

Aspects of customer relation and risk management for the concept of mass customization

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ABSTRACT

Today business applications focus on information management to support customer relation management and mass customization. They rarely take into account the additional aspect of risk management under the perspective of business continuity evaluations. Without those evaluations it takes only a small step from success to failure. This paper presents some aspects that have to be taken into account for a successful approach in customer relation applications for mass customization.

KEYWORDS: CRM, risk management, business processes, information systems

ERM-SYSTEMS, CUSTOMER RELATION MANAGEMENT AND MASS CUSTOMIZATION

The introduction of modern enterprise resource planning systems (ERP) has helped most companies to re-think their organizational and IT-strategies to adapt better to the changing and competitive markets in particular after the failure of e-commerce hype. A further result of this is the stronger focus on the actual needs of the customer and the supply chain and important aspects of customer relation management.

By means of information and knowledge management tools supporting those ERP-systems detailed customer profiles can be generated and the concept of mass customization as an advanced competitive strategy is possible. Mass customization understood as the individualization of mass produced

products from the customers viewpoints [1]. Moreover e-commerce applications encouraged the further spreading of mass customization as a concept it offers a tremendous potential.

From the practical side business models for coordinating next generation enterprises in general support mass customization solutions [2]. They can be easily set up using an e-commerce platform with intelligent agents as sales-front-end and are therefore very efficient in terms of data integration [3].

Standard ERP systems are used as back-bone system to administrate all internal and external data. To make an intelligent use of the underlying customer information additional CRM-components should be used to understand actual customer needs at the „Customer Touch points“ [4]. Priority for CRM-

systems is always to prolong the long term relation with the customer and maximize the customer value.

The whole framework can be extended to open up the supply chain and manufacturing planning and production into so called “virtual enterprise solutions” pursuing mass customization [5]. Typical a network of virtual companies will try to split the business processes into sales, production and service or consulting units.

Due to the customization of the product the emphasis lies strongly on the data integration aspect of the customer ordering data to smooth out the workflow and production balancing through the internal ERP-System. The order processing is then followed by a number of tasks including materials management, production planning and the production itself. It ends with the final dispatching.



Fig. 1: Risk Evaluation

RISK MANAGEMENT AND BUSINESS CONTINUITY

As companies are trying to adapt to changing market situations an effective order processing in particular in mass customization becomes more important. The business process of order processing starts with the customer contact.

An enterprise should always try to cut cost or to improve the overall process by using any degree of freedom its customers allow for e. g. in terms of delivery date or order size. Here a soft computing approach can help to utilize the whole potential of the customer order, especially to deal with hidden linguistic uncertainty [6].

Risk?

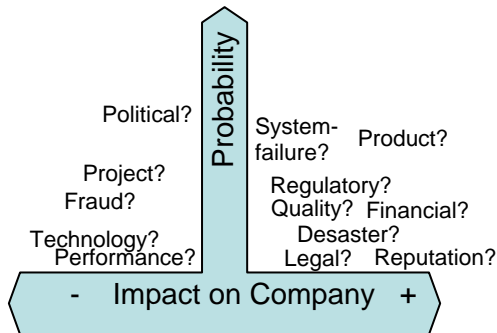


Fig. 2: Assessment of probability and impact of risks

Working business models are dynamic systems with changing structures, reaction and timing, which are difficult to implement and simulate. To assure business continuity for a company using a particular business model like mass customization of a certain product and for a branch of customers – risk evaluations (see Fig.1 and Fig. 2) are essential [7, 8].

A risk management framework for a mass customization system takes into account different sides – starting from the organizational, the environment and technical aspects. One can distinguish between internal and external factors [9].

Depending on the risk framework - it is needed to answer some questions about the business continuity:

- How is a competitive assessment of risk possible?
- Does the understanding of the risk factors help to improve strategic decision making?
- And how are operative risk factors taken care of?

The underlying question for the company is: Is it really worth to take those risks? For an active risk management the all given risks should be identified [10] and risk classification according to the possible impact on the ongoing company processes should be done:

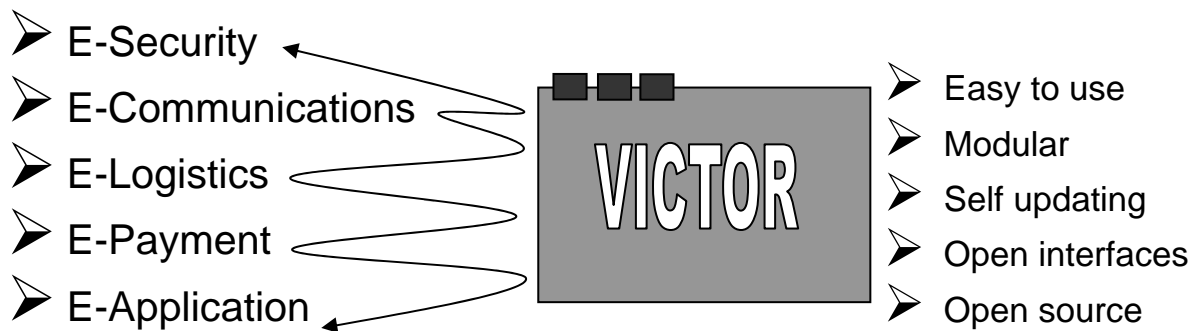


Fig. 3: Virtual Competence Transfer Framework

Knowledge management tools and customer relation management can cover one side of this. They help to define future products and are used to optimize customer identification, customer churn rates and evaluate the customer value and other external factors.

The given framework of risk evaluation has to be defined as comprehensive and complete to support an emergency plan to assure business continuity under the aspects of a disaster recovery and management [11].

This should not just include classical technical back up systems for software and data and some organizational plans [12].

The actual business components used for operative order processing and mass customization production should already take most operative risk into account.

This can be done by implementing intelligent agents setting of trigger alarm, supporting escalation workflows as well as distributed information processing of business objects [13].

A prototype of flexible java-based fuzzy kernel for business applications has been implemented [14].

Currently a virtual competence transfer framework called VICTOR (Fig. 3) is set up to support risk management for small and medium companies and allow for typical web components and interaction.

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