
Future Trends in SEPM

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“Software reuse”

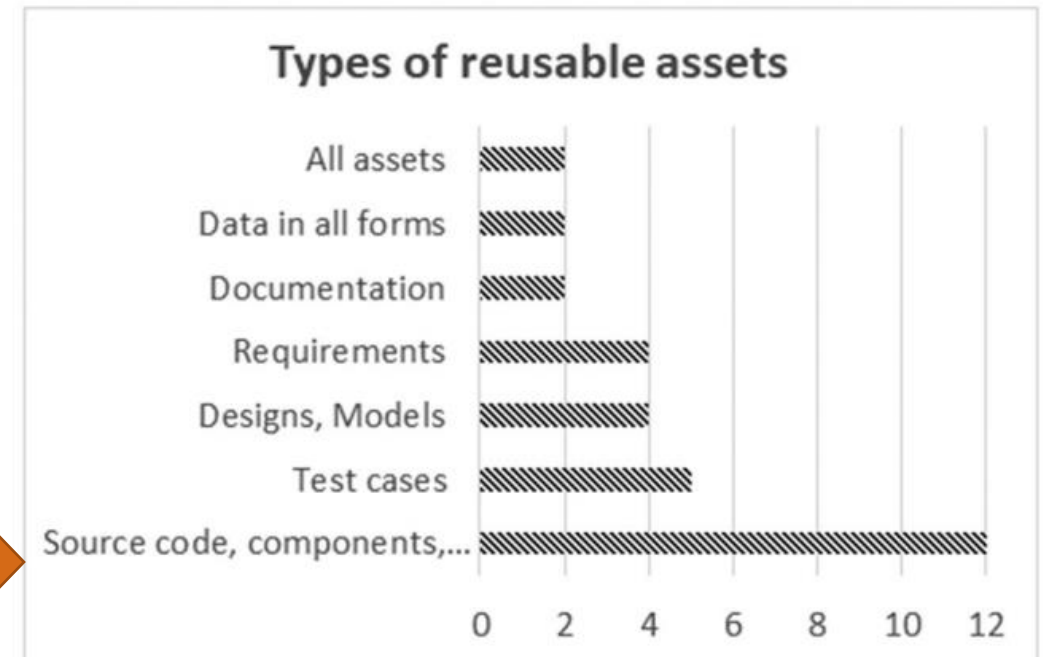
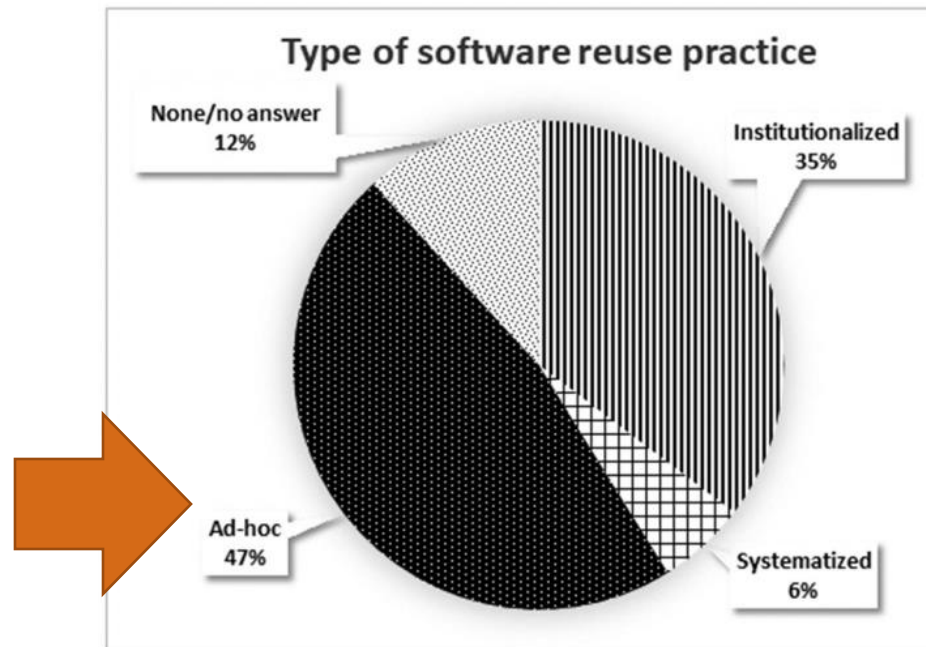


Capilla et. al. 2019...

Survey conducted on 120 people

Results:

- Language does not affect reuse
- People prefer to reuse rather than build from scratch
- Majority agreed reuse influences the adoption of new architectural styles
- Nearly half of them adopted an ad-hoc reuse practice



Compare results to 1993...

Question Survey 1993	Response	Question Survey 2019	Response
How widely reused are common assets?	Unix tools, Document templates, X widgets, Ada math library	Which reusable assets are actually used?	Source code, components, libraries, test cases, designs, requirements
Does programming language affect reuse?	Divided	Does the programming language affect reuse?	Yes (47%)
Do developers prefer to build from scratch or to reuse?	Build their own software	Do developers prefer to build from scratch or to reuse?	Reuse (76%)
Does perceived economic feasibility influence reuse	High perception of economic viability correlated with source code reuse	Is reuse perceived to be economically beneficial for your organization?	Yes (82%)
Do recognition rewards increase reuse?	Rewards for reuse are rare	Do recognition rewards increase reuse in your organization?	Yes (29%)
Does a common software process promote reuse?	Disagree in most cases	To what extent is software reuse integrated into other software engineering processes in your organization?	Fully integrated (41%), only some activities (47%), weakly integrated (12%)
Do legal problems inhibit reuse?	Not an impediment for most respondents	Do legal or license problems inhibit reuse?	No (71%)
Does having a reuse repository improve code reuse	Having reuse repositories does not improve levels of code reuse	Do you think repositories increase reuse?	Yes (88%)
Is reuse more common in certain industries	Software (34%), aerospace (25%), manufacturing (14%)	In which application types / domains do you think reuse is more promising?	Automotive (19%), aerospace (12%), other domains (15)

Developers tend to reuse much more than in 1993. And the reused assets include more source codes and components nowadays.

Impacts of software reuse in SEPM

Quality and security issues?

References

Capilla, R., Gallina, B., Cetina, C., & Favaro, J. (2019). Opportunities for software reuse in an uncertain world: From past to emerging trends. *Journal of software: Evolution and process*, 31(8), e2217.
