Web 1.0, Web 2.0, and Web 3.0: The Development of E-Business

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INTRODUCTION

The question of the development and future of the electronic business has been analyzed by many researchers, since there is scarcely such a dynamic area as within digital data networks (Kollmann, 2014).

Both, Web 1.0 and Web 2.0 were linked directly to new stages in the development of e-business. Whereas the distinction between Web 1.0 and Web 2.0 became widely accepted in literature and practice, we are merely at the beginning of the possibilities arising from current trends culminating in our information society. Information emerges increasingly as a major factor of production, allowing the activation of innovative business opportunities. However, over the past years, a sheer explosion of supplies has taken place. This development is both a blessing and a curse as it leads to an oversupply of information within the World Wide Web. Thus, the time needed for finding required information may take longer eventually. Therefore, a next generation technology is needed being capable to cope with these challenges. Due to the logic of this chain of ideas, Web 3.0 technologies are characterized particularly by demand-orientated systems, i.e. demand for objects and services are at the centre. Starting point are demand-driven registration and specification systems. The consumer is at the centre of these processes and will gain individual help, comparable to an information desk. Not only information but also individualized products and services may be released (customized products). In more detail, Kollmann, Kuckertz and Breugst (2009) have shown that the organizational readiness is strongly related to e-business adoption on a national level. Furthermore, information as a production factor will increasingly become important and will lead to the development of new innovative business ideas.

Against the background of an increasing information overload, the question to be asked is how technological and market-oriented future developments will cope with these challenges. This paper aims at clarifying this overall development with the objective of giving impulses for the 3rd generation of e-business.

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BACKGROUND

Web 1.0: E-Procurement, E-Shop and E-Marketplace Systems

Web 1.0 is particularly characterized by supply-orientated systems, i.e. supplies of objects and services are vital. Accordingly, private and commercial business men use the internet as another distribution channel to offer their products to the market. Supply-side database systems are used and filled with relevant information about the product or service. In these systems, the potential buyer can search for offers that mostly match with his individual needs. Therefore, the products and services are electronically recorded by companies. Corresponding eOffer, eSales or eTrading processes are transacted on the platforms E-Procurement, E-Shop and E-Marketplace (Kollmann, 2013). Current development focuses on customizing search/matching and transaction processes in order to make Web 1.0 services more efficient and thus more beneficial. Consequently, private or commercial suppliers try to use the internet as an additional distribution channel in order to provide products to the market using supply-orientated database systems as a starting point, yielding in three potential business opportunities:

E-Procurement

E-Procurement enables the electronic purchasing of products and services from a company via digital networks using the integration of innovative information and communication technologies to support and conclude both operative and strategic tasks in the area of procurement (Kollmann, 2006). As a matter of principle, E-Procurement represents a collective term for electronically supported procurement. The basic idea of electronic procurement refers to the procurement-relevant activities between an entrepreneur (procurement-manager) and a distributor (vender).

E-Shop

An E-Shop is a company's virtual salesroom, allowing the electronic selling of products and services using digital networks. Thus, innovative information and communication technologies may be used supporting and concluding operative and strategic tasks for the buying process (Kollmann, 2006). The increasing acceptance of electronic media by customers goes along with a rising supply of products and services being partially or exclusively distributed by "virtual shops" via the internet. The basic idea of electronic sale refers to the relationship and the sale-relevant activities between entrepreneurs (suppliers) and consumers. Electronic sale consists of three fundamental aspects transferred from the actual sale (Choi et al., 1997): First, the shop owner himself aims at distributing products via the internet whereas traditionally, the seller is physically present in a shop. Second, contact merely takes place virtually, and selling from a customer's perspective is executed by the means of machine transactions. Finally, the product is either available in physical (e.g. computer) or in digital (e.g. software) form, which affects the buying process. If the product is available physically, the virtual sale will be combined with an actual distribution whereas digital products may be delivered electronically.