

## RESUMEN PONENCIA N° 31

### **An Examination of How Knowledge Management Can Improve New Product Success rate in the Supply Chain of the Spanish Ceramic Tile Industry.**

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The research objective of this study was to examine the effect of Knowledge Management (KM) on the development process and performance of new products in the ceramic tile industry. An in-depth case study was conducted within a Spanish ceramic tile manufacturer in Castellon.

The study has revealed the need to integrate Knowledge Management (KM) into the New Product Development (NPD) process. Without formally capturing knowledge in the NPD Process, the performance of new products is shown to suffer in the marketplace. The main objectives of this research can be split into two components. The first component examined the impact of the management of the NPD process on the market success rate of new products by measuring its proficiency in terms of the number of labour days allocated to each of the thirteen activities. As defined in the literature (Cooper and Kleinschmidt, 1995), the NPD Process is comprised of the following thirteen activities:

Initial Screening, Preliminary Market Assessment, Preliminary Technical Assessment, Detailed Market Study, Pre Development Business Analysis, Product Development, In-House Prototype Test, Customer Test of Products, Test Market, Trial Production, Precommercialisation Analysis, Production Start Up, Market Launch

The key deliverable here was to find out the proficiency of each of these activities of the NPD process, relevant to the ceramic tile industry and its effect on new product outcomes. The result from this case study concurs with the findings from the literature: the high failure rate of New Products is closely associated with the low proficiency of the NPD Process (P1).

The second component of the study examined how this relationship between NPD process and outcome of new products was affected by Knowledge Management Process. The aim of the second research question (P2) was to examine the extent to which the KM process can support the activities of the NPD Process defined above. To this end, seventeen subordinate Critical Success Factors (CSFs) of New Product Development, supporting each activity of the NPD Process has been outlined from the literature as for example, cross functional team co-operation, supplier integration, customer involvement, co-operation with institutions in the Industrial District.

The case study has revealed that the construction of a knowledge resource from each of these CSFs to support each activity of the NPD Process is not an automatic process. The process of construction of knowledge has been assessed by means of the three phases of Knowledge Management Process (Stein and Zwass 1995):

- a) Acquisition of information
- b) Storing/Retrieving of Information from Organisational Memory
- c) Distribution, Sharing and Application of stored information

It was found that information underlying these supporting factors of NPD Process has to move, in a linear way, along the 3 Phases of the KM Process for this information to be transformed into a knowledge resource.

Specifically, the study finds that the three phases of the KM process can resemble a funnel when incorrectly managed. Out of these supporting seventeen Critical Success Factors (CSFs) to NPD Process, information underlying thirteen CSFs is acquired. However, information from only six of the CSFs was retained as a knowledge resource to support the NPD Process. The effectiveness of the NPD Process is thus impaired due to the mismanagement of the KM process to transform information underlying the critical success factors into a knowledge resource. In conclusion, the findings show that knowledge resource associated with the critical success factors supporting the activities of the NPD process can be lost before it is converted into a resource reducing the market success of new products.