A Study on Progress Control of Software Project Management

Ziwei Wu, Rui Wang, He Wang*

Information Department, Crrc Changchun Railway Vehicles Co., Ltd, Changchun, Jilin, 130062, China

*Corresponding Author

Keywords: Software development, Progress control, Research and exploration

Abstract: In general, the operability of traditional projects is not strong, and they are easy to control. Software projects are different from traditional projects, with very strict requirements for operability and controllability. Operability refers to reasonable allocation of human resources in software development process. Controllability refers to supervision of software development operation link, indication and correction of problems. In this way, lots of experience can be accumulated, and the practical economic value can be created, such as lowering cost as far as possible and ensuring smooth implementation of projects. In this paper, progress control in software development is discussed to analyze its importance so as to provide some suggestions on software development and accumulate experience for future development.

1. Introduction

Simply speaking, software project management means the research and development organization can find out a clear objective under certain human and material conditions, and carry out effective control as per the norms. To manage a project, it is necessary to monitor and control the whole project. Although this is also applicable to software project management, software projects differ a little. Software project management aims to make sure a project can proceed smoothly under the restriction of each factor. Software project management has very strict requirements, and it is also very important. Efficient software project management contributes to economic benefit, software research and development.

2. Necessity of Progress Control

Usually, progress control aims to compare the project plan and practical conditions in the research and development process, overall analyze the differences and problems, and adjust the defects in time so as to make the project proceed according to the plan. However, some believe that everything changes and plans never catch up with changes. Thus, it is unnecessary to make a thorough plan, and it wastes human resources. However, is that really the fact? In a changeable society, is it redundant to make a plan? This question deserves our deep thinking.

In theory, we have to carry out a series of plans and control for anything. The plan and control supplement each other. If there is only a plan without the effective control, people can only know the environment where they are located, but cannot deeply explore and correct the problems. If there is only control without the plan, it is just like a dead-alive person without ideology. If we don't know what to do next, we may do at random and get off the track, thus leading to radical mistakes. Both the plan and control are dispensable. Only when both play a role at the same time can the software project be done well. Thus, progress control of software project management should be controlled rationally. Meanwhile, a series of control plans should be made to further grasp the core of software project under the guidance of scientific and reasonable plans.

The research indicates that progress control has significant influence on the implementation of software project. Here, two software research and development companies are chosen for comparison. One controls the progress of software project very carefully, with profound grasp of plan making and

Copyright © (2019) Francis Academic Press, UK DOI: 10.25236/iwass.2019.067

implementation process. However, the other company does not take much count of progress control. The software project is implemented without a plan, and there is no relevant person to intervene in it. The result is obvious. The first company more succeeds. Through the tight control, it gave strict monitoring for the whole process of project implementation, kept improving and made progress in the process of discovering mistakes continuously. The second company went with the flow. As a result, its software development was not very successful, and the company did not accumulate experience. In the future research and development, the company still did not change and gradually lagged behind its competitors. It thus can be seen that, the research and development of software cannot be limited to occasional success. Momentary success can represent nothing. Only when one accumulates experience in mistakes and keeps making efforts can he make progress.

3. Progress Plan Preparation for Software Project Management

3.1 Selection of Progress Preparation Method

Progress preparation method is not invariable. It will change with the plan change. Hence, it is extremely important to select progress preparation method. The expense for making some tables is low, and the time consumed is short, while some charts require long time and high capital demand. Nevertheless, the demands of CPM are more tedious. It has to analyze activity schedule in each stage. Sometimes, due to many activities, the threshold value of CMP will be surpassed. Thus, it is necessary to calculate the time and path by the computer. This method of progress preparation is most difficult and time-consuming. In the face of various progress preparation methods, the selection of proper preparation method should start from project scale and time requirement for all-round and thorough analysis. Only when the method selected is correct, the software project can proceed smoothly.

3.2 Selection of Progress Preparation Tools

After the progress preparation method is chosen, we need to screen the preparation tools. In software project management, the requirements for preparation tools are quite strict. The peroration tools should own input, budget resource cost and rationally allocate a series of factors including personnel and capital demand. In the project implementation process, the personnel concerned need to compare the budget of all resources and cost, and select the more rational tool. The preparation tool can be properly adjusted according to actual conditions, and human resources and materials are rationally allocated as required.

3.3 Formulation of Progress Plan

The formulation of progress plan should be based on referring to lots of previous data, and the schedule formulated should have actual effect. There are a variety of methods to make plans, such as level-by-level task allocation. In this way, the tasks of each level are clear, and the task allocation is specific and rational. Under the guidance of progress plan, various tasks in software design process can be completed orderly.

4. Progress Plan Implementation in Software Project Management

It is very important to make the progress plan. However, after the reasonable and effective plan is made, it is also very important whether it can be approved by technical personnel and users. Only when they both accept it, the plan can have the chance to be implemented. Therefore, plan implementation is also equally important. After the project is accepted by technical personnel, it will be published and then implemented according to the set plan. In the implementation process, technical personnel cannot relax, but should find out and solve problems in the continuous practice process. The management method in the implementation process should adopt mobile management. Due to personal reasons and different types of technology, it is very difficult to adopt a uniform and

invariable management method. Thus, the correct management method is to take corresponding actions according to the features of different persons so as to gain the better effect.

4.1 Some Have Weak Personal Ability and Do Not Have the Strong Desire to Complete Tasks

For these persons, the strong command mode should be taken. The reason is that technical capacity of these persons is not strong, and they are not diligent, either. They cannot actively complete tasks, and it is hard for them to complete tasks. So, compulsory measures should be taken to avoid the impact on the progress. Once we can fundamentally improve work efficiency of these persons, the entire progress of software project management can be promoted. For such persons, we can combine the mandatory order and encouragement, and improve their recognition degree for their work through encouragement so that they can try their best to enhance their technical skills in the follow-up work.

4.2 Such Persons Shave High Enthusiasm for Work, But They Have Insufficient Ability to Well Complete Tasks

For such persons, we should have sufficient patience to help them. They may be new comers, and have no enough technical experience. Inadaptation to the new environment causes they cannot perfectly complete tasks, thought they have high work enthusiasm. Thus, we should have enough patience to guide them, provide relevant experience for them, and give them certain encouragement and support after they finish tasks so as to let them keep improving with sufficient self-confidence. We can give them targeted skill training and improve their work attainment so that they can show their enthusiasm incisively and vividly in work.

4.3 Such Type of Employees May Exist in Many Companies

They own rich experience and the ability to complete tasks, but have no work enthusiasm. The fundamental reason is that, such persons are senior employees. Due to their problems, their work enthusiasm is not very high. Thus, we should understand and communicate with such staff. We cannot adopt commanding tone, but should give them space. We should give them space to show their experience and ability. General, the result will be better. The company should provide a sufficient development space for them so that they can exert their abilities in the project.

4.4 The Final Type is a Type of Perfect Persons

They not just can finish tasks with excellent ability, but also have high work enthusiasm. For such staff, managers should give them certain right of making decisions. With the right of making decisions, the fighting will of such staff will greatly improve. In their opinions, managers affirm and trust them, so they give them the decision and management right, which also further enhances their self-confidence and makes them have stronger fighting will in the future work. Such staff will become the future development leader of project management project in the future. Hence, we need to enhance training for them, and provide the better development platform for them.

5. Progress Plan Control in Software Project Management

Progress control of software project should achieve software requirements. Without the clear requirements, software work cannot be implemented smoothly. Thus, software project management should have a specific and reliable demand. Software progress control should be approved by relevant personnel and own feasibility, and can never be divorced from reality. An operable software project has the implementation value. An unclear and unrealistic software project can only waste manpower and materials. The implementation process of progress plan in software project management must receive certain control. Many problems will inevitably happen in the progress plan implementation process. Some problems may bring the fatal consequence, if they are not solved. Hence, the progress can be controlled more effectively, only with proper and timely monitoring of implementation process.

In the face of possible problems in the progress control process, such as data deviation, we should keep a peaceful mentality and cognize the deviation is normal. But we must carefully analyze and review, and make a response in time. In the proper cases, the plan can be adjusted to minimize the plan implementation risks, and analyze the reasons for problems. Only in this way, the problems in progress plan can be solved, and progress plan implementation can be controlled effectively. At present, progress control can be divided into the following steps: plan, execute, examine and take actions. These processes are the main steps of progress control. The bigger advantages can be gained in software project management through controlling the progress plan in strict accordance with the above steps, and grasping the implementation process more effectively.

Under the rational precondition, the progress plan of software project management should have certain conciseness, but conciseness does not represent simplicity. The necessary details should be clearly indicated, but some unnecessary contents can be omitted. It is very hard for others to really understand feasibility of the plan, if the plan is too tedious. Hence, based on no omission of key content, the plan should not be too verbose. Meanwhile, progress plan control is not essential. However, the plan is only a plan, and it may be violated in practice. If the plan cannot conform to the reality in practice, it should be corrected in time. So, plan making and plan control are equally important.

6. Summary

Based on the above, progress control in software project management is crucial. We discuss the necessity of progress control, progress plan making, implementation and control. In general, plan making and implementation process monitoring must be valued in the research and development process of software engineering. It is necessary to predict in advance and rationally correct the plan according to actual conditions so as to make sure the software design proceeds smoothly. Nevertheless, we also should notice the attitude to the implementation personnel. Different measures are required for different personnel. The selection of machinery and equipment is equally important. Software development requires a lot of computer facilities. The precondition of project implementation is to make sure the machinery is intact. Thus, the software engineering project can be accomplished perfectly by making a thorough and reasonable plan and grasping the actual conditions under the prediction of ensuing machinery quality.

References

[1] Dou Yan. Discussion on Key Factors Influencing Computer Software Project Management, Journal of Yanshan University, 2011 (04): 369-372.

[2] Cao Xiaolin. Economic Analysis of Engineering Project Progress Control, Journal of Chongqing Jianzhu University, 2013 (02): 102-105.

[3] Wang Zhengxiao, Sun Yongjun. Project Task Decomposition and Progress Control Strategy under Virtual Enterprise Environmen, Application Research of Computers, 2012 (08): 31-36.

[4] Zhou Xiaoqiao. Project Management Tools and Template, Beijing: Tsinghua University Press, 2005.