A Review of Multi-holes Drilling Path Optimization Using Soft Computing Approaches
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In today’s competitive environment, optimization is considered as an important element for maintaining and improving both aspect of manufacturing such as quality and productivity. In multi-holes drilling process, 70% of the machining time involved the tool movement and tool switching. Various researches had been conducted to reduce the tool movement and switching time. This paper reviews the research publications on the drilling path optimization using soft computing approaches. In particular, this review focuses on four main aspects; drilling application areas, problem modeling, optimization algorithms and objective functions of drilling path optimization. Based on the review, the researchers’ interest in this area is still growing. However, the existing researches were limited to implement, modify and hybridized the well-established optimization algorithms. Furthermore, there is a lack of awareness to consider the environmental and sustainable issues in the existing research. In future, the researcher is suggested to give focus on energy consumption that related with sustainable manufacturing and also to explore the potential of new meta-heuristics algorithms that can lead to significant in reduction machining time.