

e-music business game newsletter, August—September 2007

August—September, 2007

Newsletter



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Highlights

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An e-Business Model Ontology for Modeling e-Business

After explaining why business executives and academics should consider thinking about a rigorous approach to e-business models, we introduce a new e-Business Model Ontology. Using the concept of business models can help companies understand, communicate and share, change, measure, simulate and learn more about the different aspects of e-business in their firm. The generic e-Business Model Ontology (a rigorous definition of the e-business issues and their interdependencies in a company's business model), which we outline in this paper is the foundation for the development of various useful tools for e-business management and IS Requirements Engineering. The e-Business Model Ontology is based on an extensive literature review and describes the logic of a "business system" for creating value in the Internet era. It is composed of four main pillars, which are product innovation, infrastructure management, customer relationship and financials. These elements are then further decomposed.

e-Business Model

"Business model" is a buzzword with no commonly accepted meaning. In this paper we try to change this, to define the concept and to show that business models represents a way of improving doing business under uncertainty. As explained by Petrovic et al. (Petrovic et al., 2001), a business model describes the logic of a "business system" for creating value, that lies behind the actual processes. In this paper we use the following working definition for business models, which will serve as a starting point for the more rigorous and detailed e-BMO. A business model is nothing else than a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue



streams.

Therefore we suggest adopting a definition which emphasizes on the following issues that a business model has to address:

- [Product innovation] What business the company is in, the product innova-

tion and the value proposition offered on the market.

- [Customer relationship] Who the company's target customers are, how it delivers them the products, and how it builds a strong relationships with them.

- [Infrastructure management] How the company efficiently performs infrastructure or logistics issues, with whom, and as which kind of virtual enterprise. and finally,

- [Financials] What is the revenue model (transaction, subscription/membership, advertising, commission, licensing) and the cost model (cost of goods sold, operating expenses for R&D, sales and marketing, general and administrative)?

Building e-business sites: Phased approach

There is no written rule that you have to follow certain steps to develop an e-business site and add functionality to it. However, there is a common or typical pattern in growing an e-business Web site. The pattern is a change, not just in terms of size, but in terms of functionality. In other words, an e-business site evolves through phases:



- Phase 1: Web presence
- Phase 2: Dynamic site
- Phase 3: Transactional site
 - Business to customer (B2C)
 - Business to business (B2B)

This development model is not fixed. Usually customers move through the Web presence phase quickly. Earlier in the e-business wave, having a Web presence

meant being “online” on the Internet. Today this is not nearly enough. Most companies skip right past Web presence. For example, you can start into e-business by building a transaction site, such as an online shopping store for the classic B2C, and then move on to a dynamic site.

It is the same phase used in many other documents, whether hardcopy or online. It is our belief that you will see this pattern

To establish a Web presence, you need to accomplish these tasks in order:

1. Read about the technology you need to achieve a Web presence.
2. Learn about what needs to happen before one Web page is produced.
3. Learn about the process of developing a Web site.
4. Look at ways to publish the site to ensure that people visit it.
5. Understand which products allow you to build a Web presence

Establishing a Web presence

This section provides information that is necessary to establish a Web presence. With this information, you will be able to publish a Web site to convey information about your company, products, and services. Millions of Web viewers can access information about your company and products through their Web browser.

There are three different kinds of Web sites: Internet, intranet, and extranet.

All three use the same technology. The difference is who can see the information. On the Internet, everyone with Internet access can view your Web pages. On an intranet, only people within your company can view the information. On an extranet, only people your company works with, for example suppliers and distributors, can access the Web site. The type of information to

publish on the Web site determines the type of Web site

Technology and architecture definitions.

1 Web site

A Web site is a linked collection of Web pages in an organized structure that resides on a Web server. The Web site is identified by a Universal Resource Locator (URL), which is the Web address, through a Web browser.

2 Web pages

Web pages display text and graphics through Web browsers. Create these pages in HTML, or a combination of HTML and XML, because each are markup languages. Then, add CGIs and JavaScript to add interactive functionality to the Web pages.

Pre-site considerations: Planning the site

Determining the site's purpose

Before you code one page of HTML and place it onto the World Wide Web, you need to

realize what the Web means to your company. It means a global presence. Your Web site and information about your company and its products are viewable by millions of people all over the world. A Web site that is created well is important to your company's image.

Answer the question: Why do you want a Web site? Consider these criteria:

- Do you want to inform people about your products and persuade them to place orders?
- Do you want to persuade other businesses to do business with your company?
- Do you want to inform people about your company?
- Do you simply want to be on the Web because everyone else is?

Thoroughly understand every reason why your company wants a Web site.

Translate those reasons to state a purpose.



B2B: Transforming business processes for e-business

First, what is B2B? What is e-business? Are they related or even the same thing? What do they have to do with business transformation? Let's start the argument by attempting to define e-business appropriately. Some have defined e-business as "every sort of business you conduct over the Web." Maybe others focus on the "e" portion of e-business.

For example, let's say an automaker has published their Web site to advertise new models, their company, and various events around the world that they sponsor. The site is always refreshed with the current information on a daily basis. Can you call this e-business?

According to the first definition, yes, you can. But does it impact the "business" in a critical fashion? Can the company afford for the site to go down for a couple of hours? How about a couple of minutes? Can it ever afford to lose the online service at all? If it's going to be an e-business site, the answers to these questions should be "yes". If the an-

swer is "no", it is not an e-business.

What is business transformation? It is the process of extending the power of the existing applications set to your Internet, intranet, and extranet audience so that they can access the core applications set, basically at their finger tips through a Web browser.

This introduces new layers of application processes such as:

- **Supply Chain Management (SCM):** For your suppliers' audience to access your core
 - **Customer Relationship Management (CRM):** For your customers' audience
 - **Business Intelligence (BI):** For your internal staff such as sales, planning, marketing, and business executives, and e-commerce, which allows your customers and business partners to purchase your goods and track orders over Internet
- Our definition of e-business is to "transform key business processes by leveraging traditional IT



and Internet technologies". This is exactly what we mean by B2B. It is why and how you should transform the business processes.

Before we continue, let's summarize some of the terminology:

- Synonyms referring to existing business applications are:

- Core Business Solution
- LOB (Line-Of-Business)
- Back-end application
- ERP system
- Transactional system
- Extending the existing business application to an Internet audience includes the terms:
 - e-business
 - B2B
 - Business transform

Of course, each of these names carries its own meaning. Maybe it is not fair to generalize these names and group them together as if they are really all identical. But remember we are talking at a conceptual level, and at that level, they make sense.

In B2B computing, there are three emerging models. They are represented in:

- *Buy-side*
 - *Sell-side*
 - *e-marketplace*
-

e-marketplace model



The third emerging B2B model is the wave of the future. This model is also known as many-to-many, metamarkets, EcoNets, online marketplaces, and others. We refer to these markets as

"hubs and spokes".

Types of e-marketplaces include online auctions, exchanges, and vertical portals. The iSeries server is a natural for filling the role of the e-marketplace

hub because of its reliability, scalability, and security strengths. However, you should also recognize that the iSeries (or AS/400e to be more correct in the historical sense) already lives

and prospers in the traditional spokes of business. Businesses require robust, efficient software that enables the spokes to connect to multiple hubs.

Integration of Bargaining into E-Business Systems

Despite the fact that bargaining plays an important role in business communications, it is largely neglected in e-business systems. In this paper a conceptual model that integrates bargaining into web-based e-business systems will be developed starting from an informal characterisation of the bargaining process.

Bargaining can be formalised as a two-player game, and integrated with the co-design approach for the design of web information systems. In this way bargaining games are played on parameterised story spaces, such that each move of a player adds constraints to the parameters. Each player follows a strategy for making moves, and winning strategies are characterised by highly-ranked agreements.

In e-business systems the role of one player will be taken by a user, while the system plays the other role. This may be extended to a multiple-player game with more than one single human player, e.g. if bargaining becomes too critical to leave it exclusively to a system.

In a typical commerce situation a customer may enter into bargaining over the total price of an

order consisting of several goods, each with its particular quantity. The seller might have indicated a price, but as the order will lead to substantial turnover, he is willing to enter into bargaining.

The goal of the purchaser is to reduce the total price as much as possible, i.e. to bargain a maximal discount, while the seller might want to keep the discount below a certain threshold. Both parties may be willing to accept additional items added to the order for free. This defines optimal and acceptable outcomes for both sides.

However, none of the two parties may play completely with open cards, i.e. the seller may try to hide the maximal discount he could offer, while the purchaser may hide the limit price he is willing to accept. Both parties may also try to hide their preferences, e.g. whether an add-on to the order or a discount is really the preferred option. It may even be the case that adding a presumably expensive item to the order is acceptable to the seller, while the latitude for a discount is much smaller, e.g. if the add-on item does not sell very well. So, both parties apply

their own strategies to achieve the best outcome for them.

The bargaining process then consists of making offers and counteroffers. Both offers and counteroffers narrow down the possible outcomes. For instance, an offer by the seller indicating a particular discount determines already a maximal price. The purchaser may not be happy with the offer, i.e. the price is not in the set of his/her acceptable outcomes,

therefore request a larger discount. Bargaining first moves into the set of mutually acceptable outcomes, finally achieves an agreement, i.e. a contract. Bargaining outside the latitude of either party may jeopardise the whole contract or require that a human agent takes over the bargaining task

