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

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INTRODUCTION

- Software development is a human-centered process; any factor that affects internal stakeholders will directly affect the quality and success of the software [1], [2], [4].
- Understanding the influence of social factors can improve software development processes and achieve better values of software quality characteristics.
- Authors have proposed research to identify and analyze the social factors that influence internal stakeholders' perceptions of the quality of software products using the ISO/IEC 25010 standard [3].
- By applying these insights, software developers and product owners can make informed decisions that lead to better product quality results and higher customer satisfaction.

METHODOLOGY

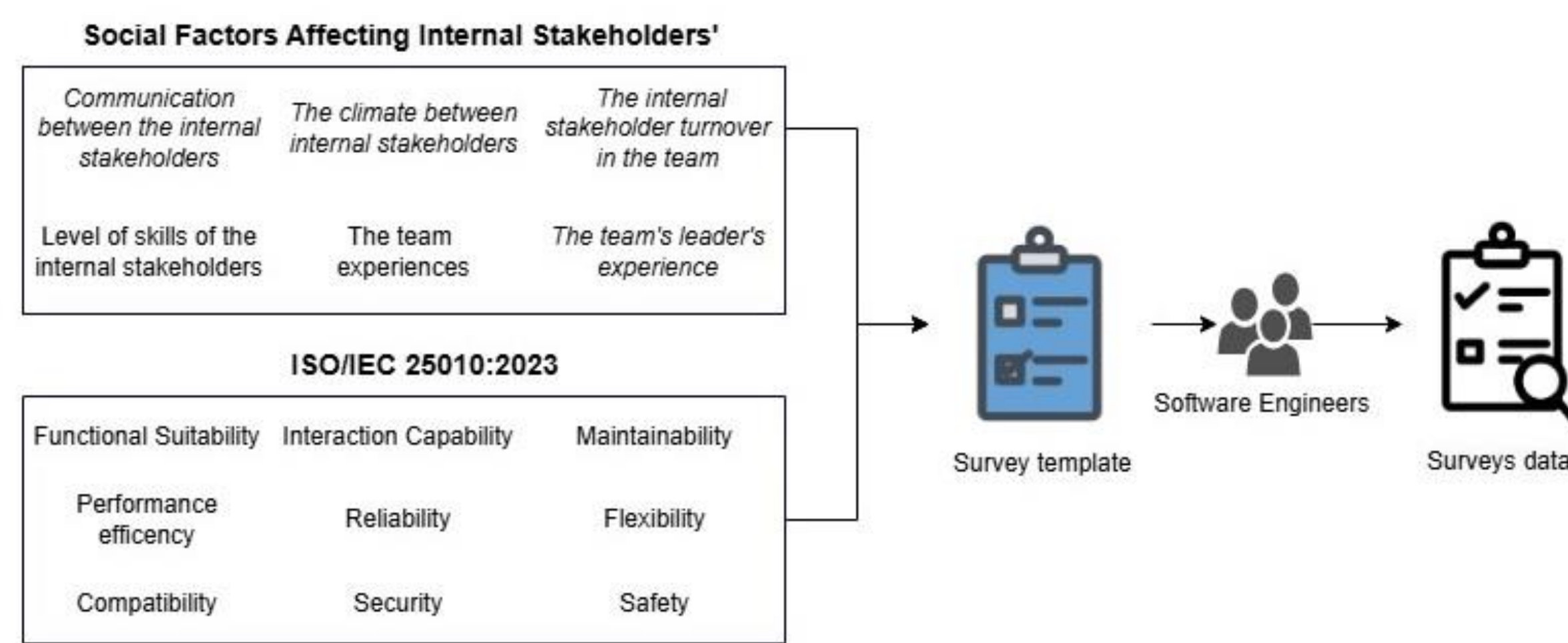The principal schemas of the research's data gathering (see Figure 1) and the research (see Figure 2) are presented.

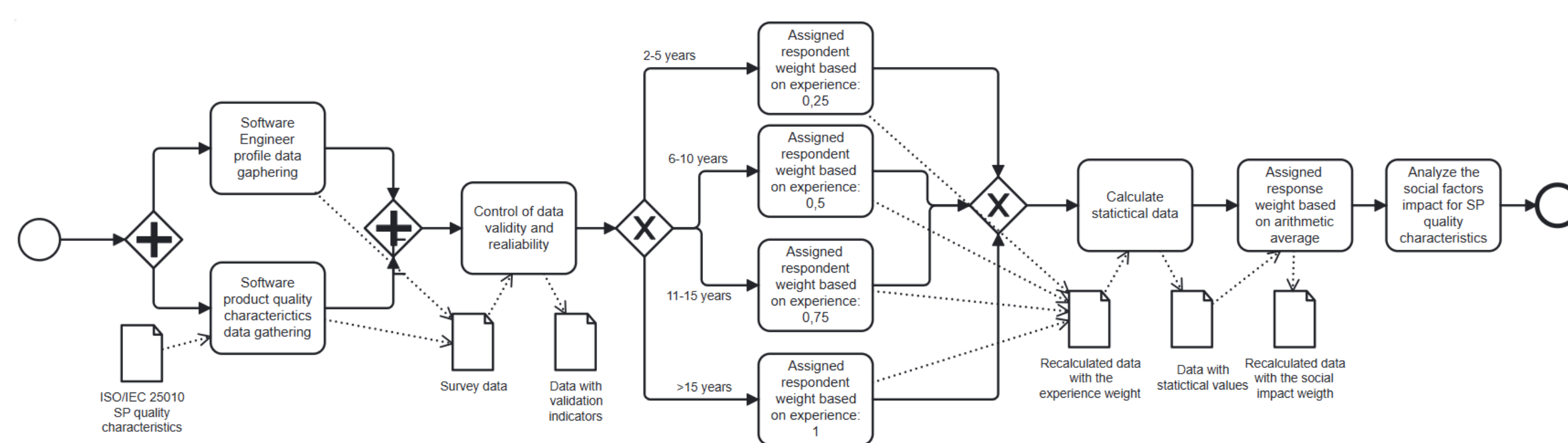**Figure 1**. Principal schema of the research's data gathering

Figure 2. Principal schema of the research

The survey involved 70 respondents who work in software development processes and have acquired various skills in software engineering (see Table 1).

Table 1. Respondents' data on the research

Software Engineer's skills	User interface designer	Tester	Analyst	System architect	Developer	Database architect	Team lead	Product owner
Count	0	27	21	15	41	9	10	5

CASE STUDY

Figure 3. The social factor's "*The team experience*" impact on the quality characteristics "*Security*"
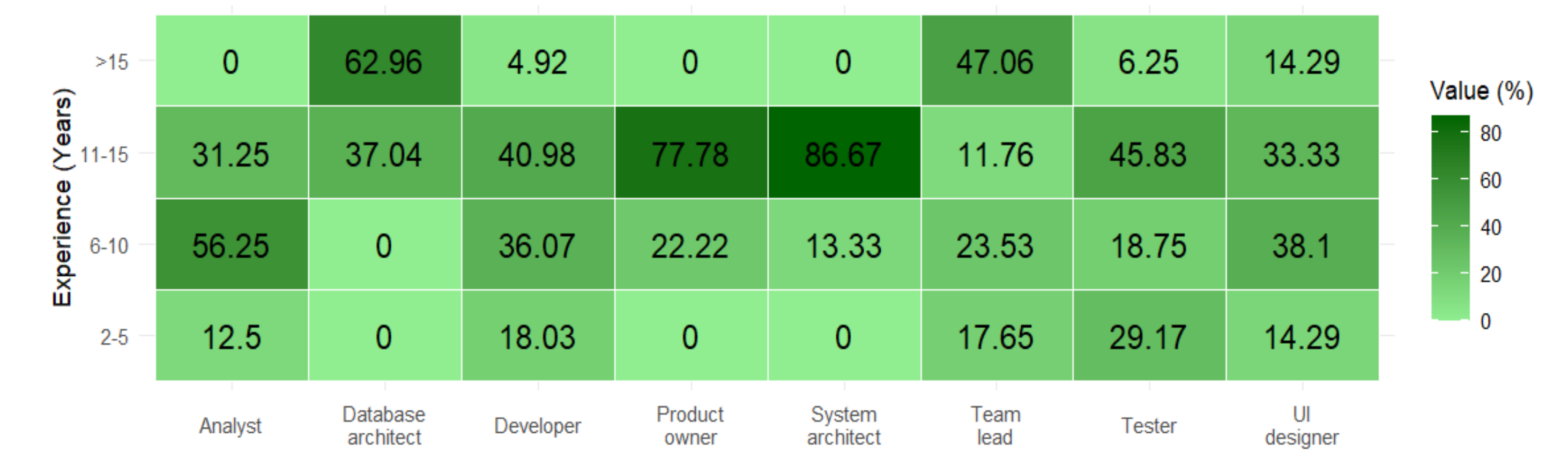

Figure 4. The social factor's "*The team experiences*" impact on the quality characteristics "*Safety*"
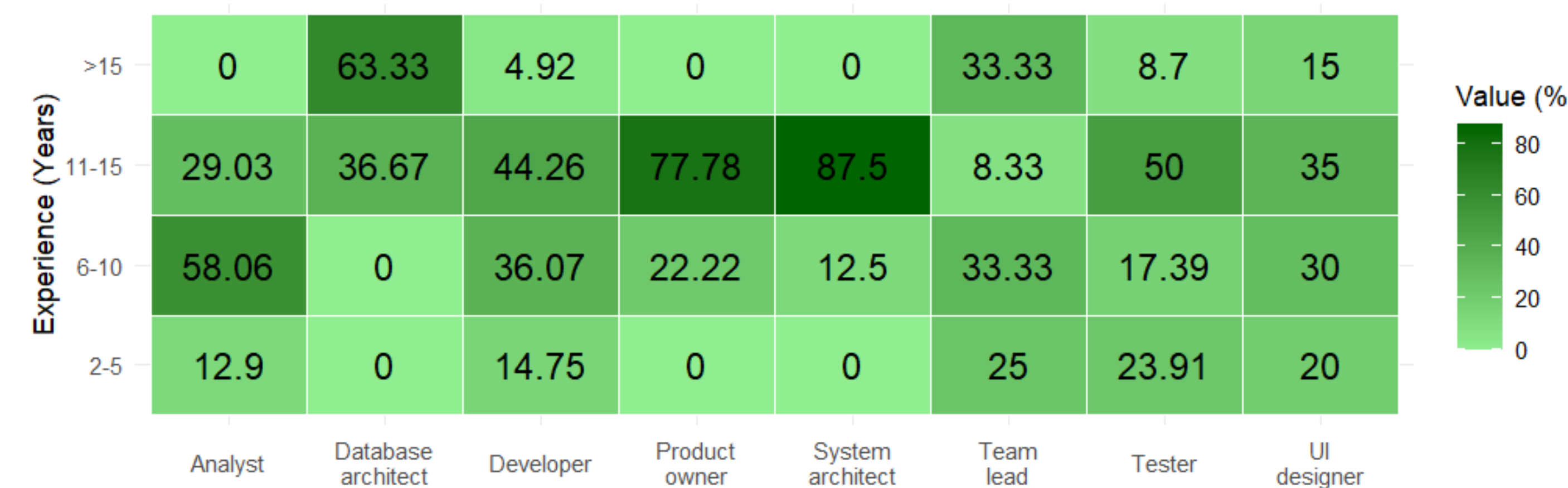

Figure 5. The social factor's "*Level of skills of the internal stakeholders*" impact on the quality characteristics "*Reliability*"
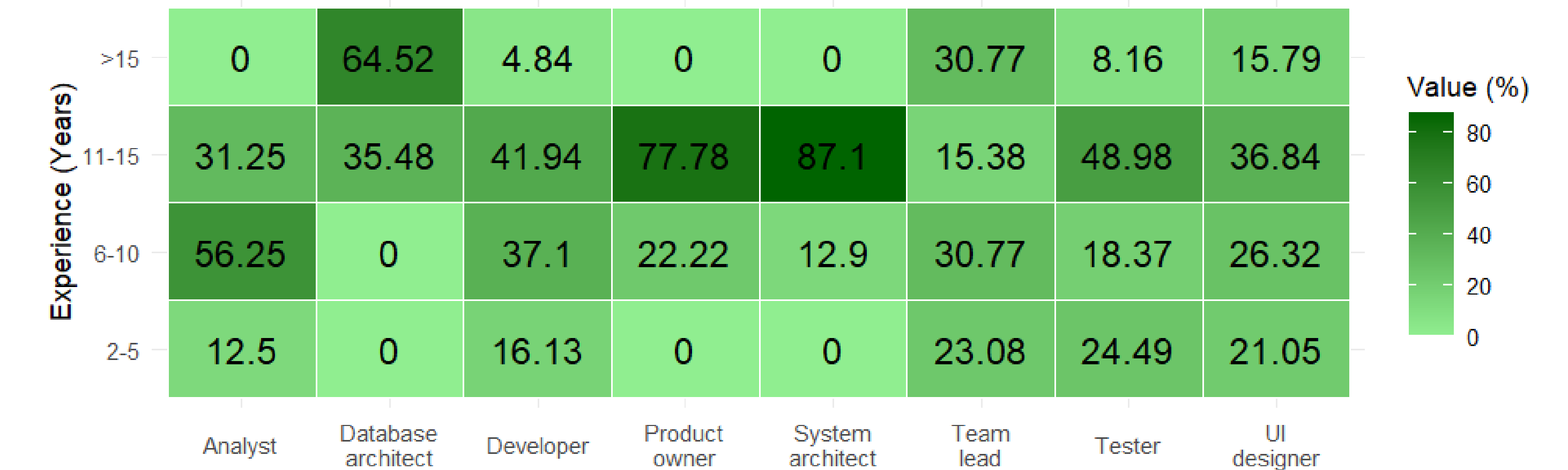

Figure 6. The social factor's "*Level of skills of the internal stakeholders*" impact on the quality characteristics "*Maintainability*"
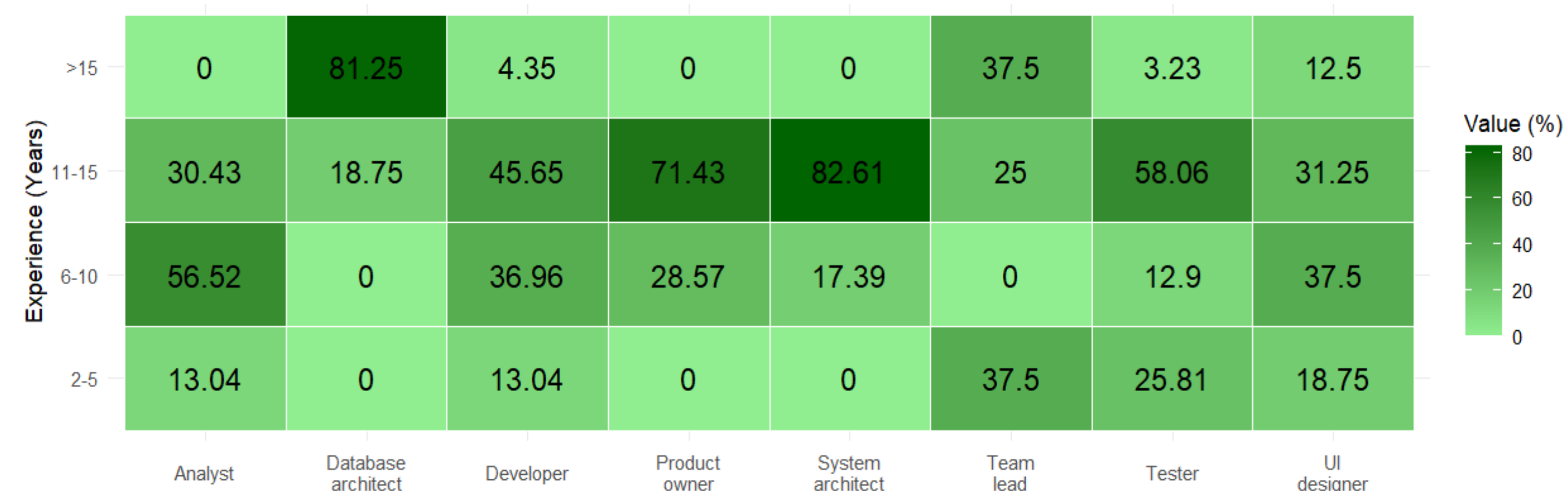

Figure 7. The social factor's "*The team's leader's experience*" impact on the quality characteristics "*Interaction Capability*"
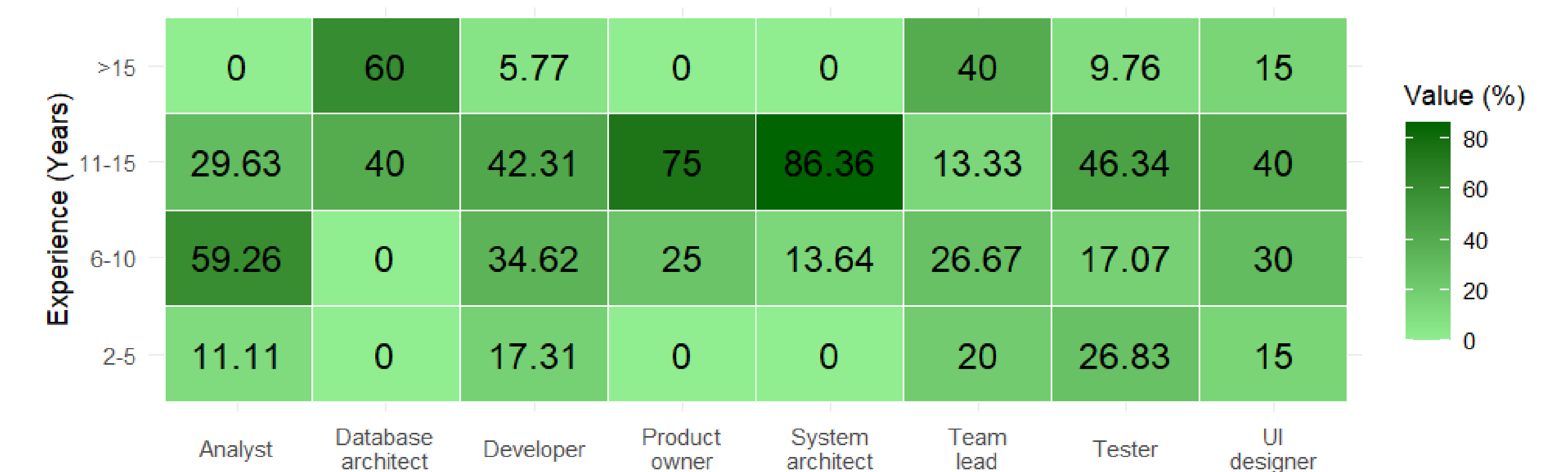

Figure 8. The social factor's "*Communication between internal stakeholders*" impact on the quality characteristics "*Functional suitable*"

CONCLUSIONS

1. The most significant impact of social factors on the overall quality of a software product characteristics (according to the ISO/IEC 25010:2023 standard) is the team's experience and the level of skills of the internal stakeholders.
2. The results showed that software engineers' experience has a significant impact on the importance of perception given to software product characteristics.
3. The research observed that understanding the quality characteristics has strong relations with software engineering skills such as Product Owner and Systems Architect with the same experiences (11-15 years)

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