

INTRODUCTION

- Software development is a human-centered process; any factor th internal stakeholders will directly affect the quality and success of [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.

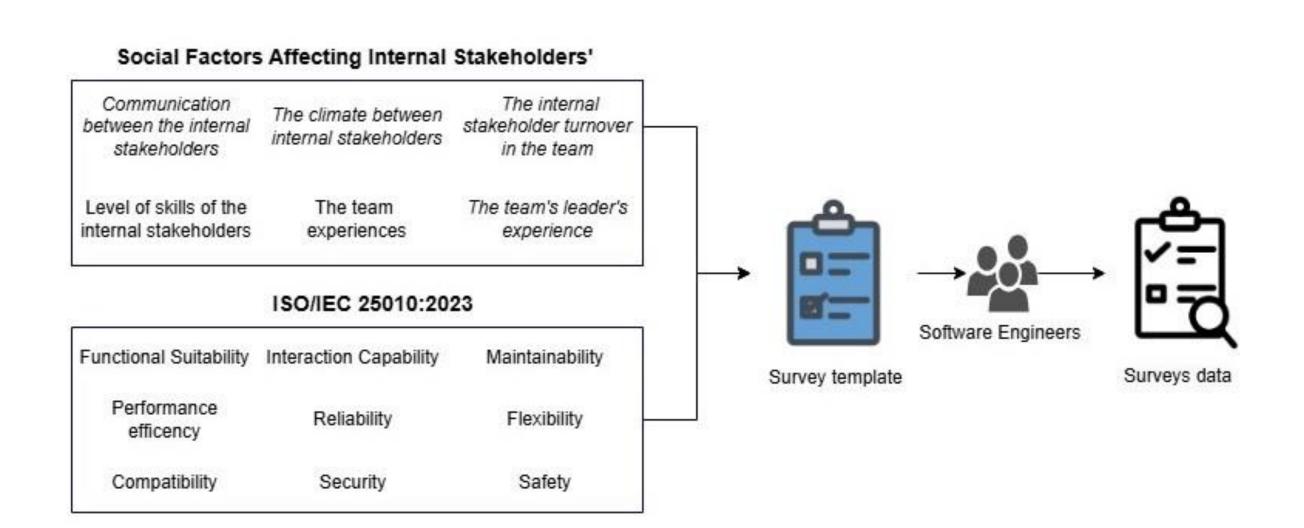


Figure 1. Principal schema of the research's data gathering

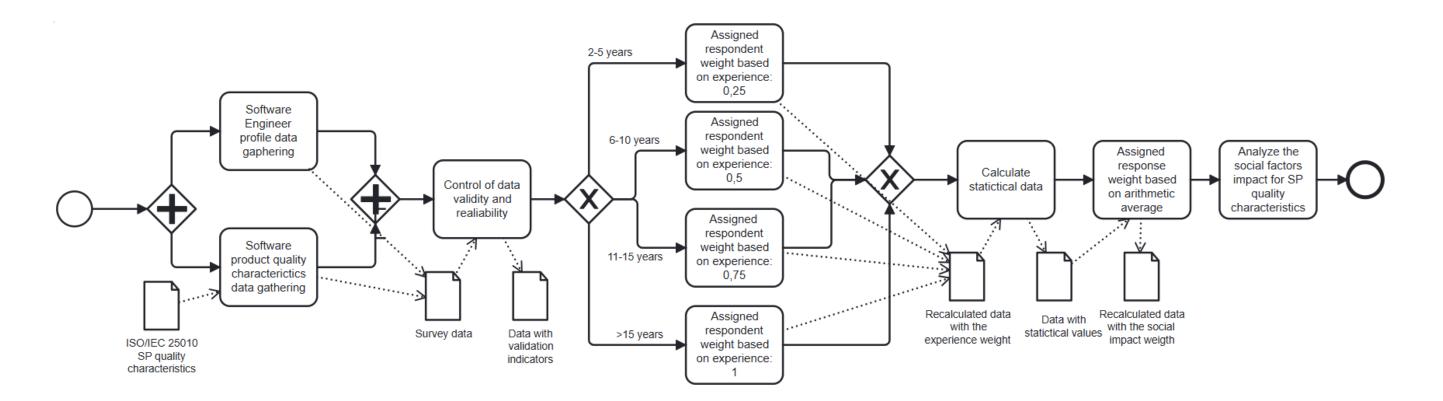


Figure 2. Principal schema of the research

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

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

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CASE STUDY

	>15	0	62.07	6.35	0	0	2
Exprience (Years)	11-15 —	35.48	37.93	42.86	80	90	13
Exprience	6-10	54.84	0	36.51	20	10	26
	2-5	9.68	0	14.29	0	0	2
		Analyst	Database architect	Developer	Product owner	System architect	Te

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

>15 -	0	63.33	4.92	0	0	33.33	8.7	15	- \
(sig 11-15 −	29.03	36.67	44.26	77.78	87.5	8.33	50	35	-
ertence 6-10 –	58.06	0	36.07	22.22	12.5	33.33	17.39	30	
й 2-5 —	12.9	0	14.75	0	0	25	23.91	20	
	Analyst	Database architect	Developer	Product owner	System architect	Team lead	Tester	UI designer	

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

>15 —	0	81.25	4.35	0	0	37
(Lears) - 11-15 -	30.43	18.75	45.65	71.43	82.61	2
Experience	56.52	0	36.96	28.57	17.39	(
2-5 —	13.04	0	13.04	0	0	37
	Analyst	Database architect	Developer	Product owner	System architect	Te le

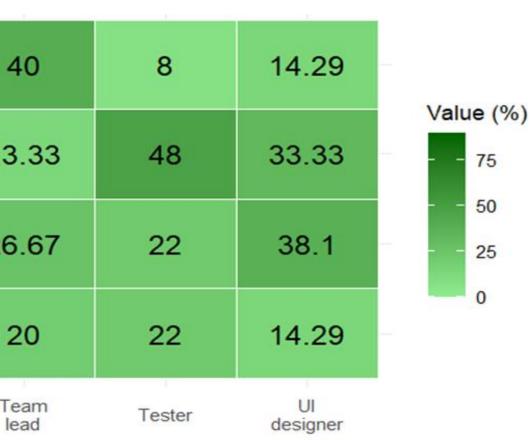
Figure 7. The social factor's *"The team's leader's experience"* impact on the quality characteristics "Interaction Capability"

CONCLUSIONS

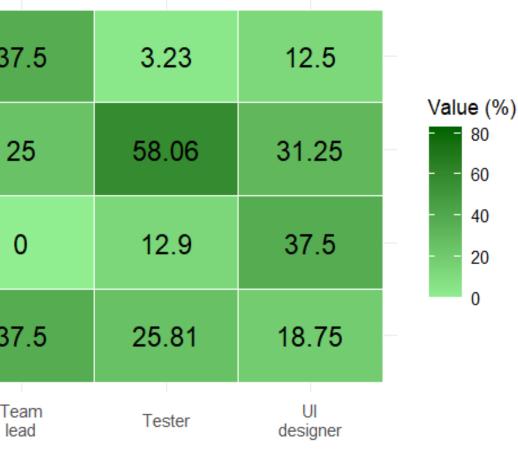
- The most significant impact of social factors on the overall quality of a software product characteristics (according to the ISO/IEC 25010:2023 standard) is the team's experience and the level of skills of the internal stakeholders.
- The results showed that software engineers' experience has a significant impact on the importance of perception given to software product characteristics.
- 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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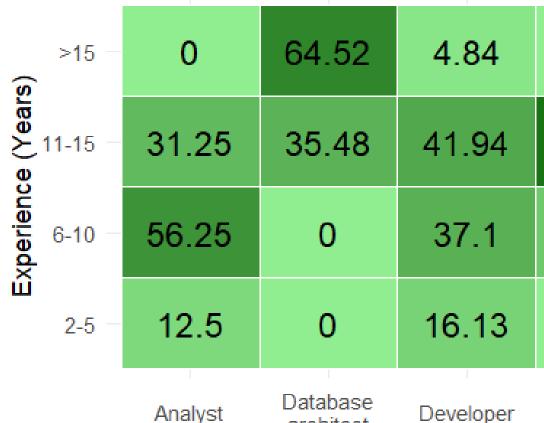




Value (%)



>15 — ç	0	62.96	4.92	0	0	47.06	6.25	14.29
(≤ 11-15 −	31.25	37.04	40.98	77.78	86.67	11.76	45.83	33.33
Experience	56.25	0	36.07	22.22	13.33	23.53	18.75	38.1
Ш́ 2-5 —	12.5	0	18.03	0	0	17.65	29.17	14.29
	Analyst	Database architect	Developer	Product owner	System architect	Team lead	Tester	UI designer



Database Analyst architect

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

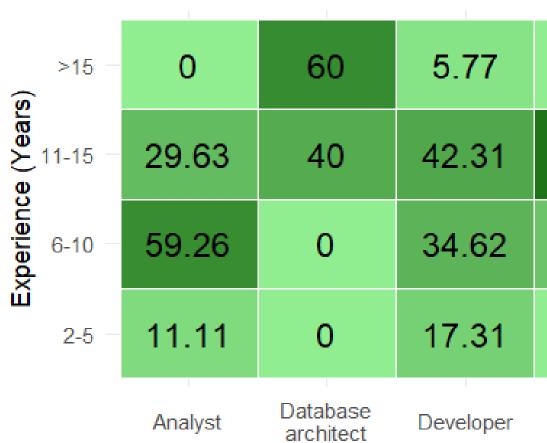


Figure 8. The social factor's "*Communication between internal stakeholders*" impact on the quality characteristics "Functional suitable"

REFERENCES

[1] Ndukwe, I. G., Licorish, S. A., Tahir, A., & MacDonell, S. G. (2023). How have views on Software Quality differed over time? Research and practice viewpoints. Journal of Systems and Software, 195, 111524.

[2] Guveyi, E., Aktas, M. S., & Kalipsiz, O. (2020). Human factor on software quality: a systematic literature review. In Computational Science and Its Applications-ICCSA 2020: 20th International Conference, Cagliari, Italy, July 1–4, 2020, Proceedings, Part IV 20 (pp. 918-930). Springer International Publishing.

[3] Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models. ISO/IEC 25010, 2023 [4] Davis, K. (2014). Different stakeholder groups and their perceptions of project success. International journal of project management, 32(2), 189-201.



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

0	0	30.77	8.16	15.79	Value (%)
77.78	87.1	15.38	48.98	36.84	<mark>80</mark> 60
22.22	12.9	30.77	18.37	26.32	40
0	0	23.08	24.49	21.05	0
Product owner	System architect	Team lead	Tester	UI designer	1

0	0	40	9.76	15	Value (%)
75	86.36	13.33	46.34	40	<mark>80</mark> <u>60</u>
25	13.64	26.67	17.07	30	40 20
0	0	20	26.83	15	0
Product owner	System architect	Team lead	Tester	UI designer	