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Scalable Business Models with Web Services in a Reverse Pricing Scenario

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Abstract

The Internet has changed the way business is conducted in many ways. For example, in the field of pricing, the possibility to directly interact with a trading partner has given rise to new mechanisms previously unknown in the offline world. One such interactive pricing mechanism is Reverse Pricing, which lets both buyer and seller influence the price of a product. While Reverse Pricing allows for different business models built upon diverse revenue sources, its implementation can be complex and often is very costly. This paper introduces roles and stakeholders participating in an interactive pricing scenario and describes business models based on a deployment of Reverse Pricing. Reducing both the risk and the cost associated with the implementation, a business model derived from Web Service oriented architecture is presented as an auspicious solution.

Keywords: Business Models, Web Services, Market Places, Reverse Pricing, Dynamic Pricing, Interactive Pricing.

INTRODUCTION

As one of the four major elements of the marketing mix, pricing has evolved into a diversified instrument. More specifically, lower menu costs on the Internet have given rise to a number of different pricing strategies (Kannan and Kopalle 2001). Due to the reduction of processing costs associated with price differentiation and new possibilities to interact with trading partners, a steadily increasing number of negotiated prices can be seen in Electronic Commerce (Stroebel 2000). The growing use of online auctions as the most widely used form of interactive pricing mechanisms (Bichler 2000) manifests this trend. A recently published GfK Web*Scope-Survey notes that every fourth euro German Internet users pay on the net is spent during online auctions (GFK 2004). In 2003 only 15.8 % of all online sales in Germany were accomplished through online auctions (GFK 2003).

Recently, a new interactive pricing mechanism named Reverse Pricing (RP) has become a matter of academic and practical interest. Originating from the US-based company Priceline (http://www.priceline.com), who initially used one variant of RP called “Name-Your-Own-Price” to sell airline tickets, several companies now employ RP in different formats such as Expedia, (http://www.expedia.com) or Combined Systems Technology, Inc. on its procurement platform ITProcurement.com (http://www.itprocurement.com). Surviving the dot.com-crisis has made Priceline a strong player in the travel industry. With gross travel bookings of $470.4 million in the second quarter of 2004 (Priceline 2004), Priceline demonstrates both the acceptance and the success of the “Name-Your-Own-Price” mechanism.

At Priceline, a buyer states how much he is willing to pay for a flight or a hotel room and enters an according bid at Priceline’s webfrontend. Within 15 minutes Priceline decides if the bid is accepted or rejected. In case of acceptance, the price bid by the buyer is immediately charged to the buyer’s credit card. However, if the bid is rejected, the consumer will not be allowed to rebid for the same flight or hotel room within the next 7 days. Other RP sellers allow buyers to place additional bids, upon an initially rejected bid. For the seller, granting the buyer the possibility to rebid entails both greater complexity and flexibility due to several design options, depicted in detail by Bernhardt 2004. At the same time, the option to place multiple bids can alter buyers’ bidding behaviour and thus influence sellers’ revenues. Spann, Skiera and Schäfers (2004, p. 32) argue in this direction and indicate that the permission to rebid can have a positive effect on sellers’ revenues.

Therefore, integrating the RP mechanism involves a careful deliberation of risks and chances associated with the deployment. The cost of implementation linked to the deployment could discourage sellers from installing the RP mechanism. Yet, the pressure for innovation especially in the area of dynamic pricing and the possibility to positively influence sellers’ revenues recommend further research in the area of RP and its optimal integration.

The aim of this paper thus is to develop different business models emerging from the deployment of the RP mechanism and to evaluate their respective prospect of success. Thereby, this paper shows how a service-oriented solution based on Web Services can help to reduce both the risk and the cost of implementing interactive pricing functionality. As different roles such as sellers, service providers and buyers can be present in a RP scenario, this paper takes into consideration the interests of actors in these roles and investigates profit implications for possible stakeholders adopting these roles.

Following a brief description of the RP mechanism and a presentation of the different roles in Chapter 1, Chapter 2 develops evaluation criteria for the successful deployment of RP functionality. Next, focus is put on the description of possible deployment solutions and business models associated with them in Chapter 3. As first business model, a proprietary integration of the RP mechanism is examined; next, a RP market place solution is illustrated, and finally, a detailed description of a distributed and service oriented solution based on Web Service architecture is provided. Advantages und disadvantages of the business models previously described are summarized in Chapter 4 while Chapter 5 finishes the paper with concluding remarks.

1 THE RP MECHANISM AND ROLES IN A RP SCENARIO

Reverse Pricing is an interactive pricing mechanism letting both buyer and seller influence the price of a product. At the outset, a seller defines a secret threshold price indicating the minimum price he is willing to sell the product for. Next, a buyer is asked to place a bid indicating his willingness to pay for the product offered. If the bid value is equal or above the seller's threshold price, the transaction is initiated for the price denoted by the buyer's bid. However, if the bid fails to surpass the threshold price, the buyer's ability to raise his offer and place additional bids depends on the design of the RP mechanism specified by the seller. For example, a seller could specify a minimum waiting time in-between one buyer's consecutive bids or charge a small fee if a buyer wants to place additional bids.

Academic literature in the field of RP is limited to papers mainly focusing on behavioural questions of consumers engaging in RP mechanisms (e.g. Chernev 2003, Ding et al. 2005, Hann and Terwiesch 2003) or questions arising from different design specifications of the mechanism (e.g. Fay 2004, Spann, Skiera and Schäfers 2004, Bernhardt 2004). Yet, in order to understand profit implications associated with the RP mechanism, it is imperative to identify different roles in a RP scenario and to translate these roles into adequate stakeholders so their respective profit proportions can be calculated. Adapted from these results, different business models can be developed and evaluated based on criteria important for stakeholders adopting the different roles.

Examining the dissection of profit proportions in a RP scenario reveals three different roles as illustrated in Figure 1. One role in this scenario is buyer *B*, who values a given product at his willingness to pay WTP_B. While he places a bid BID_B above the seller's secret threshold price TP_S (i.e. a successful bid), BID_B is still below his WTP_B to guarantee him a consumer surplus CS_B. To calculate his consumer surplus however, bidding costs BC_B must be taken into account. These might consist of direct fees FEE_B the buyer has to pay on top of his bid BID_B and of search costs SC_B caused by time spent for acquiring knowledge about the product, a suitable price range or the actual process of submitting the bid. Considering these bidding costs then calculates the buyer's consumer surplus as $CS_B = WTP_B – BID_B – BC_B$.

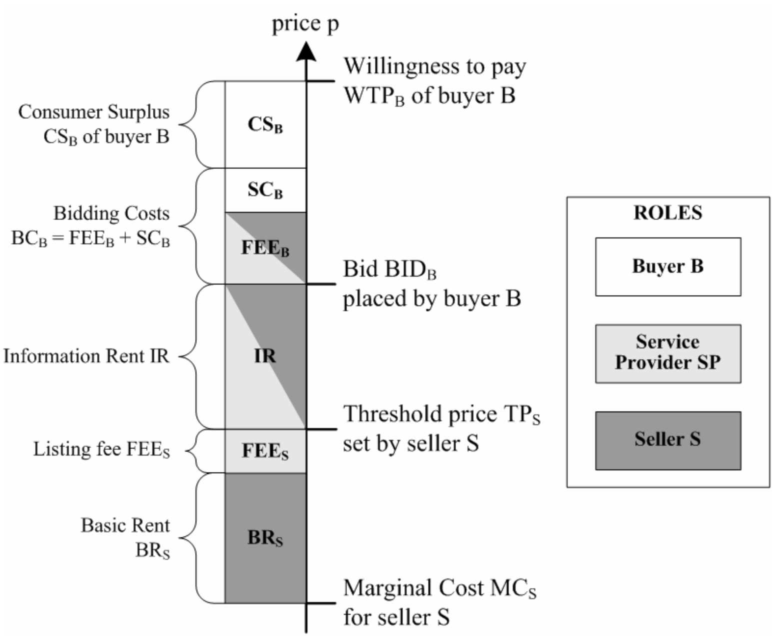

Figure 1. Dissection of user roles and profit proportions in a RP scenario

Two additional roles in the RP scenario depicted in Figure 1 are seller *S* and service provider *SP*. While the seller can briefly be described as the owner of the product, the role of the service provider differs depending on the RP scenario employed. Generally speaking, the role of a service provider operates a RP mechanism that other actors in the scenario can use to sell and buy products.

Seller S has to pay marginal costs MC_S to acquire an additional unit of the product and to place it for sale. After setting the threshold price at TP_S, the seller is guaranteed a basic rent of BR_S in case he sells the product. However, a listing fee FEE_S the seller has to remunerate the service provider might reduce the seller's basic rent BR_S. As TP_S is unknown to the buyer B, his bid BID_B might be above the seller's threshold TP_S thus leaving information rent $IR = BID_B - TP_S$. The profit proportions β_{IR} and $(1- \beta_{IR})$ that seller S and service provider SP receive from IR depend on the business model employed and on negotiations between the two actors adopting respective roles. The same is true for FEE_B paid for by the buyer B. Depending on the business model, seller S and service provider SP might both collect their respective proportion β_{FEE} and $(1- \beta_{FEE})$ of this payment. In this scenario, the seller's profit can then be calculated as

Equation 1: $\Pi_S = BR_S + \beta_{IR} \cdot IR + \beta_{FEE} \cdot FEE_B$ **(seller's profit)**

while the service provider obtains his share

Equation 2: $\Pi_{SP} = FEE_S + (1-\beta_{IR}) \cdot IR + (1-\beta_{FEE}) \cdot FEE_B$ **(service provider's profit).**

2 EVALUATION CRITERIA FOR THE RP SOLUTIONS

Integration of RP functionality can be accomplished in various ways, each resulting in different implications for the participating stakeholders. Therefore, the decision on how to optimally implement the RP mechanism must involve a careful evaluation of all factors possibly influencing criteria important for the stakeholders. Based on interviews and literature reviews, Horsti, Tuunainen and Tolonen (2005) identify the three most important factors for the success of business models in Electronic Commerce: customer satisfaction, cost savings and customer loyalty. Building upon their findings and due to the complexity of both the RP mechanism itself and its deployment, we determine the following success factors.

A crucial factor influencing the decision naturally are monetary **costs** associated with the integration. Basically, costs can be split up into fix costs such as the cost of implementation or costs for one-time marketing efforts and variable costs occurring each time an offer is inserted or a transaction is initiated (e.g. a service charge or costs for the transaction).

Next, the **ease of deployment** needs to be carefully considered. The level of technical skill and knowledge required for an implementation of RP greatly varies and can thus influence the decision for a certain solution. Moreover, existing IT-infrastructure often determines the effort involved in the integration of new functionality as compatibility issues might prevent a seamless integration.

Flexibility, which is closely related to the ease of deployment, also plays an increasingly important role in today's rapidly changing business environment. Extensibility and reusability both contribute to the flexibility of a solution as they determine the workload necessary if, for example, new design options should be introduced into the RP mechanism or if the RP functionality should be extended to additional product categories.

Two additional factors associated with customers should be kept in mind when deciding on the deployment of a certain RP solution. Whenever multiple sellers compete for customers, **customer loyalty** can be the decisive factor determining success in the market. As customer loyalty might vary depending on a business model chosen for the integration of RP, a close consideration can be helpful in finding the optimal integration solution. At the same time, customers will only stay loyal to a seller if the shopping experience is convenient enough for them and offers them the functionality they desire. Therefore, **customer convenience** can be thought of as a second customer-specific criteria contributing to the success of a certain integration solution. Customers might award ease of use as well as familiarity with a certain functionality or shopping environment.

The criteria presented here can serve as a basis on which to evaluate the different integration solutions outlined in the following Chapters. This evaluation can then be used to assess the respective business models. At the same time, the different stakeholders need to be considered in each solution as they will only participate given they are provided sufficient incentives for participation.

3 BUSINESS MODELS IN A REVERSE PRICING SCENARIO

3.1 Proprietary Solution

A proprietary solution allows a seller to offer products using the RP mechanism within his own online shop, leaving buyer and seller as the only two roles in this scenario. Consequently, the seller not only acts as the owner of the product but also as the service provider having full control over the design of the mechanism employed and the implementation into an existing IT infrastructure. Since $\beta_{IR}=\beta_{FEE}=1$, seller profit comprises Π_{SP} and can thus be computed as $\Pi_S = BR_S + IR + FEE_B$.

A couple of advantages make the proprietary integration of RP seem an attractive solution for a seller. Naturally a seller can benefit from the total control he has over the design and the implementation of the pricing functionality. The mechanism can not only be tailored specifically to the seller's needs but also be integrated unobtrusively into the look and feel of the seller's existing online-shop. At the same time, customer data stays with the seller and there is no need to depend on third party's offerings. This could positively influence customer loyalty and customer convenience.

Yet, the additional control the proprietary solution brings along is associated with costly drawbacks a seller needs to consider. First of all, the seller faces high implementation costs and has to carry the financial risk associated with the implementation of the RP mechanism all by himself. Various design alternatives not only make RP a sophisticated tool to enable dynamic pricing but also drastically increase the costs needed for a proprietary solution. While compatibility issues should not play a major role in a proprietary solution, the amount of different design alternatives requires a great level of knowledge in order to optimally calibrate a specific implementation to the seller's needs thus complicating the deployment of the RP functionality. Moreover, flexibility in a proprietary solution is restricted as a limited number of products and high costs of implementation and operation restricts the number of design alternatives to those used on a frequent basis.

3.2 Market Place Solution

An electronic market place is defined as an interorganizational information system through which multiple buyers and sellers interact to accomplish market-making activities. It helps buyers and sellers identifying potential trading partners, selecting a specific trading partner and executing the transactions (Choudhury, Hartzel and Konsynski 1998).

The rise and fall of several auction and shopping market places has demonstrated the strength of networks effects in this business. Network effects or network externalities are defined as a change in the surplus that a consumer derives from a good or service when the number of consumers or the demand changes (Liebowitz and Margolis 1994). An example for network effects is online auction market place eBay (http://www.ebay.de). The more customers use eBay, the more valuable the platform is to new customers. Shapiro and Varian (1998, p. 177) indicate that strong network externalities may lead to a "winner-takes-it-all-market" where one company offers the dominant market place.

In a RP scenario, a market place solution introduces the platform operator as a new actor, taking on the role of the service provider. The platform operator then acts as intermediary between seller and buyer and provides the RP functionality needed to commence a transaction. While seller and service provider might be one and the same in this scenario, a platform operator usually focuses his efforts on the service he provides to his customers and thus remains independent. This enables the platform operator to concentrate on developing and improving market place software, gathering sellers and buyers and thereby to strengthen his network. Functionality of the market place software should cover at least product listing, customer data, reputation systems and the pricing mechanism itself. Therefore the intermediary faces costs, which are significantly higher than the costs the seller faces for an extension of his online shop (see Chapter 3.1).

Moreover, much effort has to be put into the recruitment of new sellers and buyers. On platforms the demand on one side would tend to vanish if there was no demand on the other. Evans (2003) gives a good overview on solutions existing for this “chicken-and-egg” problem.

On the income side the platform operator can charge fees for the services mentioned above (see Equation 1 and Equation 2). These fees can be based on insertion of offers or transaction results, on flat rates or on any combination of these. According to Armstrong’s (2002) analysis of two-sided markets charge details have a huge impact on the overall outcome. The literature on competition in two-sided platforms, especially in microeconomics, is growing rapidly, see amongst others Caillaud and Jullien (2001), Rochet and Tirole (2003) and Rysman (2004).

While the seller might profit from the customer base available on a platform, there might be problems associated with an integration of the platform into the seller’s existing web site. Operating the platform as an autonomous system not only necessitates the storage of the buyers’ data in the platform system but might also lead to a more loosely coupled buyer-seller-relationship. Participants in networks have dense but weak ties with members, such as buyers and sellers, and new forms of marketing that take these problems into account are needed (Achrol and Kotler 1999).

Concluding, market places in the Internet have already reached a mature stage. Late followers can face enormous competitive disadvantages, requiring more marketing to overcome the barriers-of-entry erected by earlier companies with regard to consumer preference and awareness (Kerin, Varadarajan and Peterson 1992). Especially in the Internet late followers suffer from these disadvantages (Geyskens, Gielens and Dekimpe 2001). Particularly the number of electronic market places seems to be limited. Early entrants do have significant advantages and gain large market shares (Hidding and Williams 2003).

3.3 Distributed System Solution

The preceding solutions have some advantages, but significant disadvantages. While sellers in the proprietary solution (see Chapter 3.1) profit from the seamless integration of the new pricing mechanism into existing online shops, they have to face immense costs of development. The participation in a market place operated by an intermediary described in Chapter 3.2 leads to lower costs for participating sellers and gives them access to a large number of potential buyers. However, buyer data have to be synchronized between sellers and the intermediary. Moreover, sellers have to promote this external platform, which might cause a migration of buyers to sellers also competing on the platform. Yet another downside of the platform solution is having a system that can not be easily integrated into the look-and-feel of the seller’s web appearance. From the intermediary’s point of view it is questionable, whether the presented business model is profitable, given that late entries into this market are hampered due to existing network effects.

A solution that combines the advantages of both preceding models can be the implementation of a distributed system by means of Web Services. Chen and Meixell (2003) note that earlier information technologies do not support the real time and dynamic needs of many supply chain processes, whereas Web Services are capable of solving this problem.

The Stencil Group (2001) defines Web Services as “loosely coupled, reusable software components that semantically encapsulate discrete functionality and are distributed and programmatically accessible over standard Internet protocols”.

Web Services are not only a new technical approach to distributed computing, but can also have significant impact on the companies’ organizational structures. First, Web Services can outsource small pieces of a process chain and therefore cut costs. As Web Services have been used to build applications in a standardized manner, the barriers for business-to-business integration will be greatly reduced. As a result, Web Services will transform traditional E-Business to dynamic E-Business by dynamically connecting systems, business partners, and customers cost-effectively through the Web (Chen, Chen and Shao 2003). Moreover, Web Service deployments have also proofed that existing assets used within a company can become revenue-generating assets (Kreger 2003).

In a distributed system architecture a service provider implements a RP Engine, which encapsulates the rules and logic of the pricing mechanism. This application allows sellers to design an individual RP mechanism according to their needs. Figure 2 illustrates such an implementation as a Windows Fat Client, whereas a web application is also possible. The RP design is stored in the service provider’s database linked to the RP Engine. The reference id ties the mechanism design to the product or offer data from the seller’s database.

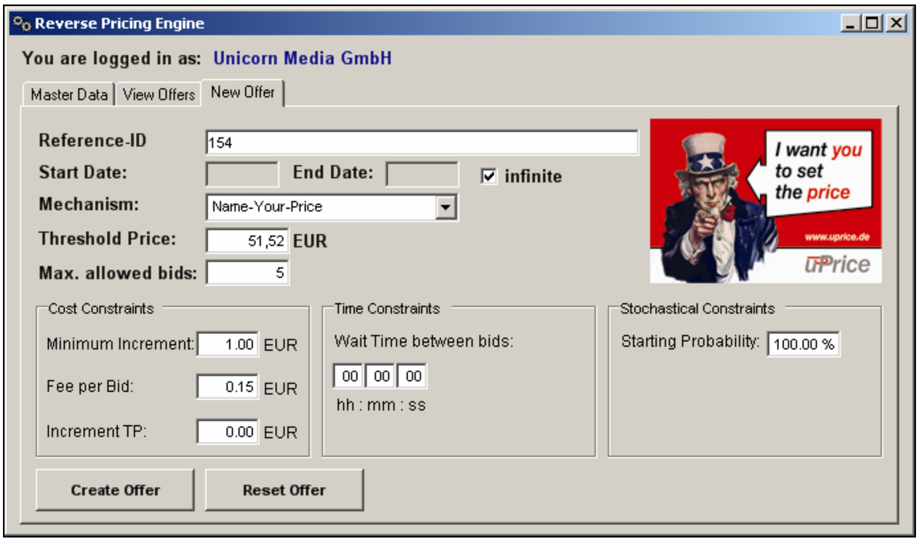

Figure 2. Tool for designing individual RP mechanisms

Content in the seller’s online shop is typically created dynamically by a script or program, displaying database information. These existing scripts or programs only need very little modification. For corresponding offers a call to the provider’s Web Service needs to be made, submitting the offer id and the current potential buyer’s id (see Figure 3, Scenario 1). The Web Service then returns an XML stream which can easily be transformed, e.g. with XSL Transformations (XSLT), into HTML, presenting accordant information about the offer and its specifications to the buyer. Most current programming languages like Java, ASP.net, and PHP5 support Web Services allowing the seller to operate his existing online shop on most platforms and to implement it in any programming language. The seller only needs to ensure that the information returned by the Web Service is accordingly displayed to his buyers in the online shop. This interoperability makes the usage of Web Services a promising tool in a dynamic business environment.

To prevent anonymous bids, a login is required. Therefore, bidding is disabled as long as a buyer is not logged in. After having logged in, the buyer is able to place bids, which are submitted to the RP Engine (see Figure 3, Scenario 2). The engine stores the bids in a database and tests it against the according RP design (e.g. the threshold price or the maximum number of bids allowed), returning results as an XML stream to the online shop. This XML stream can cover a success message, which directly causes an insertion of the product into the shopping cart using the price denoted by the buyer's bid. At this point control can be handed over to the standard procedure implemented in the seller's online shop. Successful bids can thus lead to a purchase familiar to the buyer.

If the buyer's bid is below the threshold price, the XML stream contains information, whether the buyer is allowed to place additional bids and the type of constraints which have to be considered (for example: only two additional bids will be possible).

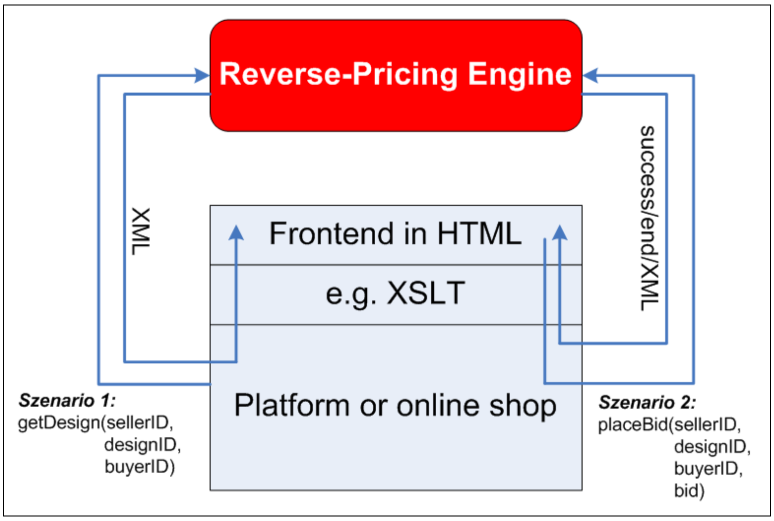

Figure 3. Accessing the RP Engine

The service provider thus only stores information about the mechanism design and semi-anonymous bidding history for buyer IDs. All personal and product-related data remain at the seller, evading many privacy problems.

Currently, the Web Services industry considers different charging schemes. Table 1 outlines some of the charging methods:

Scheme	Functionality
1 Flat rate	The customer pays for an unlimited use over a period of time.
2 Pay-per-use	The customer pays for every single usage of the Web Service.
3 One-off payment	The customer makes a one-off payment and can use the Web Service for its lifetime. This method is under consideration for Services that have a limited lifetime.
4 Freeware	The Web Service is free for use.

Table 1. Charging schemes for Web Services

A combination of these charging methods can be used to construct alternative payment schemes such as two-part tariffs (Hayes 1987). In principle the charging schemes for the service provider are similar to the charging possibilities for the platform operator specified by Equation 2. For a more detailed discussion on charging schemes in a Web Services scenario see Clark (2002).

Besides the implementation and operation of a RP Engine, a service provider can enhance his offering by detailed analyses and reports for participating sellers. By gathering and analyzing bidding history, the provider can become a pricing specialist being able to recommend better mechanism designs, which might lead to an increase in sales and profits for the seller.

The latter solution depicts a distributed system architecture in order to integrate a new sophisticated pricing mechanism into an existing online shop. All three roles can benefit from this solution. On the seller’s side Web Services technology can play a key role in supporting an integrated growth strategy. Adding specialized services around existing products can often take much longer because of the lead time to add new functionality in IT systems. Web Services can help by providing a lower-cost and more flexible way to access new functionality and deploy it in the infrastructure of existing systems (Hagel 2002, p. 173).

Obviously the seller can benefit from the following advantages:

- Straightforward integration into existing online shops with the interoperability of Web Services.
- Additional information can be presented in the look-and-feel of the online shop.
- Personal and product-related data remains at the seller.
- Pricing functionality is implemented by pricing specialists.
- Access to the accumulated expert knowledge of the service provider is granted.
- Propositional fees instead of high one-time development costs for a proprietary solution create additional flexibility.

Advantages for a service provider:

- The service provided is very scalable.
- Competition in a two-sided-market being a late mover can be avoided.
- Specialization as a pricing expert, ability to offer and sell additional consulting services.

Advantages for a buyer:

- Shopping in a familiar environment.
- Seller as prime contact person.
- Convenient use of online shop functionalities.

As the number of Web Services increases, other companies are inclined to take on this architecture. Additionally, Web Services architecture benefits from network effects: as more Web Services are made available, customers can access a growing range of functionality and combine the services in tailored ways to address specific business needs (Hagel 2002, p. 83).

4 COMPARISON OF THE BUSINESS MODELS

Based on the evaluation criteria developed in Chapter 2 and discussed for the different integration solutions in Chapters 3.1 to 3.3, Table 2 compares the proprietary solution, the market place solution and the solution of a distributed system based on Web Services from a seller’s point of view.

Regarding costs, the proprietary solution causes a seller to invest large amounts for the initial implementation of RP functionality, while both market place and distributed system solution charge mainly on a transactional basis. Even though the decision to include Web Service architecture could cause higher fix costs, a seller could profit from a more flexible charging scheme on a transactional basis leaving the decision between the latter two solutions undetermined.

As the technical skill, the workload for the insertion of additional offers and the ability to integrate a solution into an existing IT infrastructure all differ strongly, no solution can be preferred with regard to ease of deployment. While a market place – as an autonomous system – requires no technical skill for integration, Web Services use standardized protocols and thus facilitate integration compared to a proprietary solution. However, the latter eases the process of inserting offers as it is directly integrated into the sellers shopping system.

Regarding flexibility, a distributed system solution benefits from both an excellent reusability and the possibility to use multiple design options offered by the service provider. In contrast, a proprietary solution lacks flexibility due to limited extensibility and a rigid number of available design options.

Customer loyalty and customer convenience both favour solutions where customers remain within a familiar shopping environment, i.e. a proprietary solution or the distributed system solution. Even though the Web Services integrated in the distributed system normally will be offered by a third party supplier, their integration is seamless concerning corporate identity or the look-and-feel of an online shop. Customer data remains with the seller in both solutions and a seller does not need to fear competition from other sellers as they are not present within his system. The existence of multiple sellers, however, might lead to a higher number of potential customers in a market place solution.

Integration solution		Proprietary	Market Place	Distributed System
Cost Savings		-	o	o
	Fix costs	--	++	+
	Variable costs	o	--	-
Ease of Deployment		o	o	o
	Technical skill required for integration	--	++	+
	Workload for insertion of offers	++	--	o
Flexibility		o	+	++
	Extensibility	o	+	+
	Reusability	o	+	++
	Modification of design options	o	++	++
Customer Loyalty		++	-	++
	Privacy of customer data	++	--	++
	Low competition with other sellers	++	--	++
	Number of customers	o	++	o
Customer Convenience		++	o	++
	Ease of use	++	+	++
	Familiarity with environment	++	-	++

Table 2. Evaluation of integration solutions from a seller's point of view (rated on a 5-point-Likert-scale ranging from -- (very low) to ++ (very high))

Largely due to high flexibility and a seamless integration reducing the threat of customer alienation, Table 2 suggests that sellers favour a distributed system solution based on Web Services. Therefore, if sellers decide to add RP functionality to their online shop, service providers should try to match this demand by offering according services. This would enable sellers to utilize RP as an innovative form of dynamic pricing and reduce the technical skill and financial risk associated with a proprietary implementation at the same time.

5 CONCLUDING REMARKS

Electronic Commerce has been growing rapidly among both, consumers and businesses. At the outset of Electronic Commerce prices were determined by a take-it-or-leave-it-offer for the buyer in a traditional way. But as the costs for changing prices have been reduced dramatically by new technologies, the methodology of posted prices has become suboptimal.

As an evolutionary step in the area of Electronic Commerce we expect an increasing number of interactive pricing mechanisms. Auctions are one way to do this. For some product groups, RP is regarded as a promising mechanism alternative. Yet, sellers face the problem not knowing how to integrate this new pricing mechanism into their existing IT systems.

We compare different solutions and derive business models for a RP scenario. Common business models such as a proprietary integration of the RP mechanism or the concept of a market place do not sufficiently fit the dynamic and scalable requirements in Electronic Commerce. We propose a business model based on Web Services, allowing sellers a straightforward, low-cost integration and offering service providers a scalable revenue source. As Web Services allow for cost-reduction and outsourcing of non-core business processes, we expect more innovative business models in the near future involving distributed architectures achieved by Web Services.

Web Services are an appropriate methodology to reduce costs for negotiation, interaction and conducting E-Business transactions. Moreover, Web Services will change the integration with other business entities and the way business process workflows are managed. Therefore, they can change the way applications are designed and alter the organizational form of companies. Products and services will be offered in finer granularity and customers can pick desired services from different providers, gluing them together to fulfill their individual needs. As every market participant can provide and consume Web Services, a new dynamic market will arise with new challenges and opportunities. These challenges and opportunities will revive the interest in new business models for this market to both academics and practitioners.

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