

# Abstract

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## **A Design Methodology for the “Structure” and the “Sophistication” of Maintenance Departments in Industrial Organizations**

In order to build a successful maintenance department, one has to answer the following two questions before taking any steps of realization: 1- “How should the department be structured in terms of centralization, de-centralization combination of the two structures?” and 2- “what is the required level of sophistication within the functions of the department either primitive, medium sophisticated?” In this context, the level of sophistication may be labelled “the amount of investment”, given that all sorts of investments may be reduced to financial investments. In order to decide on these two fundamental characteristics, a virtual tri-axial categorization grid is built for each characteristic individually through the nomination of each relevant parameter as an axis on the grid. A field study is then launched to train the grids through the allocation of every available successful factory in its location with respect to the corresponding axes. The allocated factory will be defined with its implemented and successful “structure” and “level of sophistication”. When the grids reach enough input data, the fuzzy borders between the different decisions will be obviously deduced and new comers may have their questions answered by comparing their parameters to those of the already built grids.