E-Service – Customer Service on the Web

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The Internet has impacted the business arena dramatically, creating a world in which the customer is in command and the only constant is change. To succeed in the new world of e-business requires an infrastructure that gives one maximum performance, real-time responsiveness, application flexibility, and simplified management.
The right system for electronic business (e-business) is the one that enables good practices, rapid integration through fewer "moving parts" and variables, as well as 24-hour, 7-day customer service. A successful system for e-business must therefore be modular, distributed, and absolutely reliable.
In order to be competitive in e-commerce, the online business must be capable of solving business problems, have a proven record of engineering excellence, have access to a sizable customer base and display the ability to guarantee comprehensive customization to fit unique and changing business conditions.
This paper explores some of the implications for both business and business computing with an emphasis on the continuing evolution of e-business. The paper also discusses decision points and the fundamental importance of something even more critical to e-business success: ease of integration. Finally, the article makes recommendations for certain good practices for effective e-service.
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1 Introduction

Substantial business benefits result from using the Internet for customer service. The Web is open 24 hours a day. And every time a customer finds an answer online, it eliminates the cost of a phone call or an e-mail reply. This yields significant savings and frees up operators to handle other issues.
Customer service on the Web [7]-[8], also known as e-service, is scalable, allowing companies to handle temporary increases in customer queries without having to temporarily add operators or phone lines. Furthermore, e-service ensures that customers receive answers to their questions immediately, resulting in higher levels of customer satisfaction and retention.
E-service adoption by organizations has yielded several important lessons. Substantial benefits are gained from simply implementing e-service software, but even greater success is achieved by applying proven best practices to online commerce. In other words, becoming a successful e-service practitioner requires more than just technology; it requires managerial skills and business expertise.
With that in mind, this section of the paper pinpoints some essential best practices or recommendations for effective e-service [2]-[4]. These field-proven best practices result both in cost savings and increased customer satisfaction. These best practices have been organized into three categories:
People and processes: These are project management strategies that impact on the effectiveness of the e-service initiative and ensure a speedy, successful project launch and substantially enhanced long-term results.
Site smarts: These are tips and tricks in Web site design and the presentation of answers to customer questions. These simple principles can be applied with great effect to virtually any e-service implementation [2].
Software smarts: These are insights that relate specifically to getting optimum value [5]-[9]. Software applications can sometimes be counter-intuitive from the perspective of the end-user. Software smarts denote software accessories used in order to streamline

usability and increase the end-user satisfaction.

2. E-Service features and benefits

First, we will review the benefits of effective e-service implementations.

2.1 Cost Savings

E-service has been proven to consistently yield significant cost savings. There is virtually no incremental cost when a customer finds an answer on a Web site. If that customer sends an e-mail, on the other hand, it can cost several dollars for a customer service representative (CSR) to respond. A phone call can cost $20–$30 or more. Multiply the "per-inquiry" savings by thousands of inquiries and the savings can be quite substantial.

2.2 Customer Satisfaction

E-service results in satisfied customers. When customers have questions, they want answers fast. If they find their answer with a click or two of the mouse, they feel good. This equates to higher customer loyalty and retention. Effective e-service can have a very positive impact on e-business revenue.

As customers consistently find answers online over time, their comfort level with the site and the company grows. This is a competitive advantage over companies that make them wait days for e-mail replies and put them on hold. Quality e-service increases the customer's confidence, strengthens customer-business relationships, and offers a 24×7 resource to customers.

2.3 Rapid Scalability

E-service is useful for dealing with short-term spikes in customer inquiries—such as those occurring in seasonal businesses, during product launches, or due to a problematic event. Rather than temporarily adding staff and phone capacity, e-service allows companies to simply add relevant information to their Web sites. This eliminates much of the e-mail and telephone calling volume that might otherwise overflow the company, minimizing the cost and disruptions typically associated with such situations. This scalability is invaluable for sustaining business growth. E-service adopters have been able to support more customers with more products and services—without having to continually expand their call center capacity and/or customer service staff (Figure 1) [4].

In the Figure 1, the above graph shows that a conventional customer service can be overflown with customer inquiries. Upon expansion of the number of customer service representatives hired, for a period there can exists excess capacity of customer service representatives, which is an inefficient business practice, while finally the customer demand for the product expands, customer service can again be exceeded by demands, thus increasing customer dissatisfaction again. E-service is more efficient at addressing these issues (below).

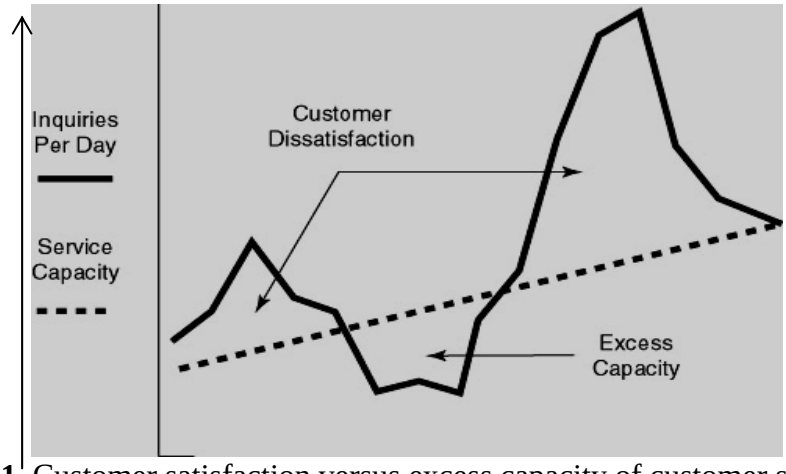

Fig.1. Customer satisfaction versus excess capacity of customer service (adapted from www.w3.org).

2.4 Improved Staff Productivity

E-service makes customer service staff more productive by shielding them from repetitive queries, - allowing them to focus on other issues that require personal attention. This change also tends to improve morale and therefore reduce the turnover of the staff personnel. In addition, giving customer service representatives access to the e-service knowledge base ensures they have the information to give customers fast, consistent answers.

With all these proven benefits, e-service best practices are clearly worth applying. By excelling at e-service, companies save money, delight customers, outperform the competition, handle crises with ease, and get increased performance from their customer service staffs.

3. XML and its relationship to E-service

We will further discuss the integration of XML and E-commerce [1]. Suppose that someone is a computer manufacturer and wants to create a website through which people can custom-build and purchase computers. The questions appearing in this case are: What supplies are needed? How does one coordinate the production of parts? How does one know that enough parts are available to fulfill website orders? Can order progress be tracked by customers? How can one analyze the requests to order the materials needed? Can this process be automated? Can the Internet be used to improve efficiency?

Another example: someone runs a financial services company that provides an online brokerage where customers can place orders and evaluate their portfolios. The questions that this company's president needs to answer are: What information will the customers want to access through the website? What are the sources of this information? How and when does this information change? Can information be updated automatically?

Nowadays computers have become very useful in e-commerce. Therefore, we can use computers to analyze incoming orders and requests for information; we can use computers to order supplies online and search for vendors; we can use computers to search through databases of information and automatically format results for display; all of the above can be done through the standard WWW interface, *but separately*. Can computers automatically connect these operations? [6]

The Web was created as a publishing medium, not as an e-commerce platform. HTML, the Web's language for encoding information, is format-oriented and meant to be understood "by eye". Thus, HTML uses simple structures: headings, lists, links; the browsers are "hard wired" to render HTML as web pages [7]-[10]. "No content-based encoding" means that HTML can't be effectively searched or processed by business applications. Below we see an example of a connection with HTML (Figure 2) [6].

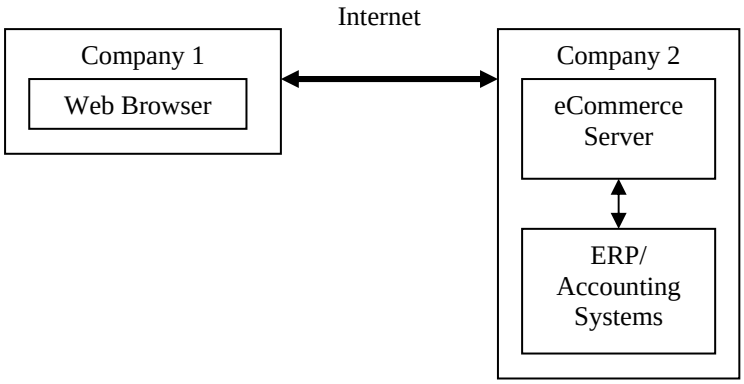

Fig.2. HTML connects e-commerce companies in a simple, but indirect, un-integrated and error-prone manner.

The problem is that Company 1 has no integration with order management. The result is manual and error prone data entry. Since the Web was created to publish information for people, it was hard to search and automate processing; "eyes-only" was the dominant design perspective [1].

Now, the Web is using XML to become a platform for information exchange between computers (and people) to overcome HTML's inherent limitations and enable the new business models of the network economy [3].

Why is XML good for e-commerce? Because, instead of a fixed set of format-oriented tags like HTML, XML allows you to create whatever set of tags are needed for any type of information. This makes any XML instance "self-describing" and easily understood by computers and people. XML-encoded information is smart enough to support new classes of Web and e-commerce applications.

XML's major advance is the generation of documents types: Customer Profiles, Vendor Profiles, Catalogs, Datasheets, Price Lists, Purchase Orders, Invoices, Inventory Reports, Bill of Materials, Payments, Deposits, Credit Reports, Schedules, Directories, etc [5]-[9].

In XML, the formal definition of permitted elements, attributes, and the rules by which they combine is called a **Document Type Definition** or **DTD** or **schema**. From any DTD (document type definition), an XML parser can be generated to read a document instance (the XML data stream), to identify the markup in it, and to create a form that can be processed and that is used by an application.

The parser can also test the XML document for conformance with the rules of the DTD, namely that a document instance that follows the rules of the DTD is "valid" (Figure 3).

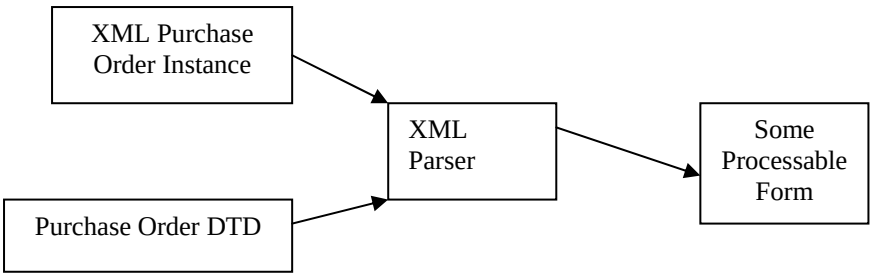

Fig.3. DTDs and validation.

XML can be processed automatically with huge cost savings but Company 1 and Company 2 have to agree on document format (Figure 4).

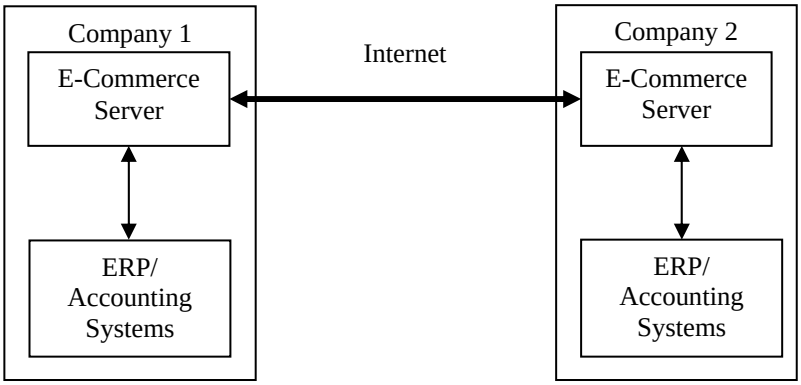

Fig.4. Connecting using XML

Business Processes are XML Document Exchanges. Therefore, if the customer/company 1 sends a request for a catalog, a catalog will be sent to him by company 2. If the customer/company 1 sends a purchase order and company 2 can fill it, it will send a purchase order response.

The Document exchange is a natural manner to think about doing business, easy to provide an **"**open**"** marketplace with 3rd party buying and selling applications and easy to maintain. Document exchange between marketplaces is fundamentally the same as within a marketplace and the services can be reused across marketplaces.

XML is a part of the solution for the e-commerce because XML has the potential to enable a standards-conforming, open and extensible architecture for electronic commerce. XML standards could enable ubiquitous connectivity and interoperability and create the network effects of "describe once, {sell, buy} anywhere" and reusable marketplace services [5]-[6].

4. Suggestions for good practices for E-Service

The more often customers have a positive experience with a company's e-service, the more the company experiences the benefits detailed above. A primary, quantifiable goal of any e-service implementation is to maximize the percentage of customers who find answers for themselves on the company Web site. The easier and faster customers can pinpoint the information they're looking for, the greater the resulting business rewards.

Therefore, e-service best practices are focused on achieving high self-service percentages. More specifically, these best practices ensure [2]:

- Customers use e-service knowledge items on the Web site to find answers to their questions whenever possible, rather than using e-mail or the phone;
- Online knowledge items provide answers for the most common questions;
- Customers can quickly and easily find the answer/knowledge item;
- Knowledge items answer customers' questions fully and effectively.

These are fundamental characteristics of any effective e-service implementation. By focusing on these characteristics, even relatively small companies save literally millions of dollars in service and support operating cost while significantly improving customer satisfaction.

4.1 People and Processes

The first sets of e-service best practices involve people and processes. These practices are essentially project management strategies ensuring rapid time-to-benefit and optimum long-term results for e-service initiatives. Based on the experiences of organizations across all sectors, three strategies in particular have been shown to be essential in achieving maximum return on investment (ROI) [4].

The list of the best practices in this category is the following:

- Have a staff member with a proven record of success lead the corporate e-service effort;
- Ensure the existence of collaboration across multiple departments;
- Commit to continuous improvement of content and processes;

4.2 Site Smarts

In addition to the preceding management considerations, e-service implementers significantly boost their return on investment by employing straightforward best practices regarding site design and navigation. These simple suggestions radically improve self-service rates and ensure that as many customers as possible use e-service content. As intuitively obvious as many of these best practices may seem, they are often overlooked by e-service provider. Based on empirical evidence from thousands of active e-service sites, the top seven best practices for e-service site design and navigation are [4]:

- Make sure customers can get to e-service content with a single or few "mouse clicks";
- Customers see content before phone numbers or e-mail;
- Make useful information on the site available from within the e-service area;
- Use graphical and/or interactive material wherever possible;

- Add as many links across the entire site as necessary to e-service content;
- Promote e-service on "hold" messages and during phone conversations;
- Always provide the ability to speak or chat with a live operator.

4.3 Software Smarts

In addition to project management and site implementation, the most crucial and effective e-service best practices involve the use of features and functionality available in a company's e-service software-of-choice. The configuration of basic system capabilities makes a dramatic difference in the percentage of customers successfully solving their problems online.

In this category, the best practices include [4]:

- Autosuggest answers to customer e-mail inquiries before they are sent to customer service representatives;
- Take full advantage of built-in reports and other feedback;
- Activate appropriate escalation/workflow rules;
- Use emotional response indicators to respond quickly to customer crises;
- Get started earlier than later and enhance implementation over time;

5. Conclusion

E-service is not just a technology. It is a strategic activity for any company selling in a competitive marketplace. Furthermore, e-service good practices are as important for achieving customer satisfaction and reducing operating expenses as e-service software. The combination of e-service good practices with a proven software platform delivers a remarkable solution for achieving rapid business results.

Finally, e-service has proven to offer tremendous benefits to companies in virtually every market segment. E-service good practices are critical to achieving those benefits. However, no one gets from here to there without taking the first step. In other words, that first step is the most important good practice of all.

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