عنوان مقاله:

Selection of Pilot Plant Furnace Technology of Khuzestan Steel Factory Using Fuzzy TOPSIS

محل انتشار:

دوازدهمین کنفرانس ملی و هشتمین کنفرانس بین المللی مدیریت فناوری و نوآوری (سال: 1397)

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خلاصه مقاله:

Since the most significant and most essential effective factor in today's competitive markets are quality improvement and reduction of the final price of the manufactured products, the present study has aimed to recognize the most important criterion that affect selection of technology and to determine the weight of each of these criteria in order to prioritize the existing alternatives. In order to determine the weight of criteria in this study, the paired comparison survey has been used which has been distributed among 8 of the skilled experts who were members of the technology management team in Khuzestan Steel Company. In order to analyze the answer given by these experts, the AHP decision-making model and EXPERT CHOICE Software have been used. According to the obtained results, we have concluded that among the indexes of technical evaluation of the technology, economic evaluation of the technology, evaluation of legal and strategic limitations of the technology, evaluation of the market of the technology, evaluation of a company's financial limits and abilities regarding technology selection, the criterion economic evaluation of technology is the first priority and the criterion evaluation of the market of the technology is the last one. The Fuzzy TOPSIS method has been used in order to rank the technologies. The second survey used in the research have been distributed among 30 skilled experts. According to the results, the pilot plant furnace technology of the Danieli Company in Italy is at the first rank, the pilot plant furnace technology of Germany's Auto Tech Company is at the second rank and the pilot plant furnace technology of Metal ArcelorMittal Company was at the third rank. The innovation in this research is the fact that it recognizes and prioritizes the technology selection criteria using the AHP2 technique and uses Fuzzy TOPSIS for selecting the technology. Therefore, the present study proposes a framework to Iranian companies for evaluating different technologies and selecting the suitable one.

کلمات کلیدی:

Fuzzy Theory, Fuzzy TOPSIS, Technology Selection, Paired Comparison, Analytical Hierarchy

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