













58% of them said the main problem with Agile software development in handling change impact is that it does not emphasize documentation and management aspects, especially in the early stages. Next, 95.8% of them stated that a sudden change during Agile development does affect the project duration. Out of that 95.8 %, 70.8% said that adding security features increases the number of codes in the system, and simultaneously increases the testing and development time for the entire process. Lastly, 83.3% of the samples shows that Agile software development needs a proper traceability approach in handling this issue.

Based on the discussion above, the majority of the students understand the goals and objectives of the project. They can grasp the purpose and problem presented in the case study given to them. This results in their understanding of the purpose of the case study and the problem related to the issues that this case study is trying to investigate. Besides that, feedbacks obtained from the survey found that there is a consensus between the issues presented by the case studies and feedback obtained from the students (Table 4 and Fig 9). Therefore, it is safe to say that Agile software development method needs traceability techniques to manage change impact on NFR of the system. Therefore, the reason behind the execution of this case study has been well justified that is to improve Agile software development, specifically in the area of change impact analysis.

#### IV. CONCLUSIONS

Based on this case study, the need for the Traceability approach for tracing change impact in Agile software development methodology, which offers better techniques in tracing change impact during the agile development process. The first main issue is the challenges of tracing the NFR change impact in the existing Agile Development. Then, this case study has investigated whether the Agile software development model, FDD could handle the NFR change impact management. This case study has proven that there are issues in tracing change impact especially in the term of NFR in the existing agile software development model. FDD was applied and they could not identify the impact of the system performance when they added security features in certain functional features in their system. Based on Fig 5 and 6, there are some changes that they did not expect to happen where the time latency was affected when they inject XSS mitigation code on the manage payment feature. Each case study strengthens the justification for the change impact issues in Agile software development methodology.

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