Abstract
Six Sigma has been considered a new improvement technology of processes and services since its origins. It has had a meaningful impact on the results in companies. The purpose of this paper is to show how the use of this methodology can reduce the variability in a process of furniture manufacturing. Furthermore, it will be proved if this methodology could be applied in a medium sized enterprise. This project was carried out at MADECOR S. A. de C. V. company, which had problems concerning the separation of joints to 45° of wood furniture buffet. For developing this methodology, the variables affecting the problem were identified; metrics and the applications of DMAIC project (that allowed the identification of root causes) were established; and the implementation of improvements made possible the monitoring for a 3 month period to standardize the process to achieve the established goal. For the statistical analysis, statistical control tools of processes and Minitab software for data processing and analysis were used.

Keywords
Six Sigma, defect, analysis, rework, variation.