ABSTRACT
To take the lead in the competition environment today, enterprises must guarantee that the quality, cost and time of product development can fit requirements of the market. However, the uncertainty and potential risks occurred while designing and manufacturing. To prevent or eliminate such risks happened, Failure Modes and Effects Analysis is the important method to identify and counter weak points in the early conception phase of products and processes. In other words, FMEA (Failure Modes and Effects Analysis) is to analysis and management of risks. FMEA is the most popular analytical method of failures and wildly adopted over different industries. It is used to examine the problems in designing phases. In auto industry, it is especially utilized to improve the quality in manufacturing phases. Further to increase the reliability, it provides the capability to forecast the defects and give a corresponding strategy. Practically it has some insufficiency. For instance, it takes too much efforts and time. It is not easy to maintain and search. And it collect blindly to be not shared worldwide. To overcome such insufficiency, this study proposed a CBR (Case Based Reasoning) method to construct a FMEA system. By souring the experiences and solving manners in the pass, the result information can be an important assistance to support solving the currency. FMEA expert system is built on information technology application to enhance the insufficiency of traditional FMEA manners.

Keywords: Failure Modes and Effects Analysis, Case Base Reasoning, Analysis and Management