A Competency Model for Customer Representatives in Agile Software Development Projects

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Executive Summary

In agile software development projects, customer representatives (CRs) are assigned by their business departments to work alongside the information systems development (ISD) for the duration of an agile project. Ideally, a CR should be co-located with the ISD team. The full article describes a competency model for effective CRs developed by the authors following interviews with agile development teams (no such competency model previously existed). The model comprises 10 competencies grouped within three competency areas. The model can be used by organizations to ensure that CRs have the competencies to perform the 11 CR activities identified by the research.

CR Competency Model in Agile Software Development Projects

Explicit and Implicit CR Responsibilities

CRs have explicit and implicit responsibilities in agile development projects that facilitate the creation of software to meet evolving customer needs in a timely manner. The two explicit responsibilities are managing requirements and managing quality. Within managing requirements, there are three main activities: identifying requirements, clarifying requirements and prioritizing requirements. The two main activities for managing quality are providing planned feedback through acceptance testing and providing ad-hoc feedback.

The two implicit responsibilities are liaising with diverse organizational stakeholders and managing trust with the ISD team and the wider organization. There are three main activities in the liaising responsibility: removing roadblocks, allocating resources and facilitating resource acquisition. The managing trust responsibility involves three main activities: motivating the ISD team, empathizing with and supporting the ISD team, and evangelizing the team’s achievements throughout the business.

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1 The full article is published in the June 2014 issue of MIS Quarterly Executive, available online at www.misqe.org.
Three CR Competency Areas and their Related Competencies

The model comprises three competency areas: Business, Socio-Relational and Systems. The Business competency area contains three competencies that express the nature of the business and closely related business topics: 1) Domain competency—understanding the broad function of the business department, its performance metrics and the business processes supported; 2) Resource mobilization competency—accessing and allocating the resources necessary for the agile development project to progress; 3) Management competency: directing and administering the agile development process to create the software that meets business needs.

The Socio-Relational competency area represents the social and people aspects of the model (developing software is as much a social process as it is a technical one). The three competencies in this area are: 1) Relationship building competency—establishing and maintaining interpersonal relationships with ISD team members; 2) Negotiation competency—leveraging relationships with the ISD team and other stakeholders to achieve project-related ends while taking account of different stakeholder interests; 3) Motivation competency—boosting and channeling the ISD team's morale to overcome challenging project situations.

The Systems competency area represents the systems and technology aspects of the model. The competencies included in this area capture the skills and knowledge needed to conceptualize and build the software. They capture the CR's abilities regarding the agile development process, but do not include technical aspects of constructing the software. The four competencies in this area are: 1) Development method competency—understanding the process by which agile methods transform requirements into a functioning software system; 2) Problem solving competency—working with the ISD team and other stakeholders to identify and implement solutions to problems with the development process or software product; 3) Evaluation competency—understanding and enforcing core metrics for implemented requirements; 4) Delivery strategy competency—determining and setting the amount and pace of feedback loops.

The three competency areas need to be integrated into the CR role. No area or competency dominates, but CRs cannot be effective in their role if they lack one of the areas. However, within one area it might be possible to balance gaps in a competency with strengths in another. Undoubtedly, CRs will need to draw on different sets of skills and knowledge depending on the activity they are performing at any point in time during the project. Thus, CRs cannot possess only some of the skills and knowledge and expect to effectively perform the role.

Recommendations for CIOs on How to Use the CR Competency Model

When interacting with different constituents (e.g., business managers, the larger organization and CRs) to promote the use of agile development, CIOs can use the CR competency model as:

- A communication tool, so business managers can understand the knowledge and skills required by a CR. In particular, CIOs can highlight an important message to departmental managers: Do not pick the most dispensable person; rather, pick the most competent person. Assigning a less competent employee can result in badly implemented requirements, system release delays and increased costs.

- An education and training tool: training and education based on the CR competency model will not only better prepare employees to assume the CR role, it will also provide them with greater competence for their organizational roles. They will therefore be in a better position to add value in ways that benefit the organization, the business department and the ISD team.

- A tool to change the organizational culture: the model can help to build a culture of support for agile development and thus lower the hurdles that CIOs need to clear to get buy-in for the next agile ISD project from business departments and the broader organization.

- A performance-assessment tool: the competencies identified in the model can form the basis for CR-assessment metrics. For each activity, a specific level of proficiency (novice, intermediary, expert) should be defined and the CR’s actual activities should be assessed against these levels.

- A diagnostic tool: the model can be used during and after an agile ISD project to determine the extent to which an employee assigned as the CR is leveraging the necessary competencies to facilitate project success. Thus the model can act as a diagnostic tool to determine where adjustments need to be made for the CR to better serve the needs of the agile ISD project.