A Sliding Moving Average Approach for Forecasting Project Duration

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ABSTRACT

According to the book 「Critical Chain Project Management」is describe by Dr. Leach, gloabal projects fail at an amazing rate. Quantitative estimated show that about thirty percent of projects would be canceled before completion. All the time, money and effort that we invest in them must be wasted. Even the projects can be complete finally, the projects usually change the initial scope, or deliver late, or overrun the budget. Vandevoorde and Vanhoucke(2006) sorted out three major forecasting methods for project duration. These three major forecasting methods are the planned value method, the earned duration method and the earned schedule method. For the remaining task of project, Vandevoorde and Vanhoucke(2006) further extend the three methods according to three situations: 1. duration of remaining work as planned. 2. duration of remaining work follows the current SPI or SPI(t) trend. 3. duration of remaining work follows the current SCI or SCI(t) trend. The last two situations calculated performance index on average view, that might lead to ignore recent period ’ s performance. for the reason that, this study present the sliding moving average method to overcome this defect and try to improve the accuracy for project duration forecasting.

Keywords : sliding moving average、earned schedule、project duration

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REFERENCES

一、中文部份 曾清枝(2001)，國防部中山科學研究院業務研究發展九十年度研究報告，桃園:中山科學研究院。 二、英文部份 Anbari, F. (2003). Earned value project management method and extensions. Project Management Journal, 34(4), 12-23. Fleming, Q. W., & Koppelman, J. M. (2000). Earned value project management. Pennsylvania: PMI Henderson, K. (2003). Earned schedule: A breakthrough extension to earned value theory? A retrospective analysis of real project data. The Measurable News, Summer, 13-17. Henderson, K. (2007). Earned schedule: A breakthrough extension to earned value management. presented to the PMI Asia Pacific Global Congress, Hong Kong. Jacob, D., & Kane, M. (2004). Forecasting schedule completion using earned value metrics revisited. The Measurable News, 1(Summer), 11-17. Jacob, D. (2003). Forecasting project schedule completion with earned value metrics. The Measurable News, March, 7-9. Kerzner, H. (2001). Project management: A systems approach to planning, scheduling, and controlling(7th ed). New York: John Wiley & Sons. Leach, L. P. (2004). Critical chain project management. London: Artech House. Lipke, W. (2003). Schedule is different. The Measurable News, Summer, 31-34. Lipke, W. (2006). Earned schedule leads to improved forecasting. proceedings of the ProMAC conference, Sydney. Lipke, W. (2009). Project duration forecasting - A comparison of earned value management methods to earned schedule. The Measurable News, 5(Spring), 24-31. Nassar, K. M., Gunnarsson, H. G.., & Hegab, M. Y.(2005). Using Weibull analysis for evaluation of cost and schedule performance. Journal of Construction Engineering and Management, 131(12), 1257-1262. Teicholz, P. (1993). Forecasting final cost and budget of construction projects. Journal of computing in civil engineering, 7, 511-529. Vandevoorde, S., & Vanhoucke, M. (2006). A comparison of different project duration forecasting methods using earned value metrics. International Journal of Project Management, 24(4), 289-302. Vandevoorde, S., & Vanhoucke, M. (2007). Measuring the accuracy of earned value/earned schedule forecasting predictors. The Measurable News, 4(Winter), 26-30.