Standards
Advantages and disadvantages

Software Engineering Standards
Advantages

1. Standards are used to train software engineers and software project participants (e.g. project manager, QA),
2. Standards define common terminology to avoid contradictions, confusion and communication problems,
3. Since standards are developed by experts and practitioners, they capture knowledge and lessons learned by them,
   • Do have to repeat the mistakes of the past
4. Standards developed by practitioners document the practices of the software engineering community and not the opinion of a person or an organization,
5. Standards are updated regularly (5 years) to capture the latest developments in the field,
Software Engineering Standards
Advantages

6. Standards enable the rapid development of new technologies by defining communication protocols and interface facilitating the portability of applications,
7. Standards can facilitate the selection of qualified subcontractors (e.g. ISO 9000, ISO 15504),
8. Standards can be used to define a development process or maintenance, (e.g. CMM),
9. Standards protect the public,
10. Standards indicate good practice to adopt,
11. Describe the ‘what’ not the ‘how’ to let organisations select the appropriate practices,
12. Protect the software engineers who use the practices of standards

Software Engineering Standards
Advantages

13. Specify techniques to develop software faster, cheaper, better,
14. Provide a systematic treatment of “ilities”,
   • ISO 9126
15. Clarify the roles and interfaces of participants
16. Clarify the types and contents of documentation
Software Engineering Standards
Disadvantages

1. Focusing too much on the details of standards and forgetting the end user
2. Using too many standards for software development
3. Slow evolution of standards for fast evolving technologies (web tech)
4. Misinterpretation of the standard
5. Literal application of the standard (forgetting the intent)
6. Too many standards imposed by a customer
7. Contradiction between the standards imposed

Software Engineering Standards
Disadvantages

8. Wrong context (military standard for commercial application)
9. Very small projects not being able to adapt standards to their needs
10. Be satisfied with complying to a standard, forgetting the goals
11. Adding tasks that do not contribute to the quality
12. Define ‘what’ to do and do not define ‘how’ to do,
13. Difficult to demonstrate ‘savings’ when using standards,
14. Expensive to buy for many organisations,
Software Engineering Standards

Disadvantages

15. **Difficult to understand**,  
16. **Difficult to adapt** in very small organisations since they have often been developed by delegates from large organisations,  
17. Difficult to demonstrate an **increase of quality**,  
18. Not having the **competencies** to understand and apply the standards,  
19. **Bureaucratic**, generating large quantity of **documents**,  
20. Not enough **support** to apply them,  
21. Need **many standards** to develop a good process,  
22. Not enough **guidance** to apply them