KNOWLEDGE TRANSFER IN SOFTWARE TESTING: A CASE STUDY ON A COMPANY OPERATING IN FINLAND, ESTONIA AND CHINA

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Knowledge transfer

A process where a group of actors influences one other by using their competence or experience (Argote & Ingram 2000)

Knowledge transfer takes place between groups and/or individuals

Knowledge transfer is about distributing information, knowledge, experience and competence, and utilizing it in ones activities

Five characters (Gupta & Govindarajan 2000):

- the value of information
- motivation to distribute it
- existence and usability of transfer channels
- motivation to utilize the information
- ability to exploit, assimilate and apply it

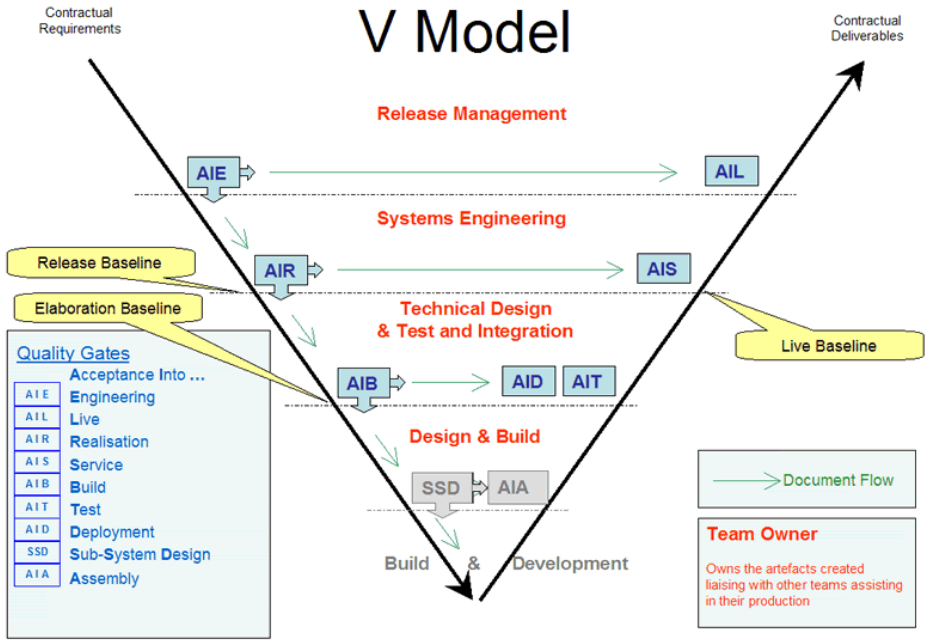
Software testing

Knowledge intensive process with multiple actors work together to find errors, failures, defects, faults, inconsistencies and bugs from code or documentation

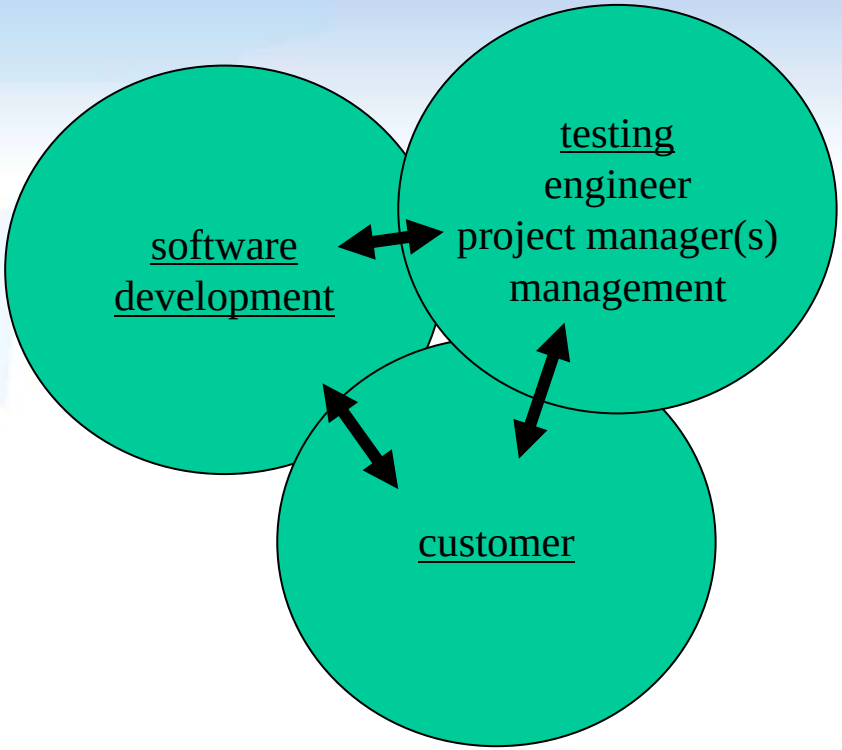
Testing endeavours the identification of defects before the software is released, ensuring its quality

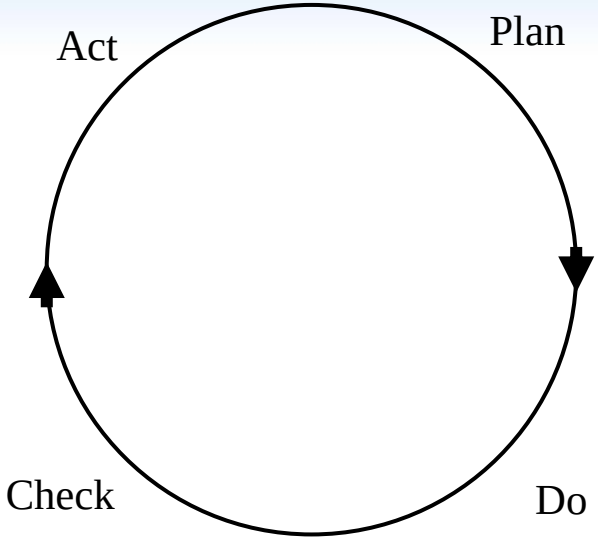
Testing often consists of several phases

unit testing, systems testing, regression testing, …



Stakeholders and work process





Research methods

A small case study (one company, nine sites, four countries)

A web-questionnaire about the challenges of knowledge transfer was sent to 76 people

33% answering rate = 25 respondents

- Estonia 12 (46% answered)
- Finland 9 (32% answered)
- China 4

1/3 women, 2/3 men

age: <25y 40%; 25-35y 40%

work experience: <1y 50%; 1-2y 33%

engineers 80%; senior engineer 10%; project manager 10%

Findings (1/2)

1. Communication problems

   no major communication problems in the organization (enough, no sitting on info) some unwillingness to share info

2. Trust

   people trusted each other; some (Fin & Est) had experienced some damages when sharing info (betrays?)

3. Personality

   two opposite views: either no personal related barriers (½) or barriers (½) -> is meaningful to some yet the attempt to share knowledge is more important; no difference between the sites

Findings (2/2)

4. Motivation

   willingness to share knowledge is acknowledged; no fear to reveal incompetence

   importance of motivation in knowledge sharing ½ agreed, ½ disagreed

   personal rewards: positive impact in Fin & Chi, Est disagreed

   group performance rewards: all agreed

5. Testing process & tools

   Est: info does not flow well; Fin & Chi: flows well

   all: well functioning knowledge sharing that is supported by tools

   -> knowledge flows take place within the sites, not cross borders

6. Location & organizational culture

   Est & Chi: no problem with English, org. culture support

   Fin: 75% disagreed (resistance to change?)

Limitations

one case, small sample

methodological problems (questionnaire)

Conclusions

nothing new but replicates existing studies (similar to Disterer 2001)

understanding the differences between culturally homogeneous sites (Fin & Est) in contrast to Chi

perceptions on personality, communication problems & trust is uniform across the sites

problems with knowledge flows (in Est): not due to technologies, tools or processes, nor cultural background or language, nor work context

but inappropriate assimilation of organizational culture

a need for creating and maintaining a spirit of a community within the organization, not just practicalities

in words of Gupta & Givindarajan (2000) the characters of knowledge transfer are not perceived in a congruent manner across the sites

questions? comments? opinions? critique?

thank you for your attention!