Analysis of Industry 4.0 maturity level and deduction of optimizing opportunities using the model of Robert Bosch LLC (SC, USA)

Aim

The target of the present thesis is to create a maturity model for Industry 4.0, in which the current level of the Industry 4.0 achievements of Robert Bosch LLC in Anderson shall be classified. This scoring model is supposed to give an overview in which areas Industry 4.0 is already accomplished and to what extent. Furthermore, an evaluation of the achievements of Robert Bosch LLC regarding Industry 4.0, analysing and comparing the current situation with the future state, in terms of a scoring model shall be given. On that basis, potentials for future improvement shall be identified, optimizing opportunities outlined and in the end a recommendation for action shall be given.

Structure/Method

In order to create a maturity model for the Industry 4.0 achievements of Robert Bosch LLC in Anderson, intensive research concerning existing literature and extensive criteria of this topic was needed in a first step. In a second step, literature regarding maturity models in general and for Industry 4.0 were displayed and important components of these models were outlined. A comparison of existing Industry 4.0 maturity models, led to a decision to take one of them as a framework of the maturity model. From there on, the model was rudimentary changed and edited through 31 explorative interviews until it had a specific level of detail and applicability for the Bosch plant in Anderson. The current state assessment was based on Gemba walks and 44 expert interviews. In the end, areas of improvement are outlined and a concept to integrate the developed maturity model into a continuous assessment cycle is described.

Results

A universal maturity model for Industry 4.0 was created. Based on that model, Robert Bosch LLC Anderson was assessed and areas of improvement are outlined. A recommendation for action is given and a concept to implement the developed model into a continuous assessment cycle is established.

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