

Proposition for the doctoral colloquium
9th International Conference on New Marketing Trends
Venice, January, 2010

The consumer's shopping behaviour in electronic grocery shopping

Elodie Huré
CREM-UMR CNRS 6211
IGR-IAE, University of Rennes 1

Abstract:

The grocery sector specificities do not allow us to generalize previous findings on Internet research to the electronic grocery shopping. Therefore, understanding consumer's shopping behaviour in the cybermarkets is of academic concern, but it could also give cues to managers as today, retailers face many difficulties with this channel. This paper presents an exploratory research based on observations in both physical and virtual channels. The specificity of our study is our collaborative work with two ethologist students who offer us very precise pre-coded grids of physical behaviours. A questionnaire also underlines disparities between "what the consumer says" and "what the consumer does" which suggest us that we will need to triangulate different methods in order to have the best understanding of consumer's shopping behaviour in electronic grocery shopping.

Keywords:

Consumer behaviour, electronic grocery shopping, observation, ethology

Internet is today one of the most popular marketing topic in research but it is difficult to find studies about Internet and grocery shopping. Our objective is to get a comprehensive vision of shopping behaviour in electronic grocery shopping. This topic is of managerial concern since all hypermarkets in France have launched their website with little knowledge on consumer behaviour in cybermarkets. Moreover, Bray (2008) outlined that only 2 cybermarkets out of 13 were profitable in France. Their difficulties can be due to strategic decisions, logistics, or consumers' acceptance of this channel but we also need to deeply understand consumer shopping behaviour in cybermarkets since it could give us insights of the reasons of these difficulties.

It is also of academic concern as we know few studies in this field, especially in France. Grocery shopping is full of specificities that make the generalization from previous Internet and grocery shopping studies hazardous and its commercialization on the Internet very challenging (Raijas, 2002). Those specificities are the followings:

- Grocery shopping is a necessary task (Raijas and Tuunainen, 2001) perceived as a constraint, limiting the « pleasure » dimension of this shopping.
- Grocery shopping is considered as a low involvement purchase, where the consumer allocates as less efforts as possible (Park et al., 1989). In this perspective, consumers shop generally in a well-known store, where they can use internal memory and which facilitates their decision making. Moreover, the “routine” dimension of grocery shopping does not make consumers inclined to mobilize numerous cognitive resources. They prefer to refer to past purchases experiences, using inferences that help them to construct heuristics aiming to simplify the decision making process.
- Grocery shopping habits are de facto stable (Raijas and Tuunainen, 2001) and difficult to change.
- In addition to a minimal effort, consumers tend to spend as less time as possible when they shop for food.
- This « constraint » dimension has been underlined in a previous study (Picot et al., forthcoming) where consumers perceive the grocery shopping as a “compulsory task” and where they dissociate “shopping” with “shopping for food”.
- More than a convenience product, groceries are also considered as experience products (Dandouau, 2001). Indeed, the consumer can only evaluate their quality and characteristics by seeing, touching or eating them: as a result, the evaluation of grocery products mostly happens in stores, in front of the shelves.

- A grocery shopping basket includes many low value-to-weight ratio items (Raijas, 2002; Raijas and Tuunainen, 2001). Therefore, the purchase of one grocery product on the Internet is not very feasible as transaction and distribution costs would represent a too large part of a unitary price of one product. Only a basket with several items can be the object of an electronic grocery shopping, excluding “fill-in” trips and day-to-day grocery shopping, as we know in Japan, Indonesia, Vietnam...
- Because consumers will shop for several items, their online grocery shopping will be complex. They will have to do several “clicks” before ending their shopping.
- Finally, consumers see Internet as the opportunity to have a larger offer of products but in a cybermarkets, the assortment is much smaller than in a supermarket or hypermarket. A responsible of a store told that the cybermarkets assortment was composed of 6,000 products while it was 50,000 in their physical store.

Research questions and conceptual framework

Several questions arise about the relevance of existing models and theories around search information, information processing and decision making on the Internet and in grocery stores. Is the consumer going to search for different information in the supermarket and cybermarket? Which cues will influence his decisions? How does the consumer choose its products in an electronic grocery store? Does he use the same decisional process in the virtual and physical channel? Does he choose the same products online and offline?

Because the environment is not the same (in-store vs. internet), we assume that consumer’s information search as well as information processing will lead to a different evaluation of alternatives and purchase decision.

Therefore, we need to measure the following variables:

- Search information in cybermarkets with the possibility to use observation to determine the external search behaviour:
 - Time spent to choose each product
 - Number of products and categories examined before a choice (why not using eye-tracking in a future study)

To determine internal search behaviour, we could use a questionnaire.

We will also have a deep interest into the following dependant variables:

- The type of products purchased: we know consumers reluctance to buy fresh products on Internet as they cannot touch, feel and see it (Alba et al., 1997). We expect to see consumers referring to national brands or brands they are used to purchase, because

they already trust them. Will our expectations be true? Will consumers be less tempted by trying new products? Will national brands be more often purchased on Internet than in physical stores?

- Products prices: to reassure, consumers tend to buy expensive products on the Internet (Lynch and Ariely, 2000). Will this finding still be true for electronic grocery shopping? Will consumers trust bargains and low prices?

The following factors will have to be taken into account as they could influence consumer decision making in a cybermarket :

- Content and assortment design as well as the cybermarket design on a whole (Moe and Yang, 2009; Garnier and Gavard-Perret, 2003): previous research already pointed out that store design influences consumer behaviour (Farley and Ring, 1966).
- Consumer expertise and cognitive style (Garnier and Gavard-Perret, 2003)
- Consumer navigation: Mandel and Johnson (2002) showed that preferences and purchase decisions are built during store navigation. The “spatial” behaviour of consumers in the cybermarkets will be measured with: the type of visited zones; the use of keywords to facilitate the research; the order of visited categories; the « passage » from one category to another category of products

We must point out that we will not consider situational variables such as the purpose of the grocery shopping (« weekly » vs. « fill-in » grocery shopping) as the price of the service (around 6 euros) makes cybermarkets more appropriate to “big” purchases.

Methodology

Many methodologies have been used to study consumer behaviour in grocery shopping like datamining, laboratory experimentations, questionnaire surveys, direct observation of behaviours.

Observation

Several variants of observations exist as for example: the ethnographic approach dealing with sharing consumer’s life in order to give sense to its shopping activity; non-obtrusive observation where the consumer can be followed or filmed in the store without being conscious of it; the use of RFID technologies to follow consumers’ movements. Globally speaking, the major limitations of observation are its costs (in terms of money and time) and the difficulties related to data collection and retranscription. These methods also suffer from their obtrusive nature (Cobb and Hoyer, 1985), the subjective interpretation of it and the sociable desirability bias (Evrard et al., 2003) it can create. In addition, the non-obtrusive

observations can pose an ethical problem and leads in a high refusal rate because consumers rarely consent to give their agreement about the use of their observation. Finally, as observations can difficultly give answers to the “why”, the protocol method can help to understand the decisional process of a consumer in front of a shelf space. Dandouau (2001) points out that verbalizing routine purchases (like grocery shopping) can create considerable bias because cognitive processes are mostly unconscious in this situation. Another methodology closed to the protocol method - “shopping with consumers” (Otnes et al., 1995) - allows the researcher to go with the consumer in the store with asking him to explain his choices. However, “shopping with consumers” is very obtrusive and can also creates social desirability bias.

Questionnaires

Questionnaires deal with intentions as well as previous experiences and allow to measure variables like motivations and attitudes. This method has been criticized (Cobb and Hoyer, 1985), notably because consumers have sometimes a selective memory (Lacour, 2004) and tend to forget demeaning purchases. These oversights can be voluntary (mechanisms of defence and need to enhance its own image) or involuntary (just an oversight). Deloye (1997) revealed that more than half of consumers declared buying different products from the one really purchased. This is questioning the validity of marketing research only based on declarative data.

Ethology

Considering these doubts about questionnaires underlined by Deloye (1997), we opted for an observational approach, followed by a questionnaire in a collaborative work with two ethologist students. Ethology is by definition the objective and scientific study of animal and human behaviour. Its use in marketing appeared after the statement that “what the consumer says is not what the consumer actually does”. Studies having chosen this approach have not been applied to the grocery sector (Muratore, 2008; Benhaïm, 2003a; Benhaïm, 2003b; Yahiaoui et al, 2000) and are still very limited. Despite its weak use, ethology is interesting for marketing since the use of pre-coded behaviour grids allows researchers to construct interesting modelling. Ethology also permits the study of the interaction between the human/animal and its environment and that is why we conducted our research in two channels: a supermarket and a cybermarket. Our expectation was that the observation in the traditional supermarket could help us to analyze the data from the online observation.

Target, recruitment and sample description

We recruited 25-35 years-old women, with different socio-professional categories. We chose consumers who had never shopped in our chosen supermarket and cybermarket in order to isolate the “environment knowledge” variable. Moreover, we selected Internet users to avoid long learning processes during the Internet shopping and because potential users of cybermarkets must be familiar with the Internet.

The running of the study

Our research took place from April 04, 2009 to May 07, 2009. We told participants we wanted to observe them doing their “weekly” shopping, which is coherent with the purpose of electronic grocery shopping. We divided our sample into two groups: one beginning by the in-store shopping (MAG-int), the other one starting by the cybermarket (int-MAG). Because we asked them to do twice their shopping in the same day in two different channels, we made it clear that they could choose exactly the same products across the channels or not. At the end of the study, we conducted a questionnaire. During the whole study we encouraged consumers to behave as naturally as possible and to try to make abstraction of the observers in order to validate the ethologic conditions of observation (Kerckaert and Benhaïm, 1998).

The place of the study

We chose a Leclerc supermarket in Vern-sur-Seiche (15km from Rennes) because this store launched its cybermarket several years ago. Their website (fastochecourses.com) was at the time of the study, the most developed website we could find in the Rennes area. For the observation of the electronic grocery purchase, we performed it at the participants’ home but this situation led to a disparity problem between computer performances among the participants.

Material

For the in-store observation, we used a stopwatch and a tape recorder to collect behavioural items occurrence, times of prehension as well as the route followed by the consumers. For the Internet observation, two softwares were installed on participants’ computers during the time of the study: the first software called “Camstudio” permitted us to record a video (.avi) of what is happening on the computer screen and allowed us to watch “a posteriori” the cyber-shopping without disrupting the consumer; the second software “Mousotron” was counting the number of right and left clicks, the distance covered by the mouse depending on the size of the screen, the time spent on the website and the number of typings. After the two observation phases, a questionnaire was conducted in order to know participants’ profile, grocery shopping habits, use of the Internet, attitudes towards shopping, attitude towards Internet (Bergadàa and Coraux, 2004) and opinion about electronic grocery shopping.

Preliminary findings

Our study is exploratory, and as a consequence, the findings cannot be generalized. Nevertheless, it will give us cues for future research.

Grocery shopping in the supermarket

The first objective was to measure if the order of our observations (int-MAG ou MAG-int) had an impact on our results. The comparison of each item between the two groups revealed significant differences ($p < 0.05$) for the following items: the visual item “look at the department” is significantly higher in the “MAG-int” group than the “int-MAG” group; “MAG-int” participants “read” significantly more the labels and prices than the “int-MAG group”; the “MAG-int” group “touches” significantly more the products than the “int-MAG” group. These differences can be explained by our design methodology: we asked the consumer to do twice its grocery shopping during the same day so he could have already solved many decision problems on the Internet; the consumer could have get “bored” by the repetition of the shopping. Considering this influence, it was preferable to focus on one group (“MAG_int”) to avoid the influence of the experimentation design.

Our pre-coded grid was composed of 26 items and we assembled them according to the information they were giving about the behaviour. Finally, we grouped participants according to their behaviours and we found 4 different strategies of shopping, indicating a possible typology of grocery shoppers based on an ethologic methodology.

- The “military” strategy: the consumer uses little information and needs few products handlings to find a product and to choose it. The shopping is optimized in terms of moving (simple route, normal speed walking) and of time (30 seconds between 2 articles).
- The “pacifist” strategy: participants shop in a utilitarian way, i.e. they find the best product after many comparisons and checks (readings of labels, prices...). Time, gesture and route optimizations are not the main objective (slow walking, 2 minutes between two products). They also like strolling, meaning that this group is more in a hedonic vision of grocery shopping.
- The “zero mistake” strategy: the consumer takes its time to find the product (big information seeking, numerous orientation changes, slow walking) but once in front of the product, it does not make a lot of gestures to choose and only picks the products he will buy.

- The “too speed” strategy: the consumer goes very fast (fast walking), needs little information to find the product but needs a lot of elements to validate its choice (checkings, handlings).

In this study, our second objective was to « compare » what we observed with what people said in our questionnaire. We found out that some of the respondents are very coherent while some are not at all. For instance, one of our shopper, who spent 2min02 between each choice of a product (mean= 1min08) and who spent a lot of time strolling in the store considered the grocery shopping as a “chore” and said she always tries to optimize the time spent in-store when she shops in a supermarket. This example shows that there can be a huge difference between the perceptions of the shopper and their actions, and that these differences vary among individuals.

Electronic grocery shopping

The use of ethology for electronic grocery shopping is original and risky. When we started the study, we could not forecast if we could have interesting results. The items we decided to observe were the followings: mouse cursor movement; scrolling; web pages zones changing; stops of the cursor; turnarounds; clicks on categories and sub-categories; products suppression; backwards; “promotions” and “new products” categories clicks.

About the influence of the order of the study, only one variable was influenced: the participants who started with the in-store shopping had a speed of cursor movement much more important than those who had started with the Internet. The two samples not differing for the other variables, we decided to keep the 12 participants, but to get rid of the “cursor speed movement” variable.

When we visualized the videos of cyber-shopping of each participant, one important thing struck us: despite functionalities like key-words search function, people browsed category by category, going deeply in sub-category by sub-category. It seems that people are very attached on the structure of a physical store and consider the category of product like a department of a store.

Another interesting thing is the comparison of strategies used by the consumers in the two different channels. Strollers in the physical store also seem to be the most exploratory persons in the cybermarket, and the most efficient shoppers seem to have the same behaviour on the Internet. As we expected, the total amount of purchases was inferior in the electronic channel: shoppers were either reluctant to buy fresh products or not able to find their product because of the assortment limitation.

Conclusion

We still need to go further in the study of the videos to find the similarities and differences of behaviours across the channels. At this stage, we see that ethology, with its rigorous way of observing people by counting many behavioural items, could give us deep informations of consumer shopping behaviour. Nevertheless, our exploratory research could be improved by several ways: we should not ask shoppers to do twice their shopping during the same day as it has an influence on the second shopping task; having access to the video cameras could be a serious advantage; eye-tracking could have an interest for the observation of electronic grocery shopping in order to know which information consumers are looking at during their purchase decision.

References

- Alba J., Lynch J., Weitz B., Janiszewski C., Lutz R., Sawyer A., Wood S. (1997), Interactive Home shopping : consumer, retailer and manufacturer incentives to participate in electronic marketplaces, *Journal of Marketing*, Vol. 61, July, pp. 38-53
- Benhaïm D (2003a), Ethologie appliquée à la distribution in L'éthologie appliquée aujourd'hui, vol. III : Ethologie humaine, Baudoin C. (éds), éditions ED, 85-92.
- Benhaïm D (2003b), Etude éthologique dans le rayon jeans d'un hypermarché allemand in L'éthologie Bray, F. (2008) Les supermarchés en ligne accélèrent enfin, *LSA*, 2061-2062, pp. 22-25.
- Bergadaà M., Coraux G. (2004), L'attitude à l'égard d'Internet, du shopping et le comportement des internautes, cahier de recherche, 4, HEC Genève
- Cobb C.J., Hoyer W.D. (1985), Direct observation of search behavior in the purchase of two nondurable products, *Psychology & Marketing*, vol 2, N°3, Fall, pp. 161-179
- Dandouau, J-C. (2001) Risque, inférence et biais décisionnels dans les choix de consommation alimentaire, *Revue Française de Marketing*, 183/184(3-4), pp. 133-147.
- Deloye C. (1997), Panels : le consommateur ne fait pas toujours ce qu'il dit, *Libre Service Actualité*, n°1552, p.92
- Evrard Y., Pras B., Roux E. (2003), Market, Etudes et Recherches en Marketing, éditions Dunod, 3^{ème} édition, 699 pages
- Farley J.U., Ring L.W. (1966), A stochastic model of supermarket traffic flow, *Operation Research*, July-August, pp. 555-567
- Garnier M., Gavard-Perret M-L. (2003) Internet et le traitement de l'information: contribution à la compréhension du comportement de l'internaute, *Actes du congrès de l'AFM*, pp. 594-607
- Kerckaert F., Benhaïm D. (1998) Etudes consommateurs : les atouts de l'éthologie, *LSA*, n° 1570, 5 Février
- Lacour J-P. (2004), Observation éthologique du consommateur dans une grande surface d'articles de sport, *Revue Française du Marketing*, Octobre, N°199, 4/5, pp. 39-48
- Lynch J.G., Ariely D. (2000), Wine Online: Search costs affect, competition on price, quality and distribution, *Marketing Science*, Vol.19, n°1, pp.83-103.
- Mandel N., Johnson E.J. (2002), When web pages influence choice: effects of visual primes on experts and novices, *Journal of Consumer Research*, Vol 29 (September), pp. 235-245
- Muratore I. (2008), L'adolescent, les pairs et la socialisation : éthographie d'une cour de récréation, *Revue Française de Marketing*, Mars, n°216, 1/5, pp. 43-60
- Moe W.W., Yang S. (2009), Inertial disruption: the impact of a new competitive entrant on online consumer research, *Journal of Marketing*, Vol.73, pp. 109-121
- Otnes C., McGrath M. A., Lowrey T. M. (1995), Shopping with consumers, Usage as past, present and future research technique, *Journal of Retailing and Consumer Services*, Vol.2, N°2, pp. 97-110
- Park, C.W., Iyer, I. S. and Smith, D. C. (1989) The effects of situational factors on in-store grocery shopping behavior: the role of store environment and time available for shopping, *Journal of Consumer Research*, 15, pp. 422-433.
- Picot-Coupey K., Huré E., Cliquet G., Petr C. (forthcoming), Grocery shopping and Internet: Exploring French consumers' perceptions of the "hypermarket" and "cybermarket" formats, *International Review of Retail, Distribution and Consumer Research*
- Raijas, A. (2002) The consumer benefits and problems in the electronic grocery store, *Journal of Retailing and Consumer Services*, 9, pp. 107-113.
- Raijas, A. and Tuunainen V. P. (2001) Critical factors in electronic grocery shopping, *The International Review of Retail, Distribution and Consumer Research*, 11(3), pp. 255-265.
- Yahiaoui G., Da Silva Dias P., Martin A. (2000), Un apport de l'éthologie aux tests produit : exemple d'application au test de Xsara Picasso, *Revue Française du Marketing*, n°179/180, 4-5, pp. 117-128

Research statement

Name : Elodie HURÉ

University address:

IGR-IAE, University of Rennes 1
11 rue Jean Macé
CS 70803
35708 Rennes Cedex 7

Name of Thesis Advisor : Professeur Gérard Cliquet, Professeur des Universités

Date of enrolment : 1st October, 2008 (full-time)

Research agenda :

My agenda is to get at this stage of my PhD, feedbacks so I can keep going on the direction I have taken or make necessary changes according to the recommendations I will get. This doctoral colloquium is the opportunity for me to develop ideas, get some good advice on the research question as well as on methodologies.

Early stage: theoretical development and exploratory data collection

Next stage

Take a decision about the theoretical framework and start designing the methodology.

By February 2010: after feedbacks from workshop in my university, and if possible, feedbacks from this doctoral colloquium, I would like to have set up my theoretical framework. By this stage, I also would like to have well advanced in my review of literature. I would also like to finish a deep analysis of the videos of cyber-shopping we collected during the exploratory study.

By June 2010: my objective is to have finished designing the methodology by the end of June. Between February and June, the literature review will still have to be completed.

By December 2010: My data collection should be completed.

A Specific issue I would like feedback from the panel

Since my theoretical framework is still « in progress », it will evolve until the doctoral colloquium. Nevertheless, it will be a perfect timing to have a discussion on it, and especially a discussion on the theoretical framework and the possible methodologies that could help me to answer my research questions.

About a specific issue, having feedback from my exploratory study and the pertinence of ethology would be of great help.

ÉLODIE HURÉ

La vieille ville
35380 Plélan-le-Grand
France

18th April, 1983
Nationality : French
Phone : (33) 672055541
e-mail : elodie.hure@gmail.com

EDUCATION

PH.D. IN MARKETING

Research interest : **Electronic Grocery Retailing**

Institut de Gestion de Rennes (IGR-IAE), Rennes 1 University, since September 2008.

MASTER IN RESEARCH, CONSUMER BEHAVIOR AND RETAILING, Second year, equivalent to a Postgraduate degree, granted 5 years after the Baccalaureat

Institut de Gestion de Rennes, Rennes 1 University, September 2007 to June 2008, with distinction.

MASTER IN MANAGEMENT, LOGISTICS AND STRATEGY, First year, equivalent to a Master's degree

Faculty of Economics and Management, Université de la Méditerranée, Aix-en-Provence, September 2006 to June 2007, with distinction.

LICENCE IN ECONOMICS AND MANAGEMENT

Faculty of economic sciences at the Rennes 1 University, September 2002 to June 2005, including 2 semesters in Lund University (Sweden).

BACCALAUREAT, French equivalent to the Higher Leaving Certificate

Assumption High School in Rennes, France, June 2001, with distinction.

RESEARCH ACTIVITY

CONFERENCE PAPER

Grocery shopping and Internet: exploring French Consumers' perceptions of the "hypermarket" and "cybermarket" format

EAERCD conference, 15th to 17th September, 2009, Guildford, England

With Gérard Cliquet, Christine Petr and Karine Picot-Coupey.

MASTER THESIS

The Internet channel in the grocery retailing sector: organizational impact for the retailer and new shopping modes for consumers, July 2008

Directed by Gérard Cliquet, Professeur des Universités, Rennes 1.

The Relationship Marketing and Second Life, June 2007

Directed by Carole Poirel, lecturer, Université de la Méditerranée, Aix-en-Provence.

PROFESSIONAL EMPLOYMENT HISTORY

INSTITUT DE GESTION DE RENNES, Management School, University of Rennes 1

1st October, 2008 – present, Rennes (France)

Teaching activities for **Masters students** (including international programs)

Fields: Marketing, Consumer Behaviour, Statistical analysis, Tutorial
Lectures dispensed in English and French

www.igr-iae.com

RELAIS DE BROCÉLIANDE, bar - restaurant - hotel

20th June – 31st August, 2006 and 1st June – 15th August, 2007,
Paimpont (Brittany, France)

Waitress at the bar and restaurant, with the responsibility of the cash.

COMME CI COMME CA, Clothing store

18th November, 2005 – 2nd June, 2006, Sydney, Australia

Customer Advisor with the responsibility of the store, the cash and job training.

SOCIÉTÉ GÉNÉRALE, BANQUE DE BRETAGNE, CRÉDIT MUTUEL DE BRETAGNE, banks

August 2005, Rennes, France

27th July-14th August, 2004, August 2002, June 2002 and July
2001, St Méen le Grand (France)

July and August 2003, Montfort sur Meu (France)

SKILLS

LANGUAGES

English: fluent, 960/990 TOEIC test (Test of English for International Communication), 6th April, 2007.

French: mother tongue.

COMPUTER SKILLS

Pack Office, SPSS, XL Stat, Sphinx

**INTERESTS AND
ASSOCIATIVE LIFE**

MEMBER OF
CREM UMR CNRS 6211

ASSOCIATIONS

Co-founder of **IGR-SYGMA**, doctoral students associations in the IGR-IAE.

INTERESTS

Traveling: 9 months spent in Australia in 2005-2006, with the Working Holiday Visa; 10 months spent in Sweden in 2004-2005 with the Erasmus programme.

Oil Painting for 10 years
