

# Stochastic Simulation Model For Maintenance Manpower Planning

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## Summary

In this paper the elements of a generic conceptual simulation maintenance are briefly presented. The conceptual model consists of seven modules. The modules are the input, load, planning and scheduling, material and spare parts, equipment, quality control and performance measures. The conceptual model has been transformed into a simulation model and implemented using AweSirn Simulation language. The model is used for maintenance manpower planning and evaluation of the need for contract maintenance in a process plant in Saudi Arabia. The results indicated that that the simulation model is realistic and a valuable tool for planning manpower in maintenance system systems.

## References:

1. ALBINO V, 1992, INT J PROD RES, V30, P369
2. ALZUBAIDI H, 1997, EUR J OPER RES, V99, P603
3. BARNETT KW, 1981, TEROTECHNICA, V2, P147
4. DUFFUAA SO, 1992, SIMULATION, V63, P93
5. DUFFUAA SO, 1999, PLANNING CONTROL MAI
6. DUFFUAA SO, 1999, PRODUCTION PLANNING, V10, P570
7. DUFFUAA SO, 2000, P IIE C SIM SOL DENV
8. DUFFUAA SO, 2000, SIMULATION MODEL MAI
9. GATLAND R, 1997, P 1997 WINT SIM C, V30, P892
10. JOO SJ, 1997, SIMULATION, V68, P93
11. KELLY A, 1989, C COMM FARNH UK
12. KENNE JP, 1999, INT J PROD RES, V37, P621
13. MOSELY AS, 1998, IEEE T WAFER MANUFAC, V11, P316
14. NTUEN CA, 1999, COMPUT IND ENG, V37, P219

15. SAVSAR M, 1990, P 1 SCI S MAINT PLAN, P95
16. SAVSAR M, 1993, P 2 SCI S MAINT PLAN, P95
17. SUN YM, 1994, INT J ADV MANUF TECH, V9, P35
18. VINEYARD ML, 1992, INT J PROD RES, V30, P2647

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