

Before we start...

Thank you.

2015-10-30

Reflections on Empirical Peer Production Research

└─ Intro

└─ Before we start...

Before we start...

Thank you.

Before we start:

We're really grateful you all could be here.

We're also really grateful that the other organizers invited us to collaborate on planning of workshop.

- ▶ **Reflections** on empirical peer production research
- ▶ Present an **ongoing study** motivated by these reflections
- ▶ Close with **implications, limitations, & challenges**

2015-10-30

Reflections on Empirical Peer Production Research

└ Intro

└ Our talk

Our talk

- ▶ Reflections on empirical peer production research
- ▶ Present an ongoing study motivated by these reflections
- ▶ Close with implications, limitations, & challenges

2015-10-30

Reflections on Empirical Peer Production Research

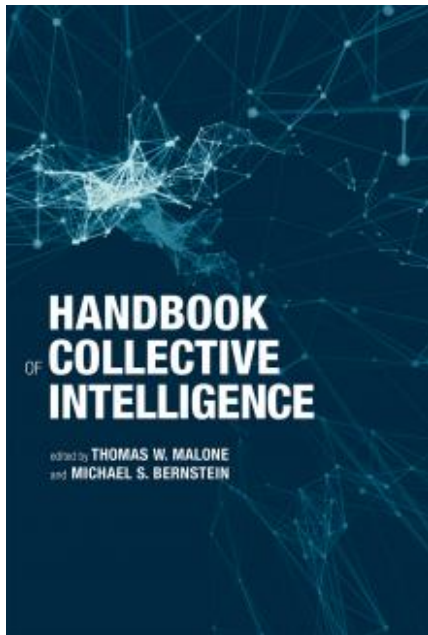
└ Part I: Recent peer production research and challenges

Part I: Reflections

Part I: Reflections

Peer Production: A Form of Collective Intelligence

In *Handbook of Collective
Intelligence*. Edited by Thomas
W. Malone and Michael S.
Bernstein. MIT Press.
November 2015.



2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ CI chapter

Peer Production:
A Form of Collective
Intelligence

In *Handbook of Collective
Intelligence*. Edited by Thomas
W. Malone and Michael S.
Bernstein. MIT Press.
November 2015.



Yochai invited us to work with him on a review chapter for a soon-to-be-published MIT Press Handbook on Collective Intelligence edited by Malone and Bernstein.

Our mandate was (among other things) to review recent social scientific research on peer production...

Three central concerns in empirical peer production research

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ CI chapter

└ Three central concerns in empirical peer production research

- We found these three central concerns or puzzles driving research across disciplines.
- Not exhaustive.
- We really focus our work on questions of organizational dynamics & performance
- This is where network analyses, orgs research, and info sys work on peer production happens.

Three central concerns in empirical peer production research

- **Motivation:** Why do people participate in peer production systems?

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ CI chapter

└ Three central concerns in empirical peer production research

► **Motivation:** Why do people participate in peer production systems?

- We found these three central concerns or puzzles driving research across disciplines.
- Not exhaustive.
- We really focus our work on questions of organizational dynamics & performance
- This is where network analyses, orgs research, and info sys work on peer production happens.

Three central concerns in empirical peer production research

- **Motivation:** Why do people participate in peer production systems?
- **Quality:** Under what conditions do peer production systems produce high quality outputs?

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ CI chapter

└ Three central concerns in empirical peer production research

- **Motivation:** Why do people participate in peer production systems?
- **Quality:** Under what conditions do peer production systems produce high quality outputs?

- We found these three central concerns or puzzles driving research across disciplines.
- Not exhaustive.
- We really focus our work on questions of organizational dynamics & performance
- This is where network analyses, orgs research, and info sys work on peer production happens.

Three central concerns in empirical peer production research

- ▶ **Motivation:** Why do people participate in peer production systems?
- ▶ **Quality:** Under what conditions do peer production systems produce high quality outputs?
- ▶ **Organization:** How do peer production systems organize effectively?

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ CI chapter

└ Three central concerns in empirical peer production research

- ▶ **Motivation:** Why do people participate in peer production systems?
- ▶ **Quality:** Under what conditions do peer production systems produce high quality outputs?
- ▶ **Organization:** How do peer production systems organize effectively?

- We found these three central concerns or puzzles driving research across disciplines.
- Not exhaustive.
- We really focus our work on questions of organizational dynamics & performance
- This is where network analyses, orgs research, and info sys work on peer production happens.

Organizational Dynamics & Effectiveness in Peer Production

Early stage vs. Recent work

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ Org dynamics and effectiveness

└ Organizational Dynamics & Effectiveness in Peer
Production

Early stage vs. Recent work

- ▶ **Descriptive** and **exploratory**
- ▶ Focused on a small number of **large extraordinary communities** (e.g., Wikipedia, Linux, GNU, Apache)
- ▶ Frequently relying on **stylized facts** (i.e., non-hierarchical, Linus' law; etc.)

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ Org dynamics and effectiveness

└ Organizational Dynamics & Effectiveness in Peer Production

Early stage vs. Recent work

- Descriptive and exploratory
- Focused on a small number of **large extraordinary communities** (e.g., Wikipedia, Linux, GNU, Apache)
- Frequently relying on **stylized facts** (i.e., non-hierarchical, Linus' law; etc.)

Organizational Dynamics & Effectiveness in Peer Production

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ Org dynamics and effectiveness

└ Organizational Dynamics & Effectiveness in Peer Production

Early stage vs. **Recent work**

- Deepened connections with literature on communication networks, teams, organizations, social exchange/psychology, information systems, management, complex systems.

Early stage vs. **Recent work**

- **Comparative** analyses
- More **Inferential**
- **Testing stylized facts**

...much of this work done by people in this room!

- Deepened connections with literature on communication networks, teams, organizations, social exchange/psychology, information systems, management, complex systems.

causal identification
+
observational data
+
comparative analysis

2015-10-30

Reflections on Empirical Peer Production Research

└ Part I: Recent peer production research and challenges

└ open challenges

└ Open challenge:

Open challenge:

causal identification
+
observational data
+
comparative analysis

Part II: Example Study

The Hidden Costs of Requiring Accounts: Quasi-Experimental Evidence that Transaction Costs Deter Contributions to Communal Public Goods



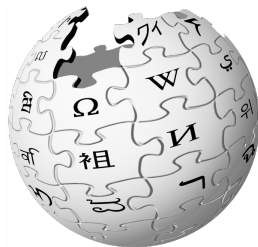
Account Creation: A Barrier to (Good) Contributions?

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Account Creation: A Barrier to (Good) Contributions?

2015-10-30



This captures a broadly held and widely repeated belief among Wikipedians that, on average, allowing people to contribute without creating accounts is a good decision for the community.

More formally, Yochai drew this conclusion on the basis of transaction cost economics: more barriers equals less action. Radically reduced barriers drives participation. With enough eyeballs...etc.

Account Creation: A Barrier to (Good) Contributions?

- Despite persistent abuse from “anons”, Wikipedians have long argued that **small barriers** will **deter many good contributions**.



2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Account Creation: A Barrier to (Good) Contributions?

This captures a broadly held and widely repeated belief among Wikipedians that, on average, allowing people to contribute without creating accounts is a good decision for the community.

More formally, Yochai drew this conclusion on the basis of transaction cost economics: more barriers equals less action. Radically reduced barriers drives participation. With enough eyeballs...etc.

Account Creation: A Barrier to (Good) Contributions?

- Despite persistent abuse from “anons”, Wikipedians have long argued that small barriers will deter many good contributions.



Account Creation: A Barrier to (Good) Contributions?

- ▶ Despite persistent abuse from “anons”, Wikipedians have long argued that **small barriers** will **deter many good contributions**.
- ▶ Scholars of peer production point to IP-editing as an example of how **low transaction costs** underly Wikipedia's success.



Reflections on Empirical Peer Production Research

Part II: Example study: Anonedits

Account Creation: A Barrier to (Good) Contributions?

2015-10-30

This captures a broadly held and widely repeated belief among Wikipedians that, on average, allowing people to contribute without creating accounts is a good decision for the community.

More formally, Yochai drew this conclusion on the basis of transaction cost economics: more barriers equals less action. Radically reduced barriers drives participation. With enough eyeballs...etc.

Account Creation: A Barrier to (Good) Contributions?

- ▶ Despite persistent abuse from “anons”, Wikipedians have long argued that **small barriers** will **deter many good contributions**.
- ▶ Scholars of peer production point to IP-editing as an example of how **low transaction costs** underly Wikipedia's success.





Danny Horn, former Wikia staff
& community administrator.

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedit

└ Contrary Opinions!

Mako gave the “Almost Wikipedia” talk at Wikia.

After the talk, Danny Horn came up and expressed skepticism in the claim made about account creation being part of Wikipedia’s success.

Lots of people in communities have voiced this feeling but Danny is a great example of somebody who argued this with some evidence and his argument goes something like this:

Contrary Opinions!



Danny Horn, former Wikia staff
& community administrator.

Contrary Opinions!

- ▶ Most vandalism is from “anons” (**True!**)
- ▶ Most high quality contributions come from registered users (**True!**)
- ▶ Good faith contributors will take the few seconds to register. (**Testable!**)



Danny Horn, former Wikia staff & community administrator.

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedit

└ Contrary Opinions!

Mako gave the “Almost Wikipedia” talk at Wikia.

After the talk, Danny Horn came up and expressed skepticism in the claim made about account creation being part of Wikipedia’s success.

Lots of people in communities have voiced this feeling but Danny is a great example of somebody who argued this with some evidence and his argument goes something like this:

Contrary Opinions!

- ▶ Most vandalism is from “anons” (**True!**)
- ▶ Most high quality contributions come from registered users (**True!**)
- ▶ Good faith contributors will take the few seconds to register. (**Testable!**)



Danny Horn, former Wikia staff & community administrator

Contrary Opinions! (with evidence!)

Danny had analyzed a few Wikia wikis that blocked anonymous editing and found what appeared to be:

- ▶ A decrease in vandalism
- ▶ Stable or increasing contributions

| | Edits | Blocks | Edits/Block |
|-----------|-------|--------|-------------|
| January | 7,000 | 67 | 104 |
| February | 9,300 | 57 | 163 |
| March | 6,300 | 78 | 81 |
| April | 6,300 | 20 | 315 |
| May | 4,700 | 6 | 783 |
| June | 5,600 | 14 | 400 |
| July | 9,900 | 17 | 582 |
| August | 5,300 | 20 | 265 |
| September | 3,000 | 16 | 187 |
| October | 3,300 | 21 | 157 |
| November | 3,500 | 15 | 233 |
| December | 4,600 | 17 | 271 |

Edit/block data from Muppet Wiki during year anonymous editors were blocked.

[Table from Danny Horn]

13 / 35

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Contrary Opinions! (with evidence!)

Contrary Opinions! (with evidence!)

Danny had analyzed a few Wikia wikis that blocked anonymous editing and found what appeared to be:

- ▶ A decrease in vandalism
- ▶ Stable or increasing contributions

| | Edits | Blocks | Edits/Block |
|-----------|-------|--------|-------------|
| January | 7,000 | 67 | 104 |
| February | 9,300 | 57 | 163 |
| March | 6,300 | 78 | 81 |
| April | 6,300 | 20 | 315 |
| May | 4,700 | 6 | 783 |
| June | 5,600 | 14 | 400 |
| July | 9,900 | 17 | 582 |
| August | 5,300 | 20 | 265 |
| September | 3,000 | 16 | 187 |
| October | 3,300 | 21 | 157 |
| November | 3,500 | 15 | 233 |
| December | 4,600 | 17 | 271 |

Edit/block data from Muppet Wiki during year anonymous editors were blocked.

[Table from Danny Horn]

How would accounts support public goods production?

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ How would accounts support public goods production?

This is a gross simplification, but it's consistent with theories and findings from HCI, exchange theory, and organizational communication.

Friedman and Resnick also argue that there's a complicated interplay where if the contribution costs exist, but are not high enough you might only chase away under-motivated good-faith contributors, but not the determined vandals...the point is that there are competing theories and evidence!

This is also a **real problem** faced by communities. People in the Wikia who heard we were working on this asked us to present this internally because they were engaged in serious community-wide discussions to turn off IP-editing and require accounts on all wikis.

Accounts → reputations

This is a gross simplification, but it's consistent with theories and findings from HCI, exchange theory, and organizational communication.

Friedman and Resnick also argue that there's a complicated interplay where if the contribution costs exist, but are not high enough you might only chase away under-motivated good-faith contributors, but not the determined vandals...the point is that there are competing theories and evidence!

This is also a **real problem** faced by communities. People in the Wikia who heard we were working on this asked us to present this internally because they were engaged in serious community-wide discussions to turn off IP-editing and require accounts on all wikis.

Accounts → reputations

→ accountability + trust + identification

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ How would accounts support public goods production?

How would accounts support public goods production?
Accounts → reputations
→ accountability + trust + identification

This is a gross simplification, but it's consistent with theories and findings from HCI, exchange theory, and organizational communication.

Friedman and Resnick also argue that there's a complicated interplay where if the contribution costs exist, but are not high enough you might only chase away under-motivated good-faith contributors, but not the determined vandals...the point is that there are competing theories and evidence!

This is also a **real problem** faced by communities. People in the Wikia who heard we were working on this asked us to present this internally because they were engaged in serious community-wide discussions to turn off IP-editing and require accounts on all wikis.

Accounts → reputations

→ accountability + trust + identification

**→ contributions to
communal public goods!**

This is a gross simplification, but it's consistent with theories and findings from HCI, exchange theory, and organizational communication.

Friedman and Resnick also argue that there's a complicated interplay where if the contribution costs exist, but are not high enough you might only chase away under-motivated good-faith contributors, but not the determined vandals...the point is that there are competing theories and evidence!

This is also a **real problem** faced by communities. People in the Wikia who heard we were working on this asked us to present this internally because they were engaged in serious community-wide discussions to turn off IP-editing and require accounts on all wikis.

Accounts → reputations

→ accountability + trust + identification

**→ contributions to
communal public goods!**

(e.g., Cheshire 2007; Erickson & Kellogg 2000; Kollock 1999; Ren et al. 2012;
Stuart et al. 2012; Yamagishi et al. 2009; Yu et al. 2005)

2015-10-30

└ How would accounts support public goods production?

Accounts → reputations

→ accountability + trust + identification

→ contributions to
communal public goods!

(e.g., Cheshire 2007; Erickson & Kellogg 2000; Kollock 1999; Ren et al. 2012;
Stuart et al. 2012; Yamagishi et al. 2009; Yu et al. 2005)

This is a gross simplification, but it's consistent with theories and findings from HCI, exchange theory, and organizational communication.

Friedman and Resnick also argue that there's a complicated interplay where if the contribution costs exist, but are not high enough you might only chase away under-motivated good-faith contributors, but not the determined vandals...the point is that there are competing theories and evidence!

This is also a **real problem** faced by communities. People in the Wikia who heard we were working on this asked us to present this internally because they were engaged in serious community-wide discussions to turn off IP-editing and require accounts on all wikis.

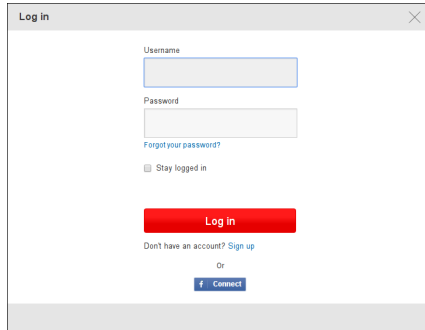
2015-10-30

Reflections on Empirical Peer Production Research

Part II: Example study: Anonedits



Danny also explained that more than 100 Wikia wikis had switched to **block anonymous editing**...



Log in

Username

Password


[Forgot your password?](#)

☐ Stay logged in

Log in

Don't have an account? [Sign up](#)

Or

 **Connect**

Danny also explained that more than **100** Wikia wikis had switched to **block anonymous editing**...

Mako promised Danny he would do a more thorough analysis and get back to him...

What happens when wikis require account registration (disallow IP-editing)?

- ▶ How much **damage and vandalism** never happens?
- ▶ How much **good content** is never contributed?

Very tricky question to answer because:

- We want a **causal** answer.
- We want to **see what's not happening** as well as what is.

- ▶ How much **damage and vandalism** never happens?
- ▶ How much **good content** is never contributed?

wikia

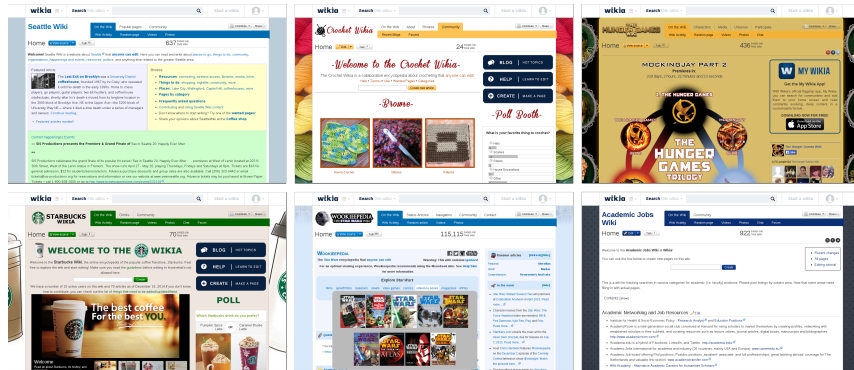
- ▶ Hosts 100,000s of publicly editable wikis
- ▶ Many of the largest wikis
- ▶ Use MediaWiki (same as Wikipedia)
- ▶ Founded in 2005 by Jimmy Wales, Angela, etc.
- ▶ Many large & small wikis are focused on fan culture

- ▶ Hosts 100,000s of publicly editable wikis
- ▶ Many of the largest wikis
- ▶ Use MediaWiki (same as Wikipedia)
- ▶ Founded in 2005 by Jimmy Wales, Angela, etc.
- ▶ Many large & small wikis are focused on fan culture

2015-10-30



All the edits. All the editors.



All the edits. All the editors.

2015-10-30



Log in

Username

Password


[Forgot your password?](#)

☐ Stay logged in

Log in

Don't have an account? [Sign up](#)

Or

 Connect

This is what account registration looks like. It takes 30 seconds. It does not require an email address. Very low barrier to entry.

- **136 wikis** blocked contributions from unregistered contributors (one day to the next)

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedit

└ Analytic Strategy: Panel Regression Discontinuity

► 136 wikis blocked contributions from unregistered contributors (one day to the next)

- ▶ **136 wikis** blocked contributions from unregistered contributors (one day to the next)
- ▶ **Within-wiki comparison** using regression discontinuity design (RDD) around the cutoff (+/- 3 months)

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Analytic Strategy: Panel Regression Discontinuity

- ▶ 136 wikis blocked contributions from unregistered contributors (one day to the next)
- ▶ Within-wiki comparison using regression discontinuity design (RDD) around the cutoff (+/- 3 months)

- ▶ **136 wikis** blocked contributions from unregistered contributors (one day to the next)
- ▶ **Within-wiki comparison** using regression discontinuity design (RDD) around the cutoff (+/- 3 months)
- ▶ Estimating the effect of the block on measures of **damage** and **quality contributions** regardless of who is contributing

In some sense, this is a weaker test than Benkler might argue. It might be that by being freed up from antivandalism work, admins can contribute more. Good contributions might still be deterred but we can at least see the effect.

- ▶ 136 wikis blocked contributions from unregistered contributors (one day to the next)
- ▶ Within-wiki comparison using regression discontinuity design (RDD) around the cutoff (+/- 3 months)
- ▶ Estimating the effect of the block on measures of damage and quality contributions regardless of who is contributing

Our measure of **damage**:

- **Reverted edits** – edits that are completely undone

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedit

└ Measures: Damage

Our measure of damage:

- Reverted edits – edits that are completely undone

2015-10-30

Reflections on Empirical Peer Production Research

└─Part II: Example study: Anonedit

└─Results: Damage

Results: Damage

We use software and tools created by WMF's own Aaron Halfaker.
We find the probability that **any** edits will be reverted declines by about 55% (70% week before to about 15% week after).

Results: Damage

| | > 0 Reverted Edits | |
|-------------|--------------------|--------|
| (Intercept) | 3.52 | (0.79) |
| Blocked | -2.64 | (0.28) |
| Window Week | 0.12 | (0.07) |

| | > 0 Reverted Edits | |
|-------------|--------------------|--------|
| (Intercept) | 3.52 | (0.79) |
| Blocked | -2.64 | (0.28) |
| Window Week | 0.12 | (0.07) |

We use software and tools created by WMF's own Aaron Halfaker.

We find the probability that **any** edits will be reverted declines by about 55% (70% week before to about 15% week after).

Two measures of **quality**:

- **Unreverted edits**

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Measure: Quality

Measure: Quality

Two measures of quality:

- Unreverted edits

- First we look at edits that are not reverted. Better than just total edits in some ways.
- One measure of quality embraced by Wikipedians.
- Originally developed/validated as WikiTrust (Luca Alfaro) and now implemented/maintained by Aaron Halfaker as part of MediaWiki Utilities Python package.
- Intuition is that tokens that stick longer are probably better.
- We parse seven edits ahead (higher number doesn't matter) and just count the total for every edit. Super skewed, so use log-transformations everywhere.

Two measures of **quality**:

- **Unreverted edits**
- **Persistent word revisions**
 - a measure of both quality and productivity. i.e., words that stick around longer are better

| Revisions | PWR |
|-------------------------------|-----|
| 1: Apples are red. | 6 |
| 2: Apples are blue. | 0 |
| 3: Apples are red. | 0 |
| 4: Apples are tasty and red. | 1 |
| 5: Apples are tasty and blue. | 0 |

Explanation of PWR. (Aaron Halfaker)

Measure: Quality

2015-10-30

Two measures of quality:

- **Unreverted edits**
- **Persistent word revisions**
 - a measure of both quality and productivity. i.e., words that stick around longer are better

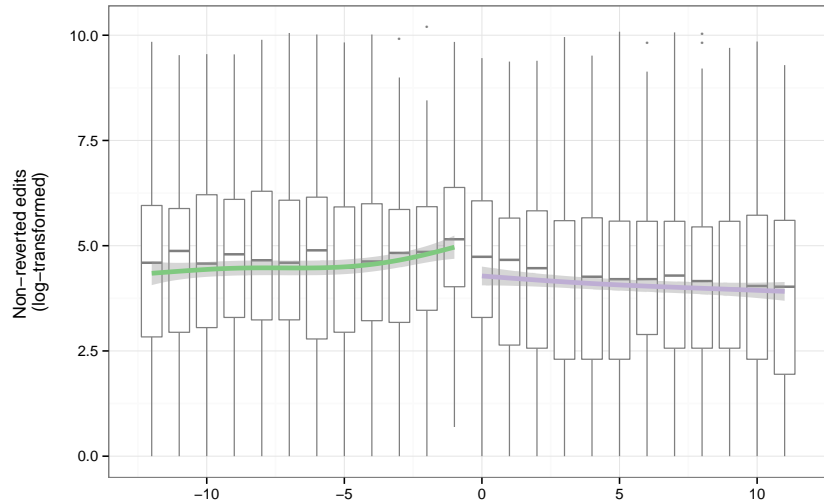
| Revisions | PWR |
|-------------------------------|-----|
| 1: Apples are red. | 6 |
| 2: Apples are blue. | 0 |
| 3: Apples are red. | 0 |
| 4: Apples are tasty and red. | 1 |
| 5: Apples are tasty and blue. | 0 |

Explanation of PWR. (Aaron Halfaker)

- First we look at edits that are not reverted. Better than just total edits in some ways.
- One measure of quality embraced by Wikipedians.
- Originally developed/validated as WikiTrust (Luca Alfaro) and now implemented/maintained by Aaron Halfaker as part of MediaWiki Utilities Python package.
- Intuition is that tokens that stick longer are probably better.
- We parse seven edits ahead (higher number doesn't matter) and just count the total for every edit. Super skewed, so use log-transformations everywhere.

Results: Quality – Non-Reverted Edits

Full sample (n=136 wikis):
Non-reverted edits (with GAM smoother) around cutoff



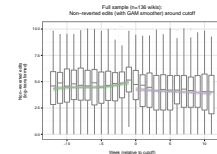
Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Results: Quality – Non-Reverted Edits

2015-10-30

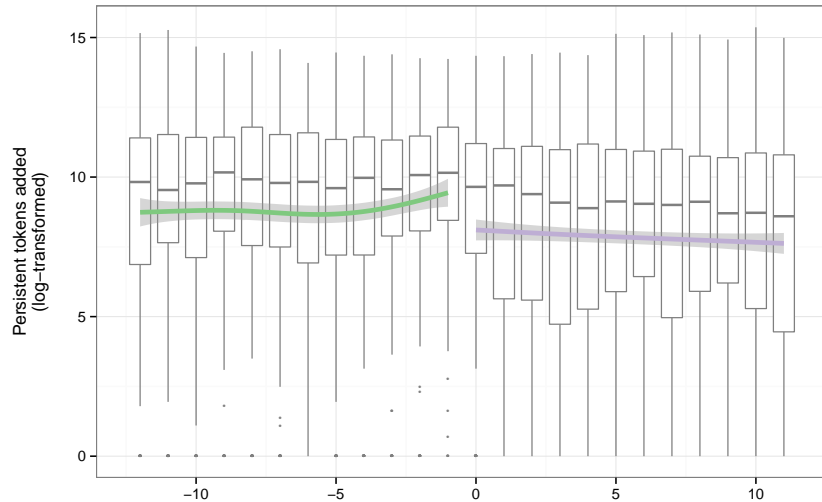
Results: Quality – Non-Reverted Edits



We predict that this would translate to going from about 118 non-reverted edits in the week before the cutoff to about 85 non-reverted edits in the week after (30%).

Results: Quality – Persistent Word Revisions

Full sample (n=136 wikis):
Edit quality (with GAM smoother) around cutoff



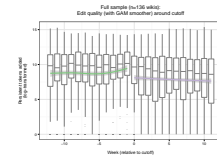
Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Results: Quality – Persistent Word Revisions

2015-10-30

Results: Quality – Persistent Word Revisions

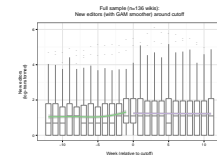
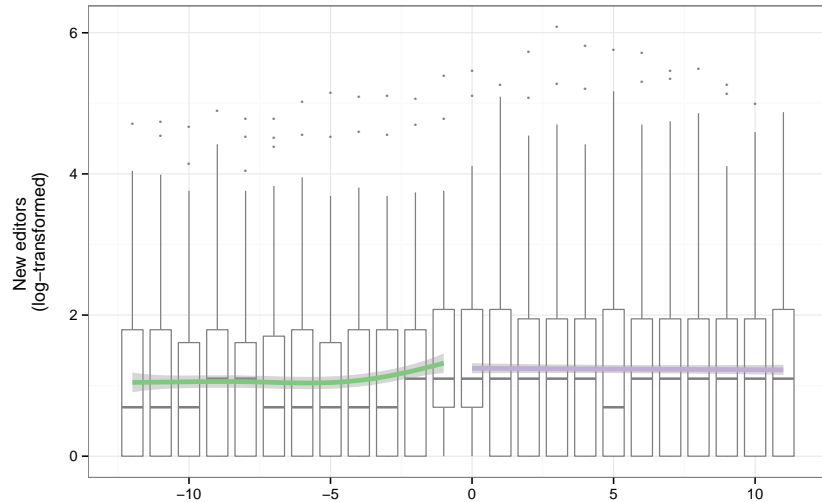


Summary of findings across all wikis.

- So much more data. Skewed DV with many zeroes. So, we model the discontinuity using a negative binomial specification. Wiki and week fixed effects.
- A large, significant negative effect (62% drop) on persistent tokens added. 95% CI puts it between -32% and -91% drop.

Results: New Editors

Full sample (n=136 wikis):
New editors (with GAM smoother) around cutoff



New accounts that make at least one edit.

No meaningful change. Before the cutoff, we predict about 1.3 new editors per week; after the cutoff about 1.8 new editors.

Every editor matters, but it's clear that this is not the kind of increase that we would see if people who had formerly been making IP edits all registered accounts. Mostly, they just go away.

Results are Robust!

Results are robust to:

- ▶ Multiple model specifications
- ▶ Dropping influential observations
- ▶ Different analytic windows
- ▶ Dropping contributions from administrators
- ▶ Limiting analysis only to newer contributors
- ▶ “Placebo” tests show no effect at other time points

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Results are Robust!

Results are Robust!

Results are robust to:

- ▶ Multiple model specifications
- ▶ Dropping influential observations
- ▶ Different analytic windows
- ▶ Dropping contributions from administrators
- ▶ Limiting analysis only to newer contributors
- ▶ “Placebo” tests show no effect at other time points

Requiring accounts deters contributions:

- ▶ **55% decrease** in probability of any reverts (damage).
- ▶ **30% decrease** in non-reverted edits (quality).
- ▶ **60% decrease** in persistent word revisions (quality).

Few people make the effort to register new accounts:

- ▶ New editors per week **increases by .5 editors**.

2015-10-30

Requiring accounts deters contributions:

- ▶ **55% decrease** in probability of any reverts (damage).
- ▶ **30% decrease** in non-reverted edits (quality).
- ▶ **60% decrease** in persistent word revisions (quality).

Few people make the effort to register new accounts:

- ▶ New editors per week **increases by .5 editors**.

Results are within the range of previous (unpublished) experimental evidence from Wikipedia.

Takeaways

- Support for transaction cost approach.

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Takeaways

► Support for transaction cost approach.

Takeaways

- ▶ Support for transaction cost approach.
- ▶ But also evidence that barriers can enhance the signal and may (on balance) increase quality.

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

└ Takeaways

- Takeaways
- ▶ Support for transaction cost approach.
 - ▶ But also evidence that barriers can enhance the signal and may (on balance) increase quality.

Further analysis:

Identify networks of core contributors and test for effects on their participation.

- ▶ Qualities/quantities of contribution.
- ▶ Survival (in terms of editing activity).

2015-10-30

Reflections on Empirical Peer Production Research

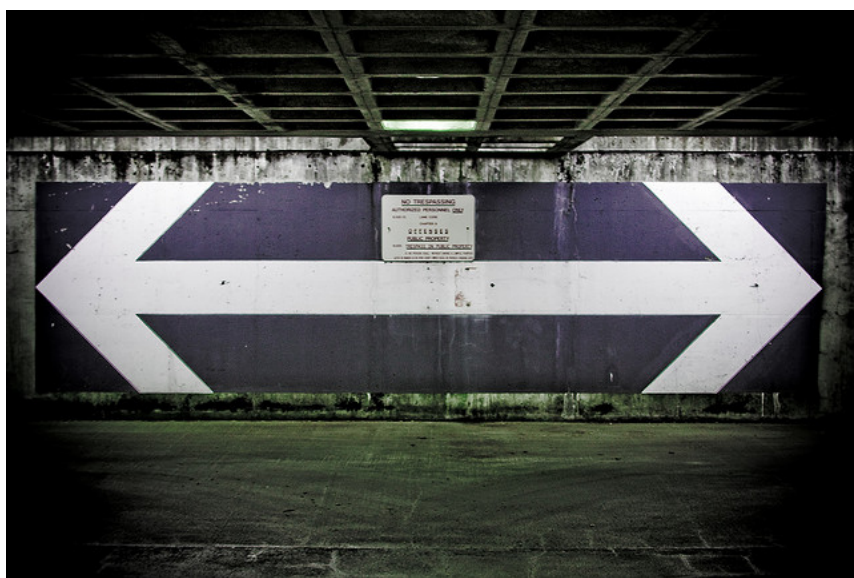
└ Part II: Example study: Anonedits

└ Further analysis:

Further analysis:

Identify networks of core contributors and test for effects on their participation.

- ▶ Qualities/quantities of contribution.
- ▶ Survival (in terms of editing activity).



A worthwhile trade-off?

2015-10-30

Reflections on Empirical Peer Production Research

└ Part II: Example study: Anonedits

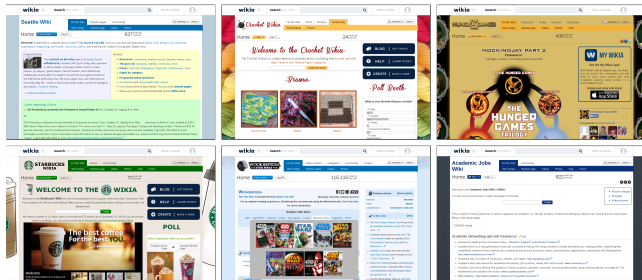


A worthwhile trade-off?

It depends on a number of tradeoffs:

- Do you have a principled objection to requiring accounts?
- How costly is removing tokens? If most reverts are done by bots, it might be extremely low which would tip the scale.

Advantages of observational population-level comparison



- ▶ Enormous **between-wiki variation** on our measures
- ▶ Increased **precision** that comes from using larger datasets
- ▶ Enhanced **internal validity** from causal identification using observational data

Reflections on Empirical Peer Production Research

Implications and Challenges for Future Work

Advantages of observational population-level comparison



- ▶ Enormous **between-wiki variation** on our measures
- ▶ Increased **precision** that comes from using larger datasets
- ▶ Enhanced **internal validity** from causal identification using observational data

2015-10-30



- Coarse measures \neq participant experiences

2015-10-30



► Coarse measures \neq participant experiences

- we don't evaluate content of contributions or participant experiences very deeply (a tradeoff typical of large-scale comparative organizational research).
- May be systematically different effects in different types of organizations – masked by average effects (e.g., evidence that an incentive changed some types of remixes, but not others, in scratch)



- ▶ Coarse measures \neq participant experiences
- ▶ Different types of projects may respond differently

2015-10-30

└ Implications and Challenges for Future Work

└ Limitations



- ▶ Coarse measures \neq participant experiences
- ▶ Different types of projects may respond differently

- we don't evaluate content of contributions or participant experiences very deeply (a tradeoff typical of large-scale comparative organizational research).
- May be systematically different effects in different types of organizations – masked by average effects (e.g., evidence that an incentive changed some types of remixes, but not others, in scratch)
- Comparative analysis is great, but cross-platform (wikia, wikimedia, stackexchange, zooinverse) comparison is difficult.



- ▶ Coarse measures \neq participant experiences
- ▶ Different types of projects may respond differently
- ▶ Generalizability of intervention? Wikia? wikis?

2015-10-30

└ Implications and Challenges for Future Work

└ Limitations



- ▶ Coarse measures \neq participant experiences
- ▶ Different types of projects may respond differently
- ▶ Generalizability of intervention? Wikia? wikis?

- we don't evaluate content of contributions or participant experiences very deeply (a tradeoff typical of large-scale comparative organizational research).
- May be systematically different effects in different types of organizations – masked by average effects (e.g., evidence that an incentive changed some types of remixes, but not others, in scratch)
- Comparative analysis is great, but cross-platform (wikia, wikimedia, stackexchange, zooinverse) comparison is difficult.

- ▶ Good quasi-experiments are hard to find
- ▶ Randomize groups or organizations?
- ▶ Most platforms controlled by firms which don't share data widely
- ▶ Use exhaustive data to dig deeper into individual experiences

2015-10-30

- ▶ Good quasi-experiments are hard to find
- ▶ Randomize groups or organizations?
- ▶ Most platforms controlled by firms which don't share data widely
- ▶ Use exhaustive data to dig deeper into individual experiences

- good quasi-experiments are hard to find
- randomly assigning groups or organizations is still relatively rare
- most platforms are still controlled by firms who aren't interested in sharing data widely
- Using data that is uniquely both broad and deep to dig into content of contributions and context of organizational-level effects in terms of individual experiences.



Thank you!

makohill@uw.edu

aaronshaw@northwestern.edu

communitydata.cc

2015-10-30

Reflections on Empirical Peer Production Research

└ Implications and Challenges for Future Work

Thank you!

makohill@uw.edu
aaronshaw@northwestern.edu

communitydata.cc