Participant No.: [   ]

Empirical Study on Debt Stories – Questionnaire

This study aims to evaluate the relevance and usability of what was presented to you during the workshop. To this end, we kindly ask you to answer the following questions as sincerely as possible. We are equally interested in negative feedback as well as positive feedback.

I. Your professional experience

1. How long have you been involved in software development projects in a professional setting?

   ☐ Less than a year
   ☐ Between 1 and 3 years
   ☐ Between 3 and 5 years
   ☐ Between 5 and 10 years
   ☐ More than 10 years

2. How many organizations, including this one, have you worked for so far (as an employee or as a consultant)?

3. In which sectors are/were these organizations active?

4. How long have you been practicing your current profession (the most recent one)? E.g., developer, analyst, etc.

☐ Less than a year
☐ Between 1 and 3 years
☐ Between 3 and 5 years
☐ Between 5 and 10 years
☐ More than 10 years

5. How long have you been working for this organization / company?

☐ Less than a year
☐ Between 1 and 3 years
☐ Between 3 and 5 years
☐ Between 5 and 10 years
☐ More than 10 years

II. Your opinion on socio-technical debt

Below is a reminder of the proposed definition for socio-technical debt:

> ***Socio-Technical Software Engineering Debt (STSED) refers to a phenomenon that occurs when past social or technical decisions lead to inefficiencies or increased risks in designing, building, maintaining, managing, or using software engineering artifacts*. This, in turn, hampers an organization's ability to create value, achieve strategic goals, or pursue the best course of action.***
>
> *(* Everything that is produced during the development process. For example: code, documentation, configuration, libraries, applications, etc.)*
>
> *STSED has the following characteristics:*
>
> - *It is cumulative in nature: the longer it stays, the more it costs in the long run.*
> - *It requires some effort to eliminate. Significant time and/or money must be invested to pay it off.*
> - *It is inevitable in most software engineering projects as tradeoffs are always being made, either knowingly or unknowingly. A certain level of STSED can always be deemed sustainable, and the return on investment of paying debt items must be carefully evaluated.*

6. I find that the proposed definition for socio-technical debt is:

☐ Perfectly clear
☐ Clear
☐ Neither clear nor confusing
☐ Not clear
☐ Not clear at all

For the following questions, when we refer to socio-technical debt elements, it can be either the elements discussed during rounds 1 or 2 of the workshop or other elements that come to your mind now.

7. Socio-technical debt elements make my tasks less efficient:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

8. Socio-technical debt elements affecting my work pose risks to the organization:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

9. Socio-technical debt elements affect my work:

☐ Very often
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

10. I have already consciously created a socio-technical debt element to meet a constraint (e.g., a deadline, budget restrictions, etc.):

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

11. I have unintentionally generated a socio-technical debt element before:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

12. The socio-technical debt elements that affect my tasks are discussed with my immediate colleagues:

☐ Very often
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

13. The socio-technical debt elements that affect my tasks are discussed with my manager/supervisor:

☐ Very often
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

14. The socio-technical debt elements affecting my work are explicitly identified by the organization (e.g., in a backlog):

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

15. The socio-technical debt elements affecting my activities are the subject of explicit decisions by the organization (e.g., resolution, non-resolution, prioritization, reevaluation at a later stage):

☐ Very often
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

III. Your opinion on the Debt Story tool

*Below is a reminder of the proposed format for the **Debt Story**:*

> *As a(n) **[actor role]** of **[social or technical context]**, I find that it is increasingly **[impact type]** to **[task]** because **[debt item]**.*

16. The format proposed for the **Debt Story** allowed me to express socio-technical debt elements that affect my tasks:

    ☐ Strongly agree
    ☐ Agree
    ☐ Neither agree nor disagree
    ☐ Disagree
    ☐ Strongly disagree

17. The format proposed for the **Debt Story** provided me with enough flexibility to cover both technical aspects and social/organizational aspects of my work:

    ☐ Strongly agree
    ☐ Agree
    ☐ Neither agree nor disagree
    ☐ Disagree
    ☐ Strongly disagree

18. I found it easy to formulate **Debt Stories** during round 1 of the workshop (before having seen any examples):

    ☐ Strongly agree
    ☐ Agree
    ☐ Neither agree nor disagree
    ☐ Disagree
    ☐ Strongly disagree

19. I found it easy to formulate **Debt Stories** during round 2 of the workshop (after having seen some examples):

    ☐ Strongly agree
    ☐ Agree
    ☐ Neither agree nor disagree
    ☐ Disagree
    ☐ Strongly disagree

20. The act of formulating **Debt Stories** allowed me to better understand what socio-technical debt is:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

21. To what extent did the **Debt Stories** formulated by other people (examples given during the workshop and Debt Stories proposed by other participants) appear clear to you?

☐ Perfectly clear
☐ Clear
☐ Neither clear nor confusing
☐ Not clear
☐ Not clear at all

Below is a reminder of the format of traditional <u>User Stories</u> used in agile development to describe a user's need or request:

> As a **[role]** I can **[capability]**, so that **[receive benefit]**.

22. I am familiar with the format of <u>User Stories</u> traditionally used in agile development to describe a user's need or request:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

23. I use traditional User Stories to describe a user's need or request:

☐ Very often
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

24. How long have you been using User Stories in your development projects?

☐ Less than a year
☐ Between 1 and 3 years
☐ Between 3 and 5 years
☐ Between 5 and 10 years
☐ More than 10 years

25. I believe that the format of traditional User Stories effectively allows expressing a user's need or request:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

26. I think that the fact that the **Debt Story** is inspired by the User Story makes it easier for people with experience in agile development to adopt it:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

27. I believe that the **Debt Story** is a suitable tool for discussing socio-technical debt elements in our organization:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

28. I believe that the **Debt Story** is a tool that encourages bringing socio-technical debt issues affecting my work to the attention of my hierarchy:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

29. I think there would be added value in integrating the use of **Debt Stories** in our organization:

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

30. I think there would be added value in integrating the use of **Debt Stories** into our tools (e.g., Azure DevOps boards):

☐ Strongly agree
☐ Agree
☐ Neither agree nor disagree
☐ Disagree
☐ Strongly disagree

IV. Open-ended questions

31. Are there elements that make my tasks less efficient or riskier but do not seem to fit the proposed definition of socio-technical debt?

32. What difficulties did you encounter in formulating Debt Stories?

33. What difficulties did you encounter in understanding the Debt Stories formulated by other participants?

34. For what reasons, if any, were you tempted to give a +1 to a Debt Story before reconsidering?

35. What modifications would you like to make to the proposed format for the Debt Story?

36. Other comments:

We thank you for your participation in this study!