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Social Factors Affecting Internal Stakeholders' Perceptions of Software Product Quality Characteristics

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Software quality models can be categorised into the development process and product quality models based on ISO/IEC 25000. The former focuses on measuring the quality of the software development process and lifecycle. Another is the product quality model, which depends on how deeply internal stakeholders are concentrated and involved in software development processes. Software quality assessment is complex due to the multifaceted nature of software systems and the diverse expectations of different stakeholders (Ndukwe et al., 2023). For this assessment, various parameters can be applied by which software product quality can be evaluated, which was impacted by development process quality, such as software architecture, conformance to functional specifications, ability to scale, and adherence to the development methodology. Since software development is a human-oriented process, it is possible to say that any factor affecting internal stakeholders will directly affect software quality and success (Davis, K., 2014; Guveyi et al., 2020). Internal stakeholder capabilities impact final results, such as individual actions and team interrelation. Thus, once the impact of the social factors has been understood, it is possible to improve software development processes and, at the same time, achieve better values of software quality characteristics. These characteristics could be measured by software quality models, such as ISO 25010, defined by the International Organisation for Standardisation (ISO). Subsequently, the ISO 25010 standard emerged, updating the ISO 9126 model by redefining the fundamental characteristics and adding Security and Compatibility, increasing quality dimensions from six to eight.

The paper conducted research to identify and analyse the social factors that influence internal stakeholders' perceptions of the quality of software products using the ISO/IEC 25010 standard. The survey was designed to capture insights from internal stakeholders who participated in software development processes about the key factors impacting software quality characteristics, such as functional suitability, reliability, performance efficiency, usability, security, compatibility, maintainability, and portability. This research allows us to evaluate the social factors influencing internal stakeholders and how they perceive the quality of software products based on the ISO/IEC 25010 standard. Empirical results and statistical analysis show that the biggest impact is the team members' consistency, capability of the team, alignment and interrelation communication. By applying these insights, software developers and product owners can make informed decisions that lead to better product quality results and higher customer satisfaction.

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