



FACULTEIT ECONOMIE
EN BEDRIJFSKUNDE

TWEEKERKENSTRAAT 2
B-9000 GENT
Tel. : 32 - (0)9 - 264.34.61
Fax. : 32 - (0)9 - 264.35.92

WORKING PAPER
ABSTRACT

**Improved project time performance using activity
sensitivity and network topology information**

Mario Vanhoucke *

June 2008

2008/526

* Faculty of Economics and Business Administration, Ghent University, Gent, Belgium

Operations & Technology Management Centre, Vlerick Leuven Gent Management School, Gent, Belgium
mario.vanhoucke@ugent.be

ABSTRACT

The interest in activity sensitivity from both the academics and the practitioners lies in the need to focus a project manager's attention on those activities that influence the performance of the project. When management has a certain feeling of the relative sensitivity of the various parts (activities) on the project objective, a better management's focus and a more accurate response during project tracking should positively contribute to the overall performance of the project.

In the current research manuscript, a simulation study is performed to measure the ability of four basic sensitivity metrics to dynamically improve the time performance during project execution. We measure the use sensitivity information to guide the corrective action decision making process to improve a project's time performance, while varying the degree of management's attention. A large amount of simulation runs are performed on a large set of fictive project networks generated under a controlled design.