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Software Engineering Project Management

**Important points**

“Organizing a software engineering project involves developing an effective and efficient organizational structure for assigning and completing project tasks and establishing authority and responsibility relationships among tasks.” [195]

“The manager is responsible for reviewing the project requirements, defining the various tasks to be accomplished, and sizing and grouping those tasks into logical entities.” [196]

“Regardless of who selects the organizational structure, it should match the needs and goals of the project, and the project environment should facilitate communication among organizational entities.” [197]

“A functional organization is a project structure built around a software engineering function or group of similar functions.” [198]

“Within the larger organizational structures discussed above, a software development project is typically organized around a number of software engineering teams.” [199]

“One of the cardinal rules of project management is that on any team of five or more individuals, the team leader (manager) is a full-time job; thus, the team leader should not be expected to carry any share of the ‘technical’ work.” [200]

“Once the tasks are identified, sized, and grouped, and the organizational structure has been specified, the project manager must create job titles and position descriptions, with which to recruit personnel for the project.” [201]

“A major issue in staffing a project with capable people is that programming and software engineering skills vary greatly from individual to individual.” [202]

“Deficiencies in any of these factors can offset by strengths in other factors. For example, deficiencies in education can be offset by better experience, a particular type of training, or enthusiasm for the job. Serious deficiencies should be cause for corrective action.” [203]

“One of the purposes of providing general development for the employee is to improve organizational effectiveness. For example, local university courses and degree programs in any worthwhile skill, funded by the company, will improve employee morale, aid in employee retention, and broaden the skill base available to the company. Even indirect skills such as typing and communication should be enhanced.” [204]

“Project managers should document their staffing pan and evaluation and training policies for all to read.” [205]

**Disagreements**

“This inability to accurately predict the productivity of individuals in a project undermines our ability to accurately estimate the cost and schedule of software projects.” [202]

While this is a true statement, it is incomplete. There is no mention of other factors at all. Possibly the largest factor that undermines our ability to accurately estimate software projects is that the measurement system itself is flawed. We measure things in lines of code, or sometimes in function points. The reason we do this is because these things are quantifiable. They are the only number measurements we have, and so we work with them as best we can. Not only are these things difficult to predict accurately, but they also do not transfer from project to project in terms of time or money. The inability to accurately predict the developers’ productivity will indeed throw a wrench in the schedule and budget, but even if this were to be accurately predicted the project would still very likely be overschedule and over budget due to the unreliability of accurately measuring the size and scope of the project in the first place.

**Questions**

I understood everything in the article.