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Digitales Produkt:

***Beispiel einer Integrationsplattform für Technik- und Verkaufsprozesse
mittels Informations- und Visualisierungstechnologien***

Abhandlung zur Erlangung des Titels

DOKTOR DER TECHNISCHEN WISSENSCHAFTEN

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Abstract

With the use of modern information technology in nowadays companies there is seen a change from the problem of accessibility of information to the problem of information retrieval. This means not only finding the information but also presenting information in a usable way for different applications. To do this there had to be a transformation from one process-view to another.

Regarding the state of information technology the interchange of information isn't any problem according to system technology or syntactical definitions. The problem still existing is based on the semantical level of process and data integration.

The conventional approach implementing an integrated IT-solution is characterized by a bottom-up procedure. With this proceeding the interconnection is described regarding technical possibilities. According to this approach there had been some implementation trials of modelling the whole product with all process views in one schema to be mapped in a relational database. A complementary approach is the so called business process reengineering, with mostly is not affected by modern information technology.

In this work there will be described a top-down approach by using possibilities of nowadays information technology. For this purpose there will be an analysis of the processes of new product development (primary development), the sales process and the process of customer specific redesign of products (secondary development).

For the integration of those processes is introduced the definition of the Digital Product which has to be seen as an integration platform for the communication of primary and secondary development and the sales process. There has been presented a procedure to define a Digital Product and a verification of that using an industrial example. Important Elements are the way to find the needed information sets and the use of information technology for the object transformation to specific views.

To define an integration platform there is been presented a classification schema for different levels of information classes. Also important for the system integration is the classification of different views to this data sets.

In an application example there is pointed out how this mechanism will work in integrating the definition of variant products from the technical view and the configuration to customers needs in the sales process. Regarding the configuration Problem it is worked out how different product characteristics influence the mechanisms of communication technologies.

Any business reorganisation is controlled by a value benefit analysis. Using the implemented example it is shown which problems might arise using a standard return on investment calculation in evaluating the benefits of introducing a Digital Product. It is shown that the approach of benefit evaluation needs to regard the problem that costs will arise in one part of the company for gaining profit in another.

The aim of this work is to show the enormous benefit reachable by combination of business process redesign and the implementation of integrating information technology by the use of a Digital Product.