Week 7 Reading Notes

Different Forms of Software Testing Techniques for Finding Errors by **Mohd. Ehmer Khan**

Testing Method	Description	Sub-category	Pro	Con
Correctness Testing	The behavior of the software, right or wrong	White box testing(study the internal flow and logic)	Error in hidden codes are revealed	Expensive; Miss out cases omitted in the code
		Black box testing (how well components conforms requirements)	No bond of what to test; Test perception is simple; Programmer and tested are independent; More effective on larger unit	Test cases are hard to design; Can only test a small number of possible input; Some park of the back end are not tested at all
		Grey box testing (in between black and white)		
Performance Testing	independent discipline and involves all the phases as the main stream testing life cycle i.e. strategy, plan, design, execution, analysis and reporting. Performance testing is further divided into load testing and stress testing.	Load Testing(if can handle the anticipated no. of user) 1. Manual Testing 2. Automated Testing		
		Stress Testing(performance beyond the normal load/ limit)	Testing robustness No other type of test can find defect	Not able to test the correctness of a system. 2. Defects are reproducible. 3. Not representing real world situation.

Reliability Testing	Discovers all the failure of the system and removes them before the system deployed. . How software components perform under stressful environment conditions			
Security Testing	Only authorized person have access, and only to the level that is authorized. Confidentiality, integrity, authentication, availability, authorization	Security auditing and scanning; vulnerability scanning, risk assessment; posture assessment; penetration testing; ethical hacking		

The real success factors

Factors that correlate to on-time performance are:
F1 Adequacy of company-wide education on the concepts of risk management.
F2 Maturity of an organisation's processes for assigning ownership of risks.
F3 Adequacy with which a visible risk register is maintained.
F4 Adequacy of an up-to-date risk management plan.
F5 Adequacy of documentation of organizational responsibilities on the project.
F6 Keep project (or project stage duration) as far below 3 years as possible (1 year is better).

On the other hand, those that correlate to on-cost performance are:
F7 Allow changes to scope only through a mature scope change control process.
F8 Maintain the integrity of the performance measurement baseline.

F9 The existence of an effective benefits delivery and management process that involves the mutual co-operation of project management and line management functions.

F10 Portfolio- and programme management practices that allow the enterprise to resource fully a suite of projects that are thoughtfully and dynamically matched to the corporate strategy and business objectives.

F11 A suite of project, programme and portfolio metrics that provides direct ‘‘line of sight’’ feedback on current project performance, and anticipated future success, so that project, portfolio and corporate decisions can be aligned. Since corporations are increasingly recognizing the need for ‘‘upstream’’ measures of ‘‘downstream’’ financial success through the adoption of reporting against such devices as the ‘‘balanced scorecard’’ [10], it is essential for a similar set of metrics to be developed for project performance in those areas where a proven link exists between project success and corporate success. For the project management community, it is also important to make the distinction between project success (which cannot be measured until after the project is completed) and project performance (which can be measured during the life of the project). No system of project metrics is complete without both sets of measures (performance and success) and a means of linking them so as to assess the accuracy with which performance predicts success.

F12 An effective means of ‘‘learning from experience’’ on projects, that combines explicit knowledge with tacit knowledge in a way that encourages people to learn and to embed that learning into continuous improvement of project management processes and practices.