

# Investigating Technical Debt Folklore

Shedding Some Light on Technical  
Debt Opinion



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# Abstract

Our rationale is that if any folklore is either widely agreed to or widely disagreed with by a large group of knowledgeable people, then those propositions are more likely to be good candidates for future research.

**Folklore can sometimes hide valuable information originating from people's experience that, if evaluated, could contribute positively to the study of the area.**

# Research Goal and Questions

- **Goal:** identify and understand what folklore, at this moment, seems to make sense and constitute good candidates for more detailed investigation
- **Research Questions:**
  - Tendency: With which folklore statements did participants agree or disagree?
  - Consensus: How strong is the consensus on each of the folklore statements?

# Study Procedure

- Two phases
  - **1: Identifying TD Folklore Statements**
    - search was performed on online websites, blogs, and published papers
    - looked for any statement that might be subject to opinion, or that might be a good candidate for further investigation
    - 14 potential TD folklore statements were selected

# Study Procedure

- Two phases
  - **2: Evaluating TD Folklore Statements**
    - Online Survey + Paper Survey
    - Participants were invited to indicate their level of agreement for each of TD folklore statements

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1: strongly disagree”

“5: strongly agree  
(paper survey – 6: I don’t know)

- 37 subjects answered the survey
- Compared the results

# Results and Discussion

- - #2 - Technical debt usually comes from short-term optimizations of time without regard to the long-term effects of the change.
  - #4 - Working off debt” can be motivational and good for team morale.
  - #8 - If technical debt is not managed effectively, maintenance costs will increase at a rate that will eventually outrun the value it delivers to customers.
  - #12 - Technical debt should not be avoided, but managed.
  - #13 - Not all technical debt is bad.
- **Statements #2, #4, #8, #12 and #13 received general agreement and high to medium consensus**
  - which suggests that these are good candidates for further scientific studies

# Results and Discussion

- Mixed answers (no agreement or disagreement)

- #1 - Accruing technical debt is unavoidable on any non-trivial software project
- #3 - It is very difficult for software developers to see the true effect of the technical debt they are incurring.
- #5 - The root cause of most technical debt is pressure from the customer.
- #6 - Unintentional debt is much more problematic than intentional debt.
- #7 - The individuals choosing to incur technical debt are usually different from those responsible for servicing the debt.
- #9 - No matter what, the cost of fixing technical debt increases the longer it remains in the system.
- #10 - Paying off technical debt doesn't result in anything the customers or users will see.
- #11 - The biggest problem with technical debt is not its impact on value or earnings, but its impact on predictability.

- This indicate that the statement is not commonly believed, depends on many factors, or that the statement itself is not yet formulated as precisely as needed.

# Summary

- A study investigating TD “folklore”
- The authors compiled a list of 14 folklore statements
- We tested the consensus by surveying software practitioners on their agreement with each folklore statement

# Conclusion

- The results provide some evidence and motivation for exploring the following issues in TD research:
  - Methods and tools for finding unintentional, and therefore likely hidden, TD in source code and other artifacts
  - Methods and techniques for managing and tracking TD
  - Investigation of the “sweet spot” between an acceptable and healthy level of debt, and a level that is approaching dangerous
  - The relationship between TD and team morale and motivation
  - Exploring the differences, in both cause and effect, between intentional and unintentional TD

**THANK YOU!**

Questions?