

# Modeling the Behaviour of e-Customers

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## SUMMARY

In this paper we consider e-purchasing as a goal driven task influenced by a number of factors related to the principles of web interaction as the medium to perform the purchase, psychological and social factors immersing from a user's profile, educational background and cultural origin as an indication of the a user's familiarity and trust towards the new technology. If we can say one thing for sure, this should be that not all customers are the same; they do not have the same goals, nor do they exercise the same shopping strategies. In this context, the ultimate business objective is to foster the needs and preferences of as many customers as possible and ensure that apart from attracting new customers, a business should manage to keep its old ones coming back. After all, the web is by far the most competitive environment ever. Knowing your customers is one of the primary business concerns and it is the common ingredient of all success stories. This paper tries to outline the factors driving the value of look-to-buy ratio of e-commerce sites by looking into models of e-behavior.

**KEYWORDS** : eCommerce, Behaviour Models, HCI, Human Factors

## INTRODUCTION

Nothing in the history of business has grown with the speed of commerce on the Internet. E-commerce features as an extremely dynamic economic sector and at the same time, as one of the most appealing ways of beginning or expanding a business activity. Statistics for the future of e-commerce are quite optimistic indicating that the business-to-consumer (B2C) e-commerce will grow rapidly in the years to come. In fact, despite the recent talking about cases of businesses that went online but did not manage to profit, looking at the big picture reveals that such cases inhabit just a small portion of the market and

most inhabitants of the e-commerce world are not only surviving, but also doing very good business. This is a strong indication for assuming that there are certain distinctive features that make the difference and, which result in either success or failure. In this paper, we study the process of online shopping from the consumer's point of view, because like in any other form of business, knowing the customer is a primary concern; pulling and keeping him is the ultimate business objective.

According to a study ([9]), "consumers are increasingly giving online commerce a chance". Taking also into account the rapidly growing number of those that have access to the internet and those that gain familiarity with the medium, we have a very positive and quite promising picture.

The changing profile of the Internet shopper is one of the factors that drive the impressive increase in online sales. Five years ago ([1]), web buyers were a homogeneous group consisting of affluent males that used the net to purchase software. Now, the potential e-buyer is a more vague quantity; to start with, now the average shopper is 42 years old and the percentage of males is not much higher than the one of female buyers. Some 55 percent of shoppers are male, but according to surveys, the gender gap is narrowing at a rapid rate. According to estimations, 45 percent of online shoppers are female, and more than half of all consumers, who made their first purchase in the second half of last year, were female. As women become more comfortable with shopping online, chances are good that they will account for a greater proportion of electronic purchases on the Web. So, there is no dispute about whether or not e-commerce has a future. It is a new philosophy in conducting business and it is here to stay. The question is how easily Internet users become e-customers and which are the mechanisms used through-

out an electronic transaction initiated by a user; in other words, an e-purchase.

According to [2], there are six basic types of e-customers:

- The 'New to the Net' Shopper - Shoppers who are new to the Net are still trying to grasp the concept of e-commerce. They typically use the Web to research purchases, and are likely to start buying online with small purchases in safe categories.
- The Reluctant Shopper - Reluctant shoppers are nervous about security and privacy issues. Because of their insecurity, they start off wanting to use the Web only to research purchases, rather than buy online.
- The Bargain Shopper - Bargain-hunting shoppers use comparison-shopping tools extensively. Sporting no brand loyalty, these shoppers are just looking for the lowest price.
- The Surgical Shopper - "Surgical" shoppers know exactly what they want before logging online and only purchase that item. Typically they know the criteria on which they will base their decision, seek information to match against that criteria, and purchase when they are confident they have found exactly the right product.
- The Enthusiast Shopper - Enthusiast shoppers use shopping as a form of recreation. They purchase frequently and are the most adventurous shoppers.
- The Power Shopper - Power shoppers shop out of necessity, rather than as a form of recreation. They develop sophisticated shopping strategies to find what they want, and do not want to waste time looking around.

Based on this categorization, one might assume that six distinct models should be identified, each one to describe the corresponding e-customer type. The fact is though, that given a certain level of abstraction, we can use one model to represent the e-behaviour of online shoppers, regardless of the specific type he belongs to.

In this paper, we identify a primary mechanism that we refer to as the "browse/search model" and which is activated the moment a user enters an e-shop and ends when the user has identified (and probably placed in the shopping cart) an item (or more items) to purchase. Prior to this phase, there is the phase where the user selects a certain e-shop and even earlier, the phase where the user decides to trust the new technology and make an online purchase. After the browse/search the user is either leaving the e-shop unsatisfied, because of failing to locate the item of interest, or has placed an order in the shopping cart and moves on to the next phase, which is payment. This is the point where the issue of trust comes up to distinguish between completing and abandoning the task. In all cases, candidate or actual e-customers end up

evaluating -more or less consciously- their e-shopping experience and record their impression of the e-shop they came to contact with. In the best of cases, e-loyalty starts developing.

The next paragraph provides a general framework on the topic of human factors that influence the way people interact with an e-commerce site and also refers to the six types of e-customers. Moreover, we present a number of factors that need to be examined when it comes to assuring a satisfying e-commerce experience. Next, we point out the issue of trust as a dominant notion in the remote world of e-business, while in the next section we present the browse/search model of the e-customer. In the last section we summarize the e-purchase process and present the e-customer model behaviour, along with our future research directions.

### THE WAY CUSTOMERS SEE THINGS

In the previous paragraph, we referred to the types of e-customers and we also talked about the ultimate business objective, which is knowing your customer. The reason behind this, is to also know the way to understand and satisfy his needs. At this point, we should address the topic of user-friendly interaction and usability, as the user cannot be separated from his human nature. In this context, a usable interaction and in the case of e-commerce, a usable and friendly e-shop should:

*Be easy to learn* – the e-shop must be easy to move around and users –even those that are novice users of the Internet- shouldn't find it difficult or confusing to interact with it. This, taken to the next level- means that users have a sense of control both on the point where they are and on what they should do in order to get to the place they want.

*Be easy to remember* – in the case of e-commerce sites this attribute is not as important as the previous one, because e-shops are in a sense a type of "walk up and use" applications, where prior usage experience is not required. But the e-shop must be easy to remember in another manner: it should have an easy to recall URL; it should use consistent navigation controls and should communicate at every touch point (which is every page of the web site) the identity and the profile of the brand behind it. All these elements contribute greatly in creating a feeling of familiarity, comfort and trust. Zemke and Connellan put it more eloquently in [6], "*Put your personality into every touchpoint – branding is what elevates you from average and acceptable to memorable. It is the first step toward loyalty.*"

*Be efficient* – efficiency in the context of e-commerce means easy and fast way of submitting an order. It is a fact that "Customers are annoyed with the little struggles

that are too frequently part and parcel of doing business online. Their expectations are simple and their choices are infinite". According to ([6]), e-shops should adapt to the ETDBW (Easy-to-do business-with) thinking approach: the point is how to we make it simple and effortless for customers to find and use us, and only then to deal with questions of style and design. ETDBW thinking asks everyone in the organization to think first like a customer and last like a technical wizard. Moreover, since an e-purchase is in fact complete not at the point of charging the customer's credit card but at the point when the customer receives the ordered item, efficiency requires delivery to be on time. This means that e-shops must practice reliability.

Prevent errors from occurring and provide recovery mechanisms – it is essential to prevent or to eliminate errors occurring throughout the e-purchase experience. As errors we regard broken links, missing images, missing product details, as well as server failures or long delays due to heavy traffic and any other circumstances that result in a negative customer experience and poor service.

Provide subjective satisfaction to the customer – subjective satisfaction is by definition quite difficult to measure, but in the e-commerce world there are seven key features that can guarantee -when implemented well- a positive e-customer experience. Those features are known as the 7Cs ([3]) and are described in more detail in Figure 1.

The logical question rising here is whether it is possible – given the different wants and needs of each customer type described in section 1- to foster all these diversities. A closer look into these types and their respective needs is required ([2]):

- 'New to the Net' Shopper - New-to-the-Net shoppers require a very simple interface, an easy checkout process and lots of validation to buy online. Product pictures will do a lot to convince these shoppers to complete sales transactions. Shopper-to-shopper interaction will also provide a non-threatening way to get familiar with and gain confidence in making online purchases.
- Reluctant Shopper - Clearly stated security and privacy policies will help reluctant shoppers feel comfortable with the Web. These shoppers also need immediate online customer support to quell their concerns. Online discussions with other shoppers who report positive experiences of buying online will also help reassure these shoppers.
- Bargain Shopper - Retailers must convince these shoppers that they are getting the best price and do not need to continue searching online or offline for a better deal. Sale-priced items listed on the site, or

made available through an operator, are very attractive to these shoppers.

- Surgical Shopper - Product configurators and archived opinions are essential to persuade surgical shoppers that what they found is what they need. These shoppers also benefit from real time customer service from knowledgeable operators.
- Enthusiast Shopper - Web sites should offer to enthusiast shoppers engaging tools to view the merchandise, personalized product recommendations, and community applications such as bulletin boards and customer feedback pages.
- Power Shopper - Sites that have excellent navigation tools and offer lots of information on the available products, customer experiences, expert opinions and customer service are attractive to power shoppers. These shoppers want instant access to information and support, and expect highly relevant product recommendations that match their criteria.

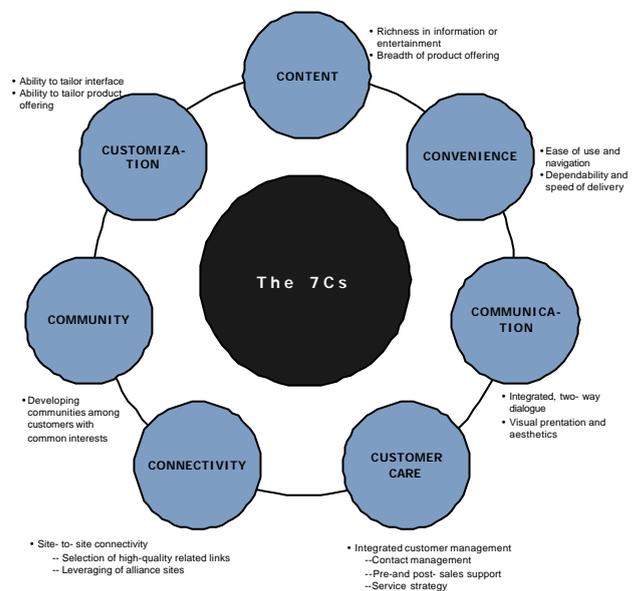


Figure 1: The 7Cs framework, source: A. T. Kearney [3]

Despite the variety of shopping strategies exhibited by the different types of Web shoppers, online merchants can adopt a few key approaches to satisfy their varied needs. The two primary elements of an e-commerce site appealing to all six types of shoppers are *easy site navigation* and *shopper-to-shopper interaction*, as a way to create online communities. Also, to avoid having shoppers click away, it is important to review the site navigation links to ensure that there are *no hidden pages*. Sophisticated and *accurate search engines* also provide every kind of online shopper with support destined to increase their level of purchasing online - no matter who they are or how they shop.

## THE ISSUE OF TRUST

In the world of e-commerce, it seems that a big portion of human factors is embedded in the notion of trust. "Consumers see the world of the Web as one of chaos". According to the study in [8], six fundamental forms communicate trustworthiness to e-customers:

- Brand identity – it is very important for a customer to be familiar with the brand.
- Navigation – the navigational structure of the e-commerce site must be easy to understand, use and recall.
- Fulfilment – the delivery mechanism must be on time and always keep the customer informed of the current state of an order.
- Presentation – the aesthetic impression made to the customer must be positive and consistent.
- Seal of approval – seals of approval both from a known agency (visa, American Express, etc.) and a technological organization (VeriSeal, TRUSTel, etc.).
- Technology – the technologies integrated for the implementation of the e-commerce platform must be based on latest advances, should guarantee best speed and reliable operation.

In the sections that follow there are many references to trust and in our opinion, trust is a notion that is present in every step of an e-purchase, trust is assessed over and over again, it is built through experience and can be lost when the enterprise behind the e-shop fails to live up to the customer's expectations. But trust can provide loyal customers and it is them that can really guarantee long-term prosperity.

A closer look at the reasons why an e-customer ends up entering a specific e-shop brings us to the issue of brands and trust. It is only natural that people who decide to buy online would prefer to do it through a merchant they are familiar with. Another reason might be experience of other customers and of course we cannot leave out the small percentage of customers that chose an e-shop by chance, usually because the search engine they use returned this link high in its results list.

All the abovementioned apply to the new e-customers. When it comes to users with prior e-purchase experience, the issue of trust extends to the notion of loyalty, which is examined in more detail later on.

The model in Figure 2 describes the way an e-customer interacts with the e-shop while browsing or searching in order to locate the item/s to purchase. This part of the e-purchase experience is of great importance, not only because it is an integral portion of every purchase, but also because it determines the user's impression and a first-

level assessment of the e-commerce site. Users consume most of their time during this task and use the feedback from this process to decide whether they will go on with the payment or leave their shopping cart at the cash register and exit. Eshops suffer from this phenomenon but after all, the Internet is an impersonal, remote and extremely competitive world, which can be a blessing and a curse. In order to get the most out of it, the customer must be kept satisfied. In the browse/search phase this means that the customer should walk through as few states as possible in Figure 2 before –hopefully- ending up at the bottommost left state. Failure to locate the item/s means for the eshop, one customer lost and a hard-to-estimate spreading of disrepute.

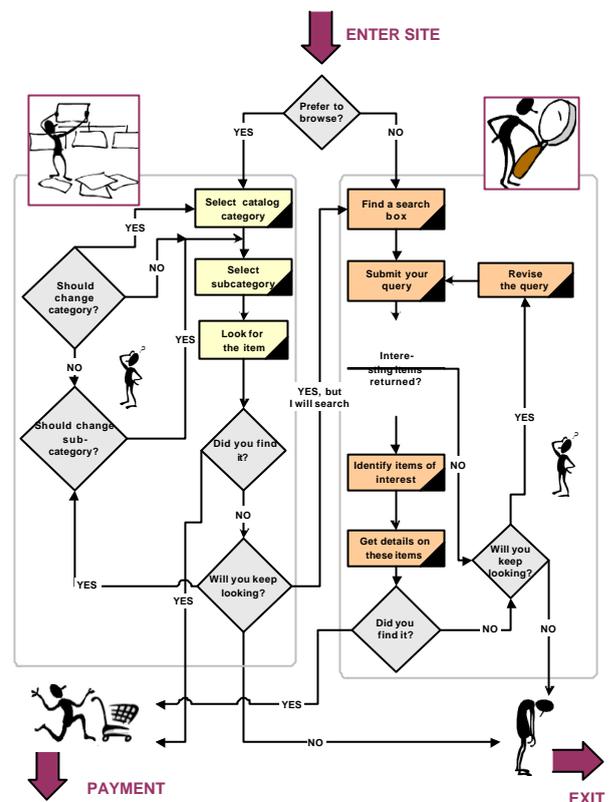


Figure 2: The e-Customer Browse/Search Model

In the case that the customer completes the browse/search phase successfully, the control is passed over to the payment phase. Payment requires simplicity, clarity, certificates, reassurance and a sense of professionalism and safety communicated in as many ways as possible. Security in transactions is not negotiable. There must be detailed information about the measures taken to guarantee security and be available on every page of the payment process for whoever wants to view it. What is also important is keeping the customer informed of the current order state and give in advance a timetable for the delivery. It goes without saying that this timetable must be kept as a way of granting the customer the respect he

deserves. The ultimate objective should be to communicate this principle even to the most mistrustful customer, because this is the best way to keep him. It is rather peculiar, but the fact is that companies have spent millions of dollars attracting customers to their web site and seem oblivious to the fact that acquiring customers is not the same thing as keeping customers.

Creating a sense of intimacy in the e-world is both possible and important. People do business with people. Commerce in the Internet space may be frictionless and remote, but it need not –should not- be impersonal. E-loyalty aims at humanizing digital loyalty and developing intimacy. The question is how to gain the e-customers' loyalty. First of all, before planning an e-loyalty strategy, enterprises should first perfect their products, their Web execution and their distribution system. A bad first experience on the e-commerce site can kill the millions spent on the application of an e-loyalty strategy. No e-Loyalty program, regardless of its sound planning or execution excellence can overcome a bad website design, poor product quality or unreliable delivery. And while e-Loyalty is difficult to build, it is quite straight forward to assess. According to [1] *"You don't have a relationship if customers don't return or don't transact. In fact there are only three measures of e-loyalty: repurchase, cross-purchase and referrals. You have e-loyalty when customers don't even consider the competition's offers, when customers want to be associated with your site and tell others about it"*.

### THE E-CUSTOMER BEHAVIOUR MODEL

Putting it all together, in order to describe and model the process of e purchasing on the customer's side, we need to address the following phases:

- *Chose the e-Shop to purchase from* – factors that may determine the e-Shop where the customer will attempt to execute an online purchase, include his prior (positive) experience with this e-Shop, experience of others with the e-Shop, familiarity with the brand, or chance.
- *Identification of the items to be purchased* – this process has been modelled by the Browse/Search model as presented in section 4.
- *Payment procedure* – brings up the issue of already established trust, as well as the trust concluded by the overall e-Shop impression, the security certificates available, seals of approval and detailed documentation.
- *Order distribution* – e-purchase, like custom purchasing, is considered complete when we actually receive the item ordered and paid for. Fac-

tors that determine the success of this phase are the timely delivery, as well as the order follow up and the customer support policy.

- *Assessment of the e-purchase experience* - after completing an e-purchase, the customer assesses the experience and either builds up his trust to the e-Shop and comes closer to e-loyalty, or rejects the e-Shop and usually does not give it a second chance. A better one is surely one click away.

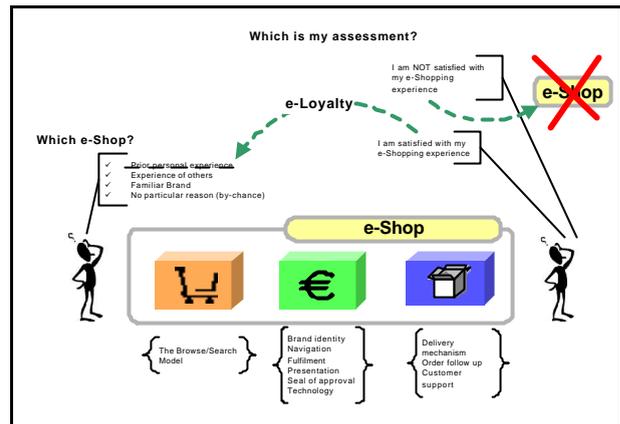


Figure 2: The overall e-Customer Behaviour Model

Our future efforts shall be towards putting more detail in the browse/search model as well as embedding to it phases before the selection of a certain site and after finding the item to be purchased. Another future plan is to develop such a model for each one of the six identified types of e-customers with their specific needs represented in more detail. Moreover, it is necessary to conduct tests and analyse logs in order to acquire some real-world insight to the way each one of these types actually interact with an e-commerce site.

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