

# Abstract

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## **A novel model for capturing and analyzing customers' preferences for ceramic tiles**

Abstract: - Most manufacturing enterprises do their best to be more customers centric while improving production plans &#97;&#110;&#100; reducing inventory costs &#97;&#110;&#100; stock levels. Traditional data collection methods such as survey &#97;&#110;&#100; observation are used to capture customers' preferences, but sometimes fail to provide valid &#97;&#110;&#100; reliable data. Conventional data mining models were used to discover the association rules from large databases that contain the transaction records. However, there is no way to realize how customers pick up products before purchasing them. In other words, the customers browsing comparing products behavior is not considered during the mining process. To face these challenges, we use the RFID technology, the data mining techniques &#97;&#110;&#100; a smart product display system to provide a novel model for capturing &#97;&#110;&#100; analyzing customers' purchasing behavior. In this paper, we explore the possibility of analyzing customers' preferences from information captured by RFID technology. Proposing a design of a smart product display system, we investigated the appropriateness of the technology as an identification tool. We then presented an analytical model of ceramic tiles customers' preferences, which is generated through queries &#97;&#110;&#100; data mining techniques. In order to illustrate the usefulness &#97;&#110;&#100; real world feasibility of our proposed model, we built a working prototype as a proof of concept. For evaluation purposes, we used a sales transaction data, which is able to serve as input to our model. Our experimental results clearly indicate that RFID technology is suitable to aid in capturing &#97;&#110;&#100; analyzing customers' purchasing behavior. Key-Words: - RFID technology Customers' preferences Mining Association Rules