**Appendix I:** Questionnaire

**Dear Respondents;**

I am Danford Phiri, MSc student at the University of Dar es Salaam. I am currently conducting a research titled *“An empirical investigation of extent, causes and management of Technical Debt accumulation in Government Organizations software systems”*. Technical Debt (TD) is a metaphor coined by Ward Cunningham in 1992, which describes the effect of taking shortcuts or unsuitable choices in software systems development deliberately or accidentally in order to gain sort-term benefits but creates technical context which could impede future software systems maintenance and evolution.

Your firm has been selected to participate in this study therefore you are kindly requested to respond to the questions below as carefully as possible. Your response will be used for academic purposes only and will be treated with utmost confidentiality. If you have questions about the questionnaire or the research in general, please do not hesitate to contact the researcher via e-mail address: **danford.phiri1983@gmail.com** or mobile phone: **+255769765563**. Thank you in advance for your esteemed cooperation.

**SECTION A: TECHNICAL DEBT CONCEPT**

Please answer the following questions.

|  |  |  |
| --- | --- | --- |
| **No** | **Question** | **Type** |
| Q1  Q2  Q3  Q4  Q5 | How familiar you are with the concept of Technical Debt?  Define Technical Debt in your own words  Mention types of Technical Debt you know  Why it is important for an organization to manage Technical Debt?  How your organization is managing Technical Debt? | Open  Open  Open  Open  Open |

**SECTION B: CAUSES OF TECHNICAL DEBT ACCUMULATION**

Please rank the influence of each of the listed cause of Technical Debt accumulation in Government Organizations software systems. Circle an appropriate number (0 – 10). 0 represents no influence, 10 represents maximum influence.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Technical Debt Cause** | **Least influential Most influential** | | | | | | | | | | |
| 1 | Third party dependency | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | Lack of code review | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 3 | Lack o motivation | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 4 | Bad architectural choices | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 5 | Limited knowledge | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 6 | Time pressure | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 7 | Inappropriate choice of technology, framework, language | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 8 | Lack of testing | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 9 | Cost pressure | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 10 | Lack of adoption of tools | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | Inaccurate or complex requirements | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 12 | Lack of well-defined processes | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 13 | Lack of awareness | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 14 | Non-adoption of good practices | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 15 | Lack of documentation | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 16 | Not effective project management | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 17 | Lack of commitment | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 18 | Lack of qualified professionals | 0 |  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 19 | Inappropriate planning | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 20 | Lack of training | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 21 | Lack of experience | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |