ABSTRACT

PT XYZ is a software development company that has the goal of helping in developing and making their business results in digital form. PT XYZ has its main product, namely ERP software. During the implementation of the project, PT XYZ experienced delays caused by change requests. Change requests can occur due to requests from clients to adjust to the conditions needed by the company. Software change requests (SCRs) that are not processed properly can result in cost overruns, schedule overruns, and the possibility of project failure. However, software change requests cannot predict when and how much SCR occurs. Therefore, a simulation system was carried out to be able to predict the duration and also the costs caused by SCR for future projects. In this study, we will combine two perspectives, namely software development supply chain and agile software development in order to get a strategy in dealing with SCR. This is done by simulating using the discrete event simulation model by adding programmer variables with scrum experience. In this study, it was found that the factors that affect the delay and cost overrun are caused by the duration of SCR work by programmers and quality control is too long and the occurrence of SCR cannot be predicted properly. Therefore, simulations are carried out with a combination of programmer types and client types. Based on this combination, a scenario totaled 57 scenarios. The results will be used as a basis for PT XYZ for further project planning in determining buffer costs and adding duration.

Keywords – *software change request, software development supply chain, project management, simulation, scrum*