

## Development of a Technology Assessment Model by Patents and Customers' Review Data

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**Abstract :** Recent years have seen an increasing number of patent disputes due to excessive competition in the global market and a reduced technology life-cycle; this has increased the risk of investment in technology development. While many global companies have started developing a methodology to identify promising technologies and assess for decisions, the existing methodology still has some limitations. Post hoc assessments of the new technology are not being performed, especially to determine whether the suggested technologies turned out to be promising. For example, in existing quantitative patent analysis, a patent's citation information has served as an important metric for quality assessment, but this analysis cannot be applied to recently registered patents because such information accumulates over time. Therefore, we propose a new technology assessment model that can replace citation information and positively affect technological development based on post hoc analysis of the patents for promising technologies. Additionally, we collect customer reviews on a target technology to extract keywords that show the customers' needs, and we determine how many keywords are covered in the new technology. Finally, we construct a portfolio (based on a technology assessment from patent information) and a customer-based marketability assessment (based on review data), and we use them to visualize the characteristics of the new technologies.

**Keywords :** technology assessment, patents, citation information, opinion mining

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