Maintainability

Operability: Good data systems can help as well

- Providing visibility into the runtime behavior and internals of the system, with good monitoring
- Providing good support fro automation and integration with standard tools
- Avoiding dependency on individual machines (allowing rolling-upgrade)
- Providing good documentation and an easy-to-understand operational model
- Providing good default behavior, but also giving administrators the freedom to override defaults when needed
- Self-healing where appropriate, but also giving administrators manual control over the system state when needed
- Exhibiting predictable behavior, minimizing surprises

Maintainability

Simplicity: Managing Complexity

- A big ball of mud
  - explosion of the state space
  - tight coupling of modules
  - tangled dependencies
  - inconsistent naming and terminology
  - hacks aimed at solving the performance problems
  - special-casing to work around issues elsewhere
- Good abstraction can hide complexity behind a clean and simple-to-understand facade
  - e.g., high-level programming language, SQL