TECHNOLOGY DEVELOPMENT MODEL USED FOR A SMALL COMPANY IN ROMANIA (CREATION AND USE OF AN ON LINE SHOP)

ROZALIA NISTOR, COSTEL NISTOR, MIHAELA-CARMEN MUNTEAN
Department of Economics, Faculty of Economic and Business Administration
“Dunarea de Jos” University
59-61 N. Balcescu Street, Galati
ROMANIA
rozalia.nistor@selir.com; cos_nis@yahoo.com, mihaela_c_muntean@yahoo.com, http://www.feea.ugal.ro

Abstract: Electronic commerce has largely replaced the traditional role played by wholesale and retail intermediaries. Today anyone can buy almost anything without having to physically move to where the goods are situated or property you want to purchase. Through the Internet we can access pictures and get details on desired product features and choose one of the bidders who proposes prices and best payment terms. This entire operation requires only a simple "clik" and can thus control the desired product that best fits our needs, in their own home. Payment is done from home or office using electronic payment instruments, without requiring the physical presence of money or physical contact between seller and buyer.

Keywords: internet, e-commerce, merchant account, online order

1. Introduction
The extraordinary development of the interconnectivity of computers on the Internet, in all segments of society, led to an obvious increasing trend for companies to use these networks in the area of a new type of commerce, electronic commerce on the Internet.
A definition of e-commerce and architecture representing its components is as follows: electronic commerce (e-commerce, in short EC) is the manner of conducting its business using electronic devices to increase the scope and speed with which information is supplied. Electronic commerce offers the opportunity to market their products worldwide, increasing the number of potential customers primarily through eliminating geographical barriers between customers and merchants. To better understand the role and place of communications and IT solutions (IT) in such a mechanism, an important study end architecture of an EC.

2. Architecture of an electronic commerce system
To build an e-commerce system, in architectural terms it implies a collaboration of four components needed for the following roles:

(a) client represented by a machine, a PC classic, directly or indirectly connected to the Internet. The buyer uses this equipment to browse and shop;
(b) traders, computer system, usually located at the dealer, which also hosts updated electronic catalog of products available to be ordered online on the Internet.
(c) transactional system, represented by the computer system responsible for processing orders, taking payment, records and other business aspects involved in trading.
(d) dispatcher payments (Payment Gateway) or system responsible for the routing of payment instructions within the financial and banking networks, with credit card verification and authorization of payments. This system acts as a gate linking the global network and Internet-banking financial subnet (subject to increased security requirements), the gate through which access is controlled by a gatekeeper (gatekeeper).
Advantages of e-commerce into economy practice are multiple, namely:
- using the Internet lowers communication costs
- reduce the duration of the sale of a product
- reduce transport costs and distribution

3. Internet business model (E-SHOP)
Internet marketing appropriate products are usually those that can be described easily and do not require the sense of touch: tickets or concert tickets,
CDs, books, software, tools, spare parts, certain foods or even cars. On the other hand, products that were initially considered as not suitable for marketing on the Internet - ties, for example, now sells very well on the Internet. Services offer complete product usually circumscribed but often a wider sphere. Prices of products sold via the Internet should be lower than those charged for traditional controls because no additional charge for delivery. Information services through regular publications are provided free at first, open access or free subscriptions. There are different types of hosting an e-shop, as follows:

a) on a separate server (a computer property of the company that owns an e-shop) for some large and complex web pages, it will be located in the company if the frequency changes to be made is high (eg, news, prices, etc.) or if it is necessary an intense traffic between the company and the server for e-shop
b) on a virtual server (space held by the company owner of an e-shop, on a hard disk of a computer vendor website), the preferred solution for most small and medium enterprises
c) in an larger e-shop (e-mail).

Choosing the best online shop is linked to the costs of telecommunications, technical know-how at the firm level, the target group, size, structure and medium term objectives of the future e-shop.

3.1. Buildin process for an e-shop

In order to construct an electronic store and implement the principles of electronic commerce is well known that electronic commerce is in principle an electronic exchange of information between a business and its customers.

Electronic commerce is one of the complex, "integrated" solutions, that Internet technology has to offer. This means that a multitude of applications and Internet service providers must work together in a perfect timing for an ecommerce site to function. In building an electronic shop should be kept in mind: product definition, security, merchant account, electronic control, electronic payment methods, shop advertising options

3.1.1. Product Definition

It is imperative that the company wich plans to launch on the Internet studies in detail the characteristics of the product which is going to put on sale. Just as in traditional commerce, nature will determine the choice of product sold. Technology "shopping cart" is the basis of any process of electronic commerce.

Shopping cart system is the system which enables the product to be exposed images, descriptions and prices. Also provides mechanisms by which a consumer chooses the amount of products he wishes to buy, makes verification and registration data, calculates and displays the total value of purchases.

For this process to work properly it is necessary to enter all information into databases, to be a good connection between who buys and who sales. Components included in the application determine functioning in unison. Fortunately, these components can be purchased from Web hosting provider with the selected service package and some can be added over time.

In conclusion, the key points that must be considered by any company in choice of shopping cart in relation to the product you are put on sale:

a) The shopping cart given by your web hosting provider that plans to host a Web site has the necessary components of your product presentation?
b) costs level
c) costs of creating the site (or within a company and not resort to specializzata), how easy is the installation of the system

3.1.2. Security

Once the information you have submitted to the site leave the computer on the Internet and begin their journey, they belong to the public. A skilled hacker could intercept them and use them as he sees fit.

How will be the payment information transmitted over the Internet? There is a risk that they be intercepted? Where is this information stored? Hackers could be at hand? Widely used solution this time is SSL (Secure Socket Layer) - secure data server - in combination with the Digital Certificate (Digital Certificate).

Digital certificate standard is one that recognizes and confirms that the server where is the web site uses SSL encryption indeed when receiving and transmitting data. When pages which require payment from the consumer information are accessed they need to be on such a secure server. Pages like this have the URL "https:" (Hyper Text Transfer Protocol Secure). Without SSL and Digital Certificate, consumer will never endorsed credit card data transmitted over the Internet.

3.1.3. Merchant Account

Merchant account is quite different from ordinary bank accounts, used in traditional businesses that allow you to accept payments by credit or debit cards as a form of electronic payment from your customers. Once you’ve got a merchant account, you will have an identification number (Merchant ID) and POS, that is the point of sale terminal (point of sale terminal).

Through POS should be read and recorded information about the consumer from a magnetic stripe credit or debit cards. After that, POS sends
information and transaction details to authorized institutions to process payment. They respond with information if funds / credit are sufficient, existing payment and authorizes or declines the transaction. If the POS terminal communication is not possible for various reasons (eg pause), the transaction may still be processed manually at a free phone number (100-800).

To have a merchant account must be taken into consideration the following aspects:

a) ways to obtain a merchant account. In most cases, banking institution where the firm has the account offers such services. If your bank does not yet offers such services, you can contact a non-banking structure. A non-banking institute that offers those services offers an additional mechanism for trading in real time via the Internet. A fact little known and rarely used is the legal procedure in Internet transactions to ship the product to the recipient, before receiving the appropriate amount of credit card / debit card customer. Obviously, cashing authorization is obtained before sending the product, to confirm that funds are available and eliminate risks in case of theft. Bank transfer takes place only after the product is on the way to the consumer.

b) options offered by a merchant account

Merchant account provider can influence the choice of shopping cart. For real-time transactions, it is necessary that the "Pay Now!" can be linked to authorization services merchant account provider. It is therefore imperative that the company checks which shopping cart is accepted by account provider.

Much attention should be paid to processing fees, because they are different from those of standard credit cards. Whether the company will process the transaction manually or in real time, it must informs from more providers about taxes, comparing and negotiating such fees as may be considerable differences.

3.1.4. On-line order

There are several options for display products and submit orders online. The most common is a simple HTML page (for display of products) and an electronic order form. If the number of products that it intends to sell is great and customers that buy more frequently are in a greater number it needs a more complex scripts. In this case, the solutions fall into two main options: Java or CGI scripts hosted applications.

The solution of free scripts is cheap and can be enough in early stage. But compared with e-commerce solutions provided by web hosting providers has his limitations, shortcomings:

- are more difficult to install;
easy to manage. Real-time processing is not always necessary.

3.1.6. Shop advertising options
The phrase "Build it and they will come" is not available for traditional sites and nor shops. Marketing and advertising strategies are absolutely necessary to achieve success on the Internet. Firstly, the public web address on all printed materials - business cards, letterhead - promotional gifts (pens, diaries), advertisements in newspapers, on radio or TV. Then, it determines which are the means of promotion through the Internet. You can call one of these ways of online advertising:

a) 
Programe Affiliate – Is a type of program that stimulates the sales offering sites that fall within this network (affiliate) commission for each sale made through them. To promote products and services put on sale, using both graphical links (and banners advertising boxes) as well as text links. For details visit AffiliateWorld.com

b) Payment directories - Specialized directories are usually on a market that charge fees for listing sites.

c) Banner Campaign - Banners are graphic links usually placed at the beginning pages that recorded the highest traffic from one site. The fees for placing a banner is usually calculated in relation to the number of impressions (exposures) or clicks. But one who sells advertising space must have a statistical tracking program to provide traffic reports on the complete statistical paid advertising campaign (the so-called ad server - ad server ").

d) Search engine registration - It is a form of free publicity but requires a lot of work to be effective. It is well known that the site must be inscribed in AltaVista, Lycos, Google, Excite or Infoseek, but if you do not get the listing of the top 20 sites to search over at least 2-3 keywords, the site is unlikely to be accessed.

e) Free Directories - There are free directories such as Yahoo, Snap.com some with large audience and some with less traffic but you have already selected a target audience, specialized fields (business, travel, music, etc.). Listing in this directory is quite difficult to obtain, after some repeated entries and requires much patience to complete a series of electronic forms.

f) Reciprocal links - It is one of the most effective forms of online advertising and is not expensive. The difficulty is to find sites with complementary content, willing to accept such an exchange that might prove advantageous to both parties.

g) Banner Exchange Programs - The most common way of online advertising in Romania is banner exchange network. There are several networks for which you can choose: Goldenbanners.ro or Goldenclick.ro are most popular. Rates of exposure may be from 1:1 to 1:3 - ie, the first exposure of a banner in a website on the network in exchange for 1, 2 or 3 exposures of banners in your site (on a case by case basis). Obviously the best exchange rate is 1:1, but is rarely practiced, for commercial reasons.

3.2. Build process of on line store
www.4baby.ro

The store is generally addressed to mothers with newborn children up to age 2 years. Articles and hygiene products for mother and child hygiene and safety and protection products for this segment of consumers are hard to find on the traditional market.

Www.4baby.ro site aims to meet the needs of baby products for the protection, safety and corner, scales, thermometers, plugs false air humidifiers, baby carriage harness products, bags, car seats and baby products and trousseau lem cots, pens, bedding, Changing tables, mattresses, dining, etc. articles.

Also we can find in the shop care products as mother's breast pumps, devices, breast pads, etc., and child care: wet wipes, disposable diapers, cosmetics, pharmaceutical and other useful items.

Www.4baby.ro shop has contracts with various companies producing the articles respective owning brands such as: Sensiblu, Chicco, Pampers, Nivea, BearProduction (stools, chairs, cribs, pens). The products marketed are of high quality, because we cooperate with best producers to protect your child.

The target audience which addresses this store is the mothers with children newborn to 2 years. The advantages of performing electronic purchases through this store are: prices are lower than in traditional stores, buyers do not have to physically move, because you can spend more time with your child as deliveries performed at home, so that delivery is prompt.

The site is equipped with an electronic shopping cart that allows adding products, user authentication, change orders, collect necessary data about the buyers.

The site is also provided with a forum through which consumers can change their opinions about the products among themselves, children and their specific problems. The concept behind this forum is provide explicit knowledge about the company 4baby consumer desires, their opinions about products, sites, their expectations, the problems they face and that the company might be in business opportunities.

Also due to user registration obligativity to take part in forum discussions, the company obtained the identification of potential clients (email address, IP address, geographical location, preferences and data on their occupation). These data can be used to
send the address of their newsletters, emails containing the store's product offerings and electronic novelties. Access to information on the forum is not restricted by the obligativity of shopping on site.

At the creation of this electronic shop I took into account the following characteristics of electronic commerce, which starts from these two premises:
- there is a high demand for products for this population (mothers and newborns)
- most retailers and virtual Romanian stores deal with selling clothes, accessories and clothing for the food and pharmaceutical segment.

Establishment costs of such an electronic store are not great, is much smaller than for establishing a traditional store. Hosting forum on electronic store is open to allow a direct interaction between consumers and customers, www.4baby.com acting as an intermediary in this case is able to electronically collect information about their tastes and preferences and to prepare an electronic profile.

Not all visitors feel comfortable with the online ordering system. Therefore, we can provide to those interested a telephone number to access it at a normal rate telephone number, in order to place an order.

As a solution to shyness clients to order products from the desire to reach the first goods to verify their quality before they buy, online shop www.4baby.ro warrants for products offered and the possibility of rejecting the offer in the following terms:

After the customer choose the products and confirm the order, they receive an e-mail confirming the order. In this case you can still cancel the order without pay anything just to respond urgently to the email received.

When the customer order is processed it is again notified by e-mail again. It is his last chance to stop order without paying anything replying to this e-mail immediately. Next email to the client is transmitted when the courier has already gone to client or when the package was put in the mail. At this point if he wants to quit must still pay only the shipping fee.

Product or products bought and paid may be exchanged or returned within 10 days of receipt only in the following cases:
- product is defective or damaged at the factory and not because of a faulty uses;
- client has different product than the one ordered, in which case the product should not be unsealed received;
- model there is a difference between the ordered product on the site and received this difference is obvious and can be proven.

Companies providing online services also provides for trade discounts and promotional offers. To popularize this electronic store I entered in the search engines Acasa.ro, Traffic.ro and also in foreign search engines Google.ro and AllTheWeb.

Design a publicity campaign on the Internet for shop www.4baby.ro: Campaign: "Put on I place your child's safety" organised by online shop www.4baby.ro

**Objectives: General purpose** informing parents about the fragility of the child early in life about the importance of creating unite and secure physical environment for its development, specific purpose: To bring to public knowledge of the existence of the store, the products sold, the address where can be found;

**Target audience:**
- **Public primary target:** Pregnant mothers or mothers with young children aged 0-2 years.
- **Secondary target audience:** Young women between 20-35 years, potential mothers.

**Messages**
- **For the main public:** „Your child deserves all the best!”

**For the secondary public:** „Child the best gift”

**Strategy:** Organization of information dissemination activities.

**ATL comunicais:**
- Ads in publications that appeal to women: Femeia, Olivia, Unica, Viva.
- Organizing at the radio on 8 March for a show with two female figures talking about raising children, about their experientele children as mothers, how important they feel their child protection and hygiene.
- Registration www.4baby.ro the following search engines Google, Alltheweb, Acasa.ro , Traffic.ro, Cere.ro
- Campaign will reach its peak on June 1-day child when you are organizing a campaign for all the newsletters sent by companies or board members together

**Calendar of activities and budget campaign**

Duration: 3 months

We chose this period because it includes two high-load reference data symbols for women and especially mothers: March 8 and June 1

### 4. Conclusions

The new network technologies is one of the significant developmental processes, signaling a period of dramatic change in human history. But the role of trade is a key factor in this process to be pursued. When new technology becomes an integral part of business, it starts to become not only trade but also society.

Information technologies allow to minimize distribution costs, for example, sale and distribution
of information in a communication network. It could be possible, thus reducing distribution costs from end to end supply chain. Electronic links between manufacturers and retailers allow reduction in costs by reducing paper transactions and/or replacing them entirely by electronic transactions. Electronic commerce provides opportunities to suppliers, customers and measurable benefits: the global presence/global choice, increased competition/service quality, production scale individualized/customized products and services, shortening or removing the supply chain/fast response to requirements of the beneficiaries, reducing costs/low prices, opportunities for new businesses/products and services.

Electronic commerce is in constant growth, but there are many aspects to be clarified and resolved before its full potential is reached: globalization, contractual and financial issues, property, privacy and security, interconnectivity and interoperability, implementation. Electronic commerce challenges the usefulness of long and complex supply chains. E-commerce offers businesses the ability to react more quickly to opportunities and to be guided by demand.

References:
[1] „Limitarea pirateriei software ar permite creșterea cu 76% a pieței IT” - Info IT nr. Aprilie 2003
[8] Nistor C., Nistor R., Muntean M. C., 2010 - E-Commerce - Winners’ Choice, the Proceedings of the 10th WSEAS International Conference on APPLIED COMPUTER SCIENCE (ACS ’10), Iwate Prefectural University, Japan, October 4-6, ISSN 1792-4863, ISBN 978-960-474-231-8, Published by WSEAS Press www.wseas.org