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Business Model Design and Implementation for eServices

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Abstract

Electronic Commerce (eCommerce) is becoming widely understood in the business-to-consumer market due to earlier market awareness and success stories like amazon.com. New challenges lie ahead to extend eCommerce business models. One area is the extension of simple eCommerce shop solutions to offer more integrated eBusiness solutions and include eServices (Plummer and Smith, 2000). While lacking required capabilities within one company, networks and alliances are becoming an attractive means to achieve that (Chisholm, 1998). A prerequisite to reap the potential benefits is to define an adequate business model that enables decision makers to decide upon these new opportunities. This paper proposes an initial framework for business models. It applies it to the area of eServices in eBusiness. It aims to provide both business executives and researchers with a means to facilitate the definition of new business models and to reduce uncertainty in eBusiness. Further research should focus on refining the framework and on providing design recommendations for business models. This will be achieved by focusing on in-depth case studies on the design and implementation of eServices.

Motivation and Focus Area

Since eCommerce or the more encompassing eBusiness are gradually permeating into management practice, this also spurs a rethinking of the foundation of management practices and assumptions. This observation can be supported by the following trends. As the emphasis in eBusiness shifts from resource allocation to resource attraction (Hamel, 1999), the evaluation of companies is more focused on the future potential of the business model than on existing revenues. Also, the wide availability of money and information combined with little time and location constraints gives rise to new business models. Next to scarce human resources, the effective management of time becomes an increasingly important success factor (Stalk and Hout, 1990; Stalk, 1999) to survive in eBusiness. Finally, when considering that "Relationships are one of the most valuable resources that a company possesses" (Hakansson, 1987, 10) this enables multi-optioning (Brown and Eisenhardt, 1998) and partnering in networks as vital responses to manage the requirements of future eBusiness.

The proposed research will focus on business models evolving for eServices in the business-to-business area. EServices are defined as Internet-based applications and services, which are offered as individual

products or services to solve a specific business need that seamlessly integrates with the (business or private) customer's processes. They derive their value from digital value creation and may include physical elements and/or other eServices (recursiveness). An aggregator of eServices for electronic procurement may bundle many different eServices like trusted 3rd parties, infomediaries (Hagel and Armstrong, 1997) and other eService providers. Such eServices may build a new infrastructure to facilitate entrepreneurship, virtual organizing and seizing new opportunities (Klueber *et al.*, 1999).

Research Framework

The research is conducted with action research (Checkland and Holwell, 1998) using methods that help to understand which goals, business rules, and logic companies pursue and which networks they form. The choice of companies is focused on those who participate in the Competence Center for Business Networking[1], which facilitates access to people and information as well as lowers barriers of trust. Close collaboration with practice enables a research process to study socio-technical phenomena in which "the researcher enters a real-world situation and aims both to improve it and to acquire knowledge." (Checkland and Holwell, 1998, 9).

Preliminary results were obtained by starting with a problem definition based on input from practice. It was refined by an understanding gained from desk research, which then got employed to the real life situations in semi-structured interviews and workshops in a cyclical process, which led to results like working papers to document the process and the results.

The area of concern (Checkland and Holwell, 1998) is to better understand the rules, motivations and business logic that work in the environment of the cases. This forms the basis to present them in an inter-personal understandable and sharable form for internal members, partners and customers as prerequisite for actions towards winning them. At this early stage an explorative attempt (Yin, 1994) supported by action research methods is made.

[1] Initiated by the Institute for Information Management, University of St. Gallen (www.ccbn.unisg.ch)

Purpose and Elements of Business Models for eServices

The importance of business models arises from at least four purposes. Firstly, in an early phase they serve as a structured approach to guide idea generation. Secondly, they are required as planning tools to define a business plan and implement it. Thirdly, they are a communication tool to initiate action internally, with partners, customers and other stakeholders. Finally, due to their compact nature business models facilitate comparisons between companies.

Definitions of business models are wide and broad like a "flow diagram connecting all the elements of a value chain linking producers, distributors and consumers, showing the flow of goods and services in one direction and the flow of money in the other" (Frezza, 1998). The proposed Business Model builds on the framework presented by Timmers (1998) for Internet eCommerce. His three elements of a business model are (1) the (business) architecture for product, service and information flows (2) description of potential benefits (3) description of the sources of revenues. These have been extended to include the business models of networks, to achieve a clearer consideration of the IS dimension for eServices, and to add the underlying rules, which externalize the inter-personal understandable logic of the business model.

Business models are defined as summary of the value creation logic of an organization or a business network including assumptions about its partners, competitors and customers. They define the business and IS architecture, rules, potential benefits and the sources of revenue.

Business Architecture describes the value creation of the product and/or service offered by describing the logistics, finance and information flows. It also covers the business actors and roles of the partners. The underlying combination of competencies follows an analysis based on a framework for eServices (Klueber *et al*. 1999).

Rules describe the value creation logic the business is based on. Rules include the business logic (Drucker 1994) as well as the underlying assumptions and beliefs defined in impact diagrams. This serves as communication tool, input to design cooperation contracts and to monitor the viability of the business model.

IS Architecture is a supportive but constituting element to enable the Business Architecture and Business Rules for eServices. It contains two elements to facilitate standardization and increase computability (cf. Österle *et al*., 2000): The Business Bus defines the set of standards for data (e.g. cXML), protocols (e.g. SSL), processes and interfaces required. The Business Port implements the link to other partners. It contains applications to facilitate the exchange of information between organizations based on standards defined in the Business Bus. Examples are IBM's MQSeries and EAI-tools needed to participate in business networks.

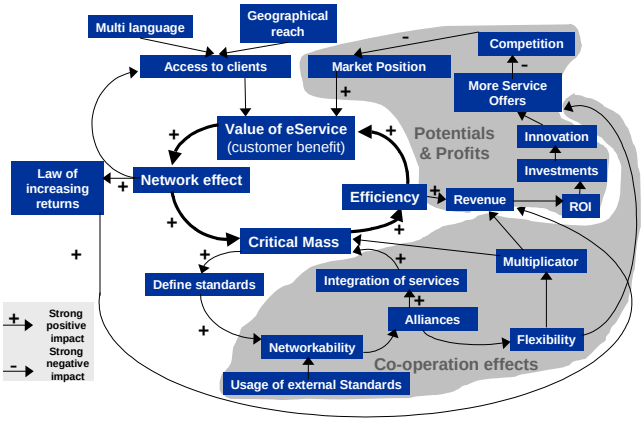
Potential Benefit is described by listing quantitative (time and cost) and qualitative (flexibility, quality, knowledge) elements. It addresses partnership behavior and win-win analysis (cf. Doyle and Parker, 1999).

Sources of Revenue define the model for revenue generation. Some examples are transaction-based fees, licenses, membership fees etc.

The business model can be viewed from the perspective of a single eService provider as well as from the business network. The eServices provided are defined by their content (e.g. auction service as an eService to facilitate inter-organizational coordination) and their integration based on the standards used and implemented via Business Ports to integrate them with the processes and applications of the eService users (cf. Österle *et al*., 2000). These five elements are a preliminary result of reflections based on two cases that served as a basis to develop this framework. Elements of one of them are briefly described below.

Application of the Proposed Business Model for eServices

Figure 1. Generic impact diagram of eServices



The case of an IT-service integrator partnering with an eMarket provider contributed to the definition of this framework. Together they offer auctions and bidding services and allow legally binding transactions via the eMarket to be directly enacted in the enterprise resource planning systems of buyers and suppliers (Klueber, 2000).

The generic rules (see Figure 1) were used to highlight the interdependencies and the importance of timely actions and served as one foundation to develop the business model for this specific cooperation.

The central circle consists of the value of the eService, network effect (Hagel and Armstrong, 1997, 51), (Buxmann, 1996), which helps to achieve the critical mass (Buxmann, 1996), (Downes and Mui, 1998, 24) to realize increased efficiency. They require fast and early actions as they represent a self-enforcing circle. This is even intensified by the law of increasing returns (Hagel and Armstrong, 1997, 42) and possible positive cooperation effects. This self-enforcing circle can lead to higher revenues and new future potentials of expanding the eService. The time pressure is emphasized by the fact that not many companies are able to set de-facto standards and can combine a critical mass of users as well as suppliers and partners for one eService category.

The Business Ports are realized with an EAI tool and services of the IT-service integrator that contains data mapping and messaging functionality. It links eMarket customer's SAP R/3 systems with the eMarket and extends the eServices offered from the information and contracting phases of transactions towards the settlement phase (Schmid and Lindemann, 1998).

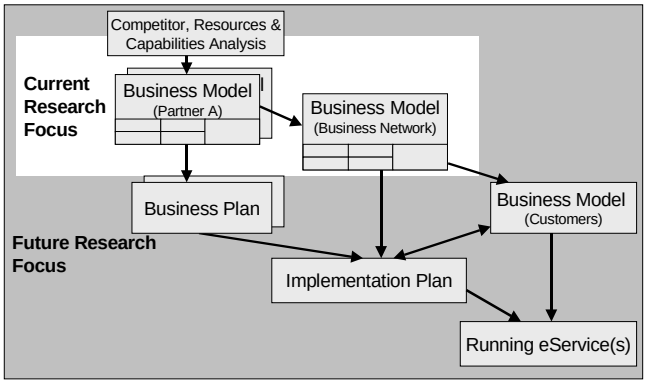
Conclusion and Future Research

The evolving eServices define a challenging new field for research within eBusiness. To facilitate the development and use of eServices, the proposed structure and content for business models for eServices tries to address critical elements and present them in an inter-personal understandable way.

The goal for further research will be to refine the first findings, and compare and evaluate business models. Also, to analyze and support their implementation process will be a central element. To achieve that, the scope of the research will be extended. It will start with an analysis and description of required resources and capabilities (Stalk et al., 1992) in order to facilitate the choice of business partners. The test of applicability and adaptation or enhancement of the Business Model for eServices in other eServices will be performed within new collaborative eService projects within the Competence Center for Business Networking. For example the roles of eService providers on different content levels (Klueber *et al*., 1999), trusted 3rd parties, aggregators and integrators (Ticoll *et al*., 1998), and their interplay will be analyzed. Next to the further application of the framework, the forming of the business model for the network, the process of transforming the business models into business plans, communicating it to customers and finally turning it into running eServices (see Figure 2).

This should lead to insights on how business models support successful practices for defining business plans for eServices and what suitable procedures for implementing and running eService are.

Figure 2 – Research Agenda



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