD
d.jeske@ucc.ie