​ Technical debt refers to the cost of future rework caused by choosing quick, short-term solutions instead of more efficient long-term approaches. It is common in software development when teams prioritize speed over maintainability.

Examples of Technical Debt:

* Deliberate Technical Debt - A company may release a minimum viable product [MVP] quickly to gather user feedback, knowing that the code will require refactoring later.
* Inadvertent Technical Debt - Poor documentation, lack of testing, or using an inefficient platform can unintentionally increase maintenance costs and limit future flexibility.

Advantages:

* Faster Time-to-Market: Technical debt allows companies to release products quickly, gaining a competitive edge and gathering early user feedback.
* Resource Allocation: By deferring complex development, teams can focus on immediate priorities, optimizing productivity.

Disadvantages:

* Higher Maintenance Costs: Accumulating technical debt can lead to higher maintenance efforts in the future. Issues like poor code design and inadequate documentation may require significant resources, diverting attention from new development initiatives.
* Performance Issues: Unmanaged technical debt can result in unstable software performance, including bugs and system crashes, which can negatively impact user experience and customer satisfaction.
* Scalability Challenges: Large amounts of architectural debt can make it challenging to scale and extend software in the future, potentially forcing companies to redesign or rewrite entire products, leading to significant costs.

Managing technical debt effectively involves understanding trade-offs, making conscious decisions about when to take it on, and having a clear plan for addressing it later. Balancing speed with long-term sustainability ensures that short-term gains do not compromise future growth.

Sources:

1. <https://www.machonedigital.com/blog/what-is-technical-debt-definition-examples-and-types>
2. <https://propeller.com/blog/technical-debt-the-good-the-bad-and-the-manageable>