# Network Structure, Efficiency, and Performance on WikiProjects

## Edward L. Platt, Daniel M. Romero University of Michigan School of Information 2018-06-27 ICWSM













## **Networked Collaboration**

- Lab Experiments (Kearns, 2012)
- Simulations (Lazer & Friedman, 2007; Mason et al., 2008; Mason & Watts, 2012; Barkoczi & Galesic, 2016)

# 1. WikiProjects

- 2. Efficiency & Performance
- 3. Coeditor Networks
- 4. Agent-based model

5. Conclusion

# WikiProjects



#### Talk:Knitting

From Wikipedia, the free encyclopedia



**Knitting** is a former featured article candidate. Please view the links under Article milestones below to see why the nomination failed. For older candidates, please check the archive.

#### **Article milestones**

Date	Process	Result
December 16, 2006	Featured article candidate	Not promoted
March 26, 2007	Peer review	Reviewed
April 7, 2007	Good article nominee	Not listed

Current status: Former featured article candidate



Knitting has been listed as a level-4 vital article in Technology. If you can improve it,

please do. This article has been rated as B-Class.

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This article is within the scope of **WikiProject Textile Arts**, a collaborative effort to improve the coverage of

textile arts on Wikipedia. If you would like to participate,

please visit the project page, where you can join the discussion and see a list of open tasks.



- This article has been rated as **B-Class** on the quality scale.
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- This article has been rated as Top-importance on the importance scale.



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#### Wikipedia:WikiProject Textile Arts

From Wikipedia, the free encyclopedia

#### About us [edit]

This project aims to better organize information in articles related to Textile arts on Wikipedia. A major problem is organizing the vast amount of information that has been and continues to be collected. A primary goal of this project is to collect and organize this information and make it accessible to everyone, regardless of their skill level.

If you would like to help, feel free to add yourself to the list of participants, or just look over the How you can help section below. Also of interest is the Textile Arts Portal associated with this project.

#### Concrete goals [edit]

 Create and perfect articles on the fundamental topics in textile arts, with a particular focus on subjects that are most commonly taught. The perfect article is complete, but accessible to a secondary school student.



#### **Project standards**

Portal: Shortcuts: Project template: Collaboration of the Month: Current TA COTM Member userbox: {{User Textile Arts}}

*Li* Textile Arts Portal WP:TA, WP:WPTA {{WikiProject Textile Arts}} Q

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## **Measuring Performance**



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- $r_{t}$  = Number of revisions between t and previous transition.

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## **Coeditor Networks**











Photos: Wikipedians of the Year, CC-BY-SA by Wikipedia contributors

## **Coeditor Networks**



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## **Coeditor Networks**



## **Coeditor Degree**





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## Conclusions

- WikiProjects exhibit an imperfect efficiency-performance trade-off.
- Low-degree WikiProjects exhibit both higher efficiency and higher performance.
- In agent-based models, degree-dependence varies with learning behavior.

## **Open Questions and Future Work**

- Are correlations causal?
- Time-based analysis
- Experiments
- Other online communities

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# Network Structure, Efficiency, and Performance on WikiProjects

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