Table 4. Competencies of software engineers and required level of expertise of each competency per role

COMPETENCIES OF SOFTWARE ENGINEERS	Roles (see table 3)									
	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*
T e c h n i c a l s										
Technical knowledge										
Analytical and learning capability in the following areas:										
Project management	3	2	2	2	2	2	2	2	2	2
Requirement analysis	2	3	2	2	2	2	2	2	2	2
Software design	2	2	3	2	2	2	2	2	2	2
Programming	2	2	2	3	2	2	2	2	2	2
Validation and verification tests	2	2	2	2	3	2	2	2	2	2
Configuration management	2	2	2	2	2	3	2	2	2	2
Quality	2	2	2	2	2	2	3	2	2	2
Tests	2	2	2	2	2	2	2	3	2	2
Documentation	2	2	2	2	2	2	2	2	3	2
Maintenance	2	2	2	2	2	2	2	2	2	3
Use of technology										
Evaluation and selection of tools to support influenced areas	3	3	3	3	3	3	3	3	3	3
Adaptation and use of tools to support influenced areas	3	3	3	3	3	3	3	3	3	3
S o c i a l s										
Interpersonal relations										
Communication	3	3	2	2	3	2	3	3	3	2
Adaptability	3	3	2	2	3	2	3	2	2	2
Aptitude to relate	3	3	2	2	2	2	2	2	2	2
Sociability	3	3	2	2	3	2	3	2	3	2
Interpersonal sensibility	3	3	2	2	3	2	3	2	3	2
Cooperation and work in team										
Understanding of the dynamics of debates and the follow-up of an agenda	3	3	2	2	2	2	2	2	2	2
Desires to contribute	3	2	2	2	2	2	2	2	2	2
Leadership	3	2	2	2	2	2	2	2	2	2
Motivation	2	2	2	2	2	2	2	2	2	2
Decision making to allow different opinions	3	3	2	2	3	2	3	3	2	2
The skill of presenting ideas and listening to the ideas of others	3	3	2	2	3	2	3	3	2	2
Orientation to achievement	2	2	2	2	2	2	2	2	2	2
Handling and solving conflicts										
Effective managing of the emotions	3	3	2	2	3	2	3	3	2	2
Aptitude to listen to others	3	3	2	2	3	2	3	3	2	2
Resolution of conflicts and initiatory	3	2	2	2	2	2	3	2	2	2
The skill of negotiating	3	3	2	2	3	2	3	3	2	2
Judgment(Reason), common sense and realism	3	3	3	3	3	3	3	3	3	3
Empathy	3	3	2	2	3	2	3	3	2	2
P e r s o n a l s										
Development in the job environment										
Capability to learn alone	2	3	2	2	2	2	2	2	2	2
Capability to search information	2	3	2	2	3	2	3	3	2	2
Capability to take risks	3	2	2	2	2	2	2	2	2	2
Flexibility	3	3	2	2	3	2	3	3	2	2
verbal Reasoning	3	3	2	2	3	2	3	3	2	2
Stress resistance	2	2	2	2	2	2	2	2	2	2
Proactive	3	3	2	2	3	2	3	3	2	2
Responsibility	3	3	3	3	3	3	3	3	3	3
Personal development										
To identify areas of personal opportunity	3	3	3	3	3	3	3	3	3	3
To define a project and to establish a personal goal	3	3	3	3	3	3	3	3	3	3
To determine priorities and to refine the goals	3	3	3	3	3	3	3	3	3	3
To identify and to evaluate available and required resources	3	3	3	3	3	3	3	3	3	3
Balance the necessary resources to satisfy multiple goals	3	2	2	2	2	2	2	2	2	2
Monitor the progress, to make the adjustments during the project development	3	3	3	3	3	3	3	3	3	3
To learn of past actions to project future result	3	3	3	3	3	3	3	3	3	3
High auto-esteem	3	3	3	3	3	3	3	3	3	3
Entrepreneur	3	2	2	2	2	2	2	2	2	2
Personal commitment	3	3	3	3	3	3	3	3	3	3
Self-control	3	3	2	2	3	2	2	3	3	2
Optimism	3	3	2	2	2	2	2	2	2	2
Rights and limits										
Ability to understand his/her own interests and needs	3	3	3	3	3	3	3	3	3	3
To know the rules and written principles to identify his/her limits	3	3	3	3	3	3	3	3	3	3
Ability of arguing in order that his/her rights and needs are recognized	3	2	2	2	2	2	2	2	2	2
To suggest arrangements or alternative solutions	3	2	2	2	2	2	2	2	2	2