

**DRIVING ACTUAL CUSTOMER LOYALTY IN E-COMMERCE: THE KEY MEDIATING
ROLES OF TRUST AND RELATIONSHIP COMMITMENT**

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Abstract: Customer loyalty has become a top priority for e-tailers and millions of dollars are invested each year in electronic Customer Relationship Management (e-CRM). However, the effectiveness of e-CRM in improving relationship quality and enhancing actual customer patronage behaviors is still questioning: no research has examined the links between actual customer patronage behavior and customers' perceptions of the e-tailer's marketing activities, tools and techniques delivered over the Internet. To fill this gap, our research crosses customers' perceptions (e-CRM drivers) and relational constructs (trust and relationship commitment) collected through a questionnaire with actual customer patronage behavior extracted from two e-tailers' databases. We then demonstrate that e-CRM activities can improve or damage relationship quality (trust and or relationship commitment) and then, through them, affect repeat purchase behavior. Taking also into account the reality of emailing campaigns, we note that company-initiated emails are significantly less effective than customer-initiated emails, i.e. messages tailored automatically to the customers (trigger based email campaigns). Thus, this research supports a relational view of e-tailing and suggests using technologies which effectively improve relationship quality and empower customers (customer-initiated contact).

Keywords: e-CRM, Trust, Commitment, e-loyalty, email, e-commerce.

Résumé: La fidélité du consommateur est devenue une priorité pour les entreprises du net et des millions d'euros sont investis chaque année dans des programmes d'e-CRM. Cependant, le rôle de ces programmes dans l'amélioration de la qualité de la relation et la modification des comportements d'achat réels reste à prouver : aucune recherche n'a examiné les liens existant entre les comportements d'achat et les perceptions des clients vis-à-vis des pratiques d'e-CRM mises en place. Aussi, notre recherche va croiser les perceptions des clients (facettes de l'e-CRM) et les construits relationnels (confiance et engagement), données collectées par questionnaire, avec les comportements d'achat de ces mêmes clients, extraits de deux bases de données de deux sites d'e-commerce. Nous démontrons alors que les stratégies d'e-CRM mises en place peuvent améliorer et/ou détériorer la qualité de la relation (confiance et engagement), et ainsi, affecter indirectement les comportements d'achat futur. En considérant les campagnes d'e-mailing dans le dispositif e-CRM, nous montrons aussi que les emails à l'initiative des entreprises sont moins efficaces que ceux initiés par le comportement des clients sur un site web (« emails trigger »). Pour conclure, cette recherche souligne l'importance de la perspective relationnelle dans le champ du e-commerce et suggère l'utilisation des technologies dans le but d'améliorer la qualité de la relation et de donner davantage de pouvoir aux clients (supériorité des contacts à l'initiative du client).

Mots clés : e-CRM, Confiance, Engagement, e-fidélité, email, e-commerce

INTRODUCTION

E-loyalty has become a top priority in e-commerce and e-tailers invest millions of dollars in optimizing their e-CRM solutions: they work day-after-day on their website design, develop frequent and customized contacts with their customers, launch on-line communities, deliver everyday thousands of products on time, and pay stronger attention to privacy concerns. Despite these huge efforts, increasing customer loyalty online remains a difficult task: competition is just a click away and wise consumers are still looking for better deals. Thus, are these investments really perceived by customers? To what extent are they really valued by customers? Is it worth investing in e-CRM or is it just a waste of time and money?

E-CRM can be defined as “*the marketing activities, tools and techniques, delivered over the Internet (using technologies such as web sites and e-mail, data-capture, warehousing and mining) with a specific aim to locate, build and improve long-term customer relationships to enhance their individual potential*” (Lee-Kelley, Gilbert and Mannicom, 2003). Research has already identified how consumers perceive an e-tailer’s marketing activities, tools and techniques, what we hereafter call “e-CRM drivers”. It has shown that customers’ perceptions of a company’s website, emails and data-capture and utilization do affect the firm – consumer relationship quality, i.e. trust (Bart et al, 2005) or attitudinal commitment (Srinivasan, Anderson and Ponnawolu, 2002). However, we still miss empirical studies which simultaneously examine how customers’ perceptions of e-CRM affect their actual patronage behaviors – and not just behavioral intentions or self-reported measures of e-loyalty.

Our research objective is therefore to put an emphasis on the links between some e-CRM drivers, identified in the literature (Community, Care, Navigation, Contact, Aesthetics design, Choice, Privacy, Customization), and actual customer patronage behaviors (amount and frequency of purchase). It will require to cross perceptual and attitudinal data collected from a survey with behavioral data extracted from two e-tailers’ databases. According to previous literature, we will also examine whether relationship quality components, i.e. trust and/or relationship commitment (Eastlick, Lotz and Warrington, 2006), mediate their respective influence on actual customer patronage behaviors.

In addition, beyond e-CRM drivers, we will take into consideration the way the e-tailers actually interact with their customers, especially by email (Merisavo and Raulas, 2004). We will distinguish customer-initiated contacts, which implicitly results from a customer act online (membership, visit of the website, etc.), from company-initiated contacts, which refer to email campaigns directed from the e-tailer towards its customers. Indeed, the interaction orientation

(company vs customer) may be a key success factors in customer relationship management (Bowman and Narayandas, 2001; Ramani and Kumar, 2008).

Hereafter, we first define some e-CRM drivers (section 1) and elaborate hypotheses concerning the way they influence actual customer patronage behaviors (section 2). We then focus on actual e-CRM and especially on company vs. customer-initiated e-mails (section 3). We then specify our methodology (section 4) and present the results of our empirical study (section 5) which has been run with the collaboration of two e-tailers. In section 6, we finally discuss our contributions, study limitations and research avenues.

REVIEW OF E-CRM DRIVERS

E-CRM integrates marketing ideas with technology and customer focus remains a prerequisite. As marketers, we have to pay attention to customers' perceptions of an e-tailer's "*marketing activities, tools and techniques, delivered over the Internet, using technologies such as web sites and e-mail, data-capture, warehousing and mining*" (Lee-Kelley, Gilbert and Mannicom, 2003). Previous research focuses alternatively on electronic service quality (Bressoles and Nantel, 2008), on e-tail quality (Wolfenbarger et al, 2003), on website characteristics (Bart et al, 2005) or on e-Loyalty drivers (Srinivasan, Anderson and Ponnayolu, 2002). But it tends to stress quite similar customers' perceptions. For instance, in an e-tailing context, Wolfenbarger et al (2003) underline four main dimensions: fulfillment/reliability, website design, customer service and security/privacy concerns. Srinivasan, Anderson and Ponnayolu (2002) examine eight e-loyalty drivers (8 Cs): customization, contact interactivity, care, community, convenience, cultivation, choice, and character. And Bart et al (2005), more recently, examine the effects of some perceptions – privacy, navigation, community features, advice and order fulfillment – on trust. Table 1 summarizes customers' perceptions which are emphasized in the literature. We hereafter adapt them to an e-tailing context:

1. Customization: perception of an e-tailer's efforts to identify customers and tailor products and messages to them;
2. Privacy: perception of an e-tailer's respect for his/her confidentiality;
3. Contact: perception of the frequency of emails sent by an e-tailer;
4. Care: perception of the attention that an e-tailer pays to customers' orders and to on-time delivering;
5. Choice: perception of the width of product range on a website;
6. Aesthetics design: perception of the website's visual characteristics, i.e. the "look and feel" of a website;

7. Navigation: perception of ease of use of a website and feeling of control over how he/she navigates;
8. Community: perception of the opportunity to interact with other consumers and to share experiences with them.

This list does not pretend to be totally exhaustive of the customers' perceptions of an e-tailer's marketing activities, tools and techniques delivered over the Internet. Many studies have also been conducted in France on e-service quality (Bressoles, 2006), privacy (Lancelot and Gauzente, 2006) and on web atmospherics cues (Lemoine, 2008; Lemoine and Notebaert, 2009). However, in line with Srinivasan, Anderson and Ponnayolu (2002), we aim at extending the scope of our study beyond e-service quality and at simultaneously considering customer service (choice, care), web sites characteristics (aesthetics design, navigation, and community), e-mail practices (contact) and data-capture and utilization (customization and privacy).

Table 1. Definition of the e-CRM drivers with their related constructs

E-CRM drivers	Authors	Related constructs in the literature and definitions given by the authors
Customization	Srinivasan, Anderson, Ponnnavolu (2002)	Customization “is the ability of an e-retailer to tailor products, services and the transactional environment to individual customers”
	Thorbjornsen, Supphellen, Nysveen, Pedersen (2002)	“personalized websites are simply dynamic website where each consumer can get personally tailored information through user profiles and identification”
Privacy	Belanger, Hiller, Smith (2002)	Privacy issues include “spam, usage tracking and data collection, choice and the sharing of information with third parties”
	Eastlick, Lotz, Warrington (2006)	Privacy concerns include “dissemination and use of personal information (disclosure, appropriation, intrusion)”
Contact	Srinivasan, Anderson, Ponnnavolu (2002)	Cultivation “is the extent to which an e-retailer provides relevant information and incentives to its customers in order to extend the breath and depth of their purchases overtime”
	Yoon, Choi, Sohn (2008)	Direct mail “is defined as consumer perception of the extent to which an e-retailer keeps its users informed through e-mails on online newsletters”
Care	Srinivasan, Anderson, Ponnnavolu (2002)	Care “refers to the attention that an e-retailer pays to all the pre and post purchase customer interface activities designed to facilitate both immediate transactions and long term customer relationship”
	Wolfenbarger, Gilly (2003)	Fulfillment/reliability “is the accurate display and description of a product so that customers receive is what they thought they ordered and delivery of the right product within the time frame promised”
	Bart B., Shankar V., Sultan F. Urban G.L. (2005)	Order fulfillment “refers to the delivery of a product or service relative to orders placed by consumers”
Choice	Srinivasan, Anderson, Ponnnavolu (2002)	Choice “a wider range of product categories and a greater variety of products within any given category”
	Yoon (2002)	Website properties “the width of product selections and accuracy of product descriptions”
Aesthetics design	Srinivasan, Anderson, Ponnnavolu (2002)	Character “can be defined as an overall image or personality that the e-retailer projects to consumers through the use of inputs such as text graphics, colors...”
	Cyr (2008)	Visual design “deals with balance, emotional appeal, aesthetics and uniformity of the website overall graphical look”
Navigation	Srinivasan, Anderson, Ponnnavolu (2002)	Convenience “refers to the extent to which a customer feels that the website is simple, intuitive, and user friendly”
	Yoon, Choi, Sohn (2008)	Perceived interactivity “is defined s a construct consisting of three distinct dimensions: active control, two way communication and synchronicity”
Community	Srinivasan, Anderson, Ponnnavolu (2002)	Community “related initiatives in terms of the extent to which customers are provided with the opportunity and ability to share opinions among themselves”
	Bart B., Shankar V., Sultan F. Urban G.L. (2005)	Community “refers to the opportunities available to visitors to a website to interact with other visitors to the same website”

THE EFFECTS OF E-CRM DRIVERS ON CUSTOMER PATRONAGE BEHAVIORS: THE MEDIATING ROLES OF TRUST AND RELATIONSHIP COMMITMENT

Transactional marketing is not inherent to e-commerce. A relationship can effectively be established between consumers and e-tailers (Yoo, Choi and Sohn, 2008). It mainly depends on the e-tailers' ability to build trust and develop customers' commitment to the relationship. Previous research – reviewed in Table 2 - has emphasized the influence of some e-CRM drivers on trust (Bart et al, 2005) or on e-loyalty¹ (Srinivasan, Anderson and Ponnnavolu, 2002). Eastlick, Lotz and Warrington (2006) also examine the respective effects of trust and relationship commitment on intent to purchase. However, no research in e-tailing simultaneously takes into account the potential mediating role of trust and relationship commitment between e-CRM drivers and actual customer patronage behaviors.

In e-tailing, customers' vulnerability and transaction risks are high and trust building is particularly critical to success. E-CRM activities, tools and techniques are likely to affect customers' trust in a positive or negative way. For Ganesan (1994) and Ganesan and Hess (1997), trust has two main dimensions: on the one hand, reliability concerns the provider's perceived ability to perform a service that conforms to the consumer's expectations over time. It is related to the e-tailer's competence, expertise and know-how in distributing good products to its customers (core service). On the other hand, benevolence designates its perceived willingness to avoid doing anything that might be detrimental to customers, especially if a service failure arises. It is inversely related to the e-tailer's opportunistic behavior. This conceptualization is also consistent in online environments (McKnight et al., 2002; Chouk and Perrien, 2004). Even though previous research on e-CRM drivers has not distinguished these two facets, it shows that trust is positively affected by: privacy, navigation and presentation, advice, order fulfillment, community features, absence of errors and security (Bart et al, 2005); transaction security, website properties and navigation functionality (Yoon, 2002); reputation, information choice strategy and privacy concerns (Eastlick, Lotz and Warrington, 2006); perceived interactivity and contact (direct mail) (Yoon, Choi and Sohn, 2008); information design, visual design and navigation design (Cyr, 2008); order fulfillment, website design and privacy/security (Kim, Jin, Swinney, 2009); website usability, security and privacy, speed of download, product information quality, service information quality and aesthetics aspects (Chen and Dibb, 2010). Thus, customer service (order fulfillment and absence of errors), website design (aesthetics design, navigation,

¹ Srinivasan, Anderson and Ponnnavolu (2002, p 42) define e-loyalty as “*a customer's favorable attitude toward the e-retailer that results in repeat buying behaviour*” and refer to research and measurement scales of brand commitment.

community features), privacy concerns and perceived frequency of email contacts are related to trust. To our knowledge, the perceived width of product range on a website (choice) has never been related to trust. However, from the customers' point of view, the variety of products can be interpreted as a sign of long-standing commitment and expertise in the procurement and delivering of several products. Therefore, according to previous research, we can hypothesize:

H1: e-CRM drivers, i.e. a) Customization, b) Privacy, c) Contact, d) Care, e) Choice f) Aesthetics design, g) Navigation and h) Community, have a positive impact on trust toward an e-tailer (reliability and/or benevolence).

Table 2. Review of research on e-CRM drivers

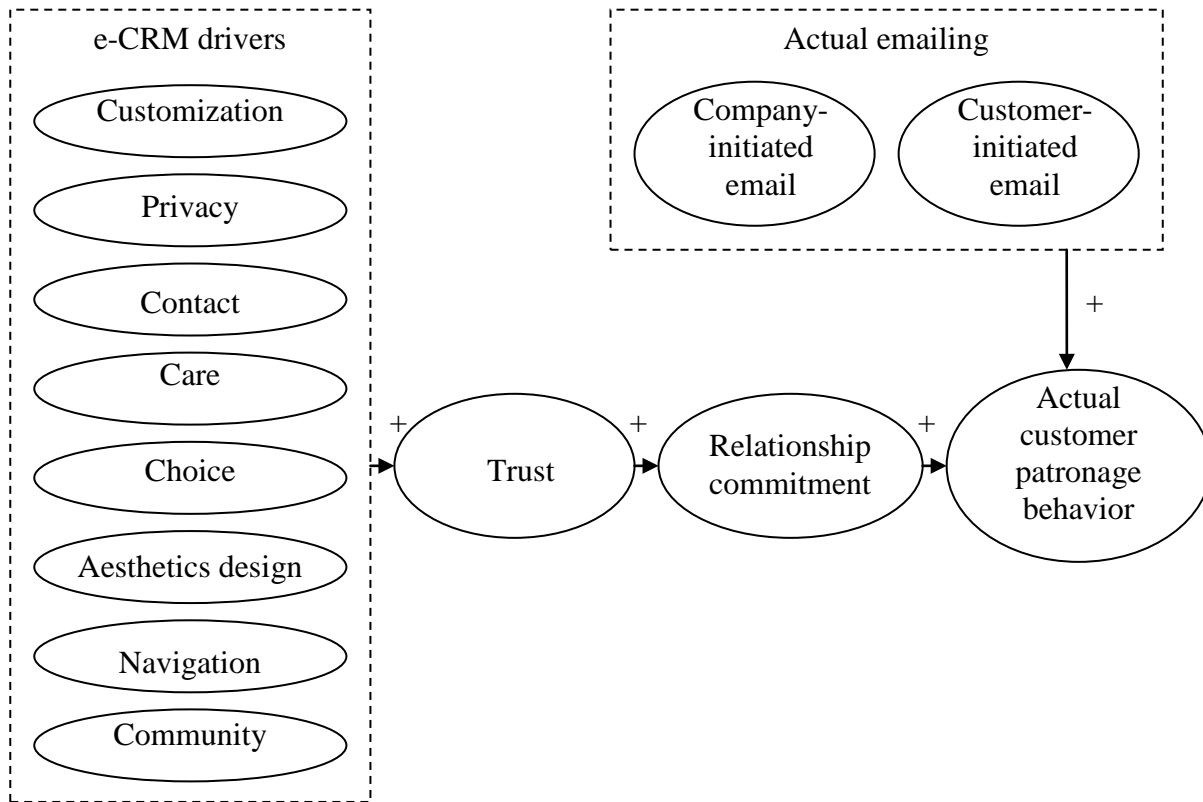
Authors	Dependent variable(s)	Independent variable(s)	Main effects	Sample
Yoon (2002)	Trust, Awareness, Satisfaction, Purchase Intention	Transaction security, Website properties, Navigation functionality, Personal Variables	Transaction security and personal variables significantly affect both trust and satisfaction, website properties (width and accuracy of product descriptions) positively influence only trust while navigation functionality is an antecedent to satisfaction only Website trust and satisfaction are correlated with online purchase intention	Korean online shopping college students sampling
Belanger, Hiller, Smith (2002)	Purchase Intention Willingness to give private information	Privacy/Security, Design features (pleasure)	Privacy/security features are less important than pleasure features when considering consumers' intention to purchase	Student sampling
Srinivasan, Anderson, Ponnayolu (2002)	e-loyalty	Customization, Contact Interactivity, Cultivation, Care, Community, Choice, Convenience, Character	Customization, Contact Interactivity, Cultivation, Care, Community, Choice, Character, all (except convenience) have a significant impact on e-loyalty	Online customers maintained by a market research firm
Thorbjornsen, Supphellen, Nysveen, Pedersen (2002)	Brand Relationship Quality (BRQ)	Internet application: Personalized websites, Customer communities	No main effects of internet application on BRQ Websites with communities are more effective than personalized websites in building BRQ when consumer internet experience is low and vice versa when consumer experience is high	Airline tickets, restaurant meal (factorial experiment)
Wolfenbarger, Gilly (2003)	eTail Quality, Satisfaction, Attitudes toward the website, Loyalty Intention	Fulfillment/Reliability, Website Design, Customer Service, Security/Privacy	Website design factors and fulfillment/reliability are the most predictive of customer judgments of quality Privacy/security is not significant in predicting quality except among the most frequent buyers at the website	Online survey on customer panel
Montoya-Weiss, Voss, Grewal (2003)	Online service Quality, Overall Satisfaction, online channel use	Navigation Structure Website information content Graphic Style	Website design perceptions are important antecedents to online channel service quality perceptions. They have significant indirect effects on online channel use and overall satisfaction.	Relational service exchanges
Parasuraman, Zeithaml, Malhotra (2005)	Overall Quality Perceived Value Loyalty Intentions	(E-S-QUAL) Efficiency Fulfillment System Availability Privacy (E-RecS-QUAL) Responsiveness Compensation Contact	The most critical facets of web site service quality (quality, value and loyalty intentions): - Efficiency - Fullfiment - System availability - Privacy	2 specific online companies (amazon and walmart)
Bart B., Shankar V., Sultan F. Urban	Trust, Behavioral Intent	Privacy, Navigation and presentation, Advice, Order Fulfillment, Community	Privacy and order fulfillment are the most influential determinants of trust for websites Online trust partially mediates the relationships between	25 websites 8 categories of industries

G.L. (2005)		Features, Absence of errors, Security, Brand Strength	website and consumer characteristics and behavioral intent.	opinion's online panel
Richard (2005)	Site Attitudes, site involvement, exploratory behaviour, pre-purchase, Purchase Intention	Internet atmospherics cues: navigational characteristics, structure, effectiveness of information content, informativeness, entertainment, organization	Navigational cues positively influence purchase intentions Direct link between site involvement and purchase intentions	Health care sector
Eastlick, Lotz, Warrington (2006)	Trust, Commitment, Purchase Intent	Reputation, Information choice strategy, privacy concerns	Privacy concerns strongly and negatively predict trust (lower privacy concerns leads to greater trust) influence purchase intent with strong negative effects, both directly and indirectly through trust. Positive relationships between trust and commitment and between commitment and purchase intent.	Services E-tailer
Cyr (2008)	Trust, Satisfaction and E-Loyalty	Information Design Visual Design Navigation Design	Website design (that is information, visual, navigation) affects positively both website trust and satisfaction. The link between the website design and loyalty is mediated by trust and satisfaction.	Data collected from Canada, Germany and China
Yoon, Choi, Sohn (2008)	Relationship investment relationship quality (trust, satisfaction and commitment), behavioural loyalty	Perceived interactivity Direct mail	Email perceptions and two dimensions (synchronicity and two-way communication) are positively associated with perceived relationship investment. Perceived relationship investment mediated the relationship online quality drivers and behavioral loyalty	Online panel of web users
Bressolles and Nantel (2008)	Overall quality (NetQual), satisfaction, attitude toward site	Information, Ease of use, Reliability/fulfillment, site design, security/privacy	NetQual is a good measure to predict perceptions of electronic service quality and their impact on attitude toward the site The results vary according to the type of task performed on the site (transactional vs informational task)	6 websites: travel and online insurances
Kim, Jin, Swinney (2009)	Trust, e-Satisfaction, e-Loyalty	Etail Quality: Fulfillment/Reliability, Responsiveness, Website design, Privacy/security	e-loyalty is influenced by both e-satisfaction and e-trust Fulfillment/reliability influences e-satisfaction and trust, privacy/security has a positive effect on trust; no significant effect for responsiveness	Convenience sample
Chen, Dibb (2010)	Trust, attitude toward the site, website intentions	Website usability, security and privacy assurance, speed of download, product information quality, service information quality, aesthetics aspects	Website quality features, including usability, security and privacy assurances and product information quality, have a positive impact on trust. Trust is shown to lead to the formation of positive attitudes and behavioral intentions toward the website.	Sample of university students

Relationship maintenance and development requires customer's trust but also their commitment to the relationship (Morgan and Hunt, 1994; Palmatier et al, 2006; Aurier and N'Goala, 2010). Relationship commitment can be defined as the customer's enduring desire to maintain a valued relationship with an exchange partner (Moorman, Zaltman, and Deshpande 1992). Customers' commitment to the relationship is quite similar to the construct of e-loyalty as it has been measured through behavioral intentions or self-reported measures of behavior (Srinivasan, Anderson and Ponnnavolu, 2002; Harris and Goode, 2004). It also involves a feeling of attachment toward the exchange partner (Garbarino and Johnson, 1999). Trust is seen as a direct antecedent of relationship commitment: customers would be reluctant to commit to a business relationship unless they have confidence in the e-tailer's ability to constantly meet their expectations in the future (reliability) and in its willingness to avoid any behavior that could be detrimental to them (benevolence). In line with Relationship Marketing (RM) literature, we hereafter elaborate a conceptual framework where trust and/or relationship commitment mediate the effects of e-CRM drivers on actual customer patronage behavior (see figure 1).

H2: e-CRM drivers, i.e. a) Customization, b) Privacy, c) Contact, d) Care, e) Choice f) Aesthetics design, g) Navigation and h) Community, have no direct impact on actual customer patronage behavior.

Figure 1 - Conceptual framework



While trust and relationship commitment are key mediators between customers' perceptions and their actual patronage behavior, their respective roles still need to be examined in an e-tailing setting. Indeed, while Srinivasan, Anderson and Ponnnavolu (2002) did not consider trust in their model, Bart et al (2005) underline the key mediating role of trust between e-CRM drivers and behavioral intent. Bart et al (2005, p 145) highlight that "*the mediating role of online trust on behavioral intent is stronger than any other direct effect of the drivers on behavioral intent*". According to RM literature (Garbarino and Johnson, 1999; Verhoef, 2003), Eastlick, Lotz and Warrington (2006) show however that relationship commitment is the main direct antecedent of customer loyalty. In other words, when trust is not considered alone but along with relationship commitment, its impact on customer patronage behavior is mediated by relationship commitment. Thus, trust and relationship commitment may have different roles in e-tailing relationships: on the one hand, relationship commitment especially relates to actual e-loyalty and should mediate the effects of trust on actual customer patronage behavior; on the other hand, trust especially relates to the customers' perceptions of an e-tailer's e-CRM activities, tools and techniques (Bart et al, 2005) and should mediate the effects of e-CRM drivers on relationship commitment. We then elaborate the two following hypotheses:

H3: Trust has no direct influence on actual customer patronage behavior. Its effect is totally mediated by relationship commitment.

H4: Relationship commitment is not directly affected by e-CRM drivers, i.e. a) Customization, b) Privacy, c) Contact, d) Care, e) Choice f) Aesthetics design, g) Navigation and h) Community. Their respective effects are totally mediated by trust.

CUSTOMER VERSUS COMPANY-INITIATED CONTACT

Direct mail is supposed to positively enhance customer loyalty (Roberts and Berger 1999; Verhoef, 2003; Reinartz et Kumar, 2003). With technological advances, emailing has become one of the most used techniques to communicate with customers and cross-sell products in many industries and especially in e-tailing. In an online environment, Yoon, Choi and Sohn (2008) underline that a higher level of direct mail perception leads to a higher level of perceived relationship investment and thus indirectly to higher level of relationship quality and behavioral loyalty. Using a longitudinal design, Dufrene et al. (2005) show that the more exposure to email campaigns the customers have, the more they develop positive attitudes toward the brand, confidence in the company, interest in its web site, and purchase intent. Merivaso and Raulas (2004) also stress the potential positive impact of email campaigns on customer loyalty. However, previous research in e-tailing just takes into account direct mail perception – what we call “contact” in section 1 - rather than actual emailing communication between an e-tailer and its customers. Indeed, to better analyze the effects of e-CRM on customer patronage behavior, we need to simultaneously consider customers’ perceptions and actual emailing campaigns. Previous research also focuses on behavioral intentions or self-reported measures of behavior rather than on actual customer patronage behavior. Then, it can over-estimate the positive effect of email campaigns. Furthermore, it does not distinguish customer-initiated emails which implicitly stems from their personal behaviors on the website (visit, membership, etc.) and could be more “acceptable” for the customers, from company-initiated emails, which could be perceived as intrusive and lead to the customer wear-out.

Business relationship development involves reciprocity and two-way communication. However, Ramani and Kumar (2008, p 40) underline that firms differ in their interaction orientation, i.e. in their “*marketing belief (customer concept) and their technological processes (interaction response capacity) and practices (customer empowerment and customer value management)*”. E-mailing practices tend to reflect a double orientation: customer-initiated contacts are highly valued since they provide rich information about a customer’s needs and allow tailoring appropriate responses. As Bowman and

Narayandas (2001) indicate, such customer-initiated contacts “*are becoming more common because of changing customer attitudes and technologies (e.g., e-mail, the Internet, Web sites) that facilitate customers' active engagement with and aggressive pursuit of information from firms*”. However, firms cannot just count on the customers' initiatives to communicate with them. Company-initiated contacts are then much more frequent than customer-initiated contacts and, along with competition increase, promotional pressure on customers tend to intensify. For Ramani and Kumar (2008), customer-initiated contacts are associated with improved customer-based profit performance outcomes. As companies are able to tailor appropriate messages to their customers, they are likely to be much more effective in enhancing repeat purchase behavior. In contrast, when the company itself takes the initiative of the contact, direct mail should be less effective. Thus, we hypothesize:

H5: Customer-initiated emails have a stronger influence on actual customer patronage behavior than company-initiated emails.

METHOD

Respondents and Procedure

Our objective is to cross customers' perceptions and attitudes (e-CRM drivers, trust and relationship commitment) collected through a questionnaire with actual customer patronage behavior extracted from companies' databases. Two e-tailers, which belong to the top ten of e-commerce in France, collaborate to this research. For confidentiality purpose, we will call them “Dealsandco” and “Giftandco”. «Dealsandco» sells new and secondhand goods, such as books, music, electronic devices, games, wine, furniture, etc. (120 000 goods on-sale and 11 millions unique visitors each month). Their customers are most interested in good deals and promotions (utilitarian motives) and some of them are also members, i.e. buy and sell on the website. «Giftandco» just sells new goods, such as games, books, music, electronic devices, etc. (6000 goods on-sale and 1 million customers). Their customers are most interested in product quality, originality, innovation and design and are looking for hedonic online shopping experiences².

In a first step, each e-tailer has administered by email the questionnaires we elaborated to a sample of customers (opt-in database). Participation was voluntary. A total of 2305 respondents filled out and sent it back (7285 clicked at least once through the pop-up questionnaire): 945 «Dealsandco»

² Comparing their shopping orientation in this survey (8 items, 2 dimensions), we note that «Giftandco» customers are significantly more hedonic and less utilitarian than «Dealsandco» customers. From a one-way variance analysis, we found significant differences in terms of hedonic ($F=17.87$, $P<0.01$) and utilitarian ($F=398.23$, $P<0.01$) shopping orientation.

customers and 1360 «Giftandco» customers answered. The responses of participants who returned incomplete questionnaires were discarded, which reduced the final sample size to 1796 customers: 732 «Dealsandco» customers and 1064 «Giftandco» customers. In a second step, purchase data were extracted from the e-tailers' databases. We collected the number of orders, the number of items and the amount of purchase of each respondent during the year (12 months). Using the identification number of the customers, we then merged these behavioral data with attitudinal ones collected from the survey. Finally, from the e-tailers databases, we also add the actual number of e-mails received by each customer and especially distinguish those which are purely initiated by the e-tailers from those which are implicitly or explicitly initiated by the customers. The two e-tailers effectively use systems of marketing automation that create trigger based email campaigns on actions, behavior and timing: in this "trigger marketing", e-mails are sent automatically after a specific event (sponsorship of other customers, subscription to newsletter, etc.)³. From our two e-tailers' databases, we note that customer-initiated emails (mean = 15; SD = 15) are ten times less frequent than company-initiated emails (mean = 165; SD = 38).

Elaboration of the constructs

The questionnaire first aims at measuring the customers' perceptions concerning the e-tailers' e-CRM practices, i.e. Community, Care, Navigation, Contact, Aesthetics design, Choice, Privacy, and Customization. We refer to measurement scales which have been developed in the literature (see Table 1): Customization and contact from Srinivasan, Anderson and Ponnnavolu (2002); Privacy concerns, Choice and Care from Wolfinbarger and Gilly (2003); Navigation and aesthetics design from Yoo and Donthu (2001), Liu (2003) and Yoon, Choi and Sohn (2008); Community features from Bart et al. (2005). These measurement scales were then adapted to an e-tailing context. Second, in line with Ganesan and Hess's items (1997), the questionnaire includes questions about customers' perceptions concerning the e-tailers' reliability (competence and abilities) and benevolence (willingness to support the customer if a problem had to occur). Finally, items referring to the customer's commitment to an e-tailing relationship come from Eastlick, Lotz and Warrington (2006). We used the same format for all items - Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree) – in order to ease the answers and increase the response rate. Our measurement scales are presented in table 3.

As suggested by Churchill (1979), we implemented an iterative process to improve the measurement scales' reliability and validity. The questionnaire was first administered to 160 master

³ <http://theemailwars.com/2010/06/03/getty-up-trigger/>

students and then, after measurement scales purification, to 100 employees of a web agency. Each time, we had to purify our measurement scales: for instance, items which concern interactivity during the navigation on the website (Srinivasan, Anderson and Ponnayolu, 2002; Yoon, Choi and Sohn, 2008) were not reliable and did not converge with the other navigation items. Finally, the questionnaire was administered to the final sample: «Dealsandco» and «Giftandco» customers. The constructs were then refined in order to improve the psychometric qualities of our measurement scales (see Table 3).

Table 3. Constructs, items, means, standard deviation and psychometric qualities (total sample: N=1796)

Constructs and items	Mean	SD	Std. Loading	Rh�	AVE
Actual customer patronage behavior				0,87	0,70
Number of orders	1,41	4,64	0,86		
Number of items bought	2,86	7,41	0,94		
Total amount spent	55,34	128,71	0,69		
Relationship Commitment				0,90	0,76
You are very attached to the e-tailer	3,23	1,09	0,92		
You consider yourself a loyal patron of this e-tailer	2,95	1,16	0,86		
As long as the website continues you doubt that you would switch to another e-tailer	2,95	1,19	0,83		
Benevolence (Trust)				0,93	0,82
When you have a problem the e-tailer shows a sincere interest in solving it	3,62	0,97	0,89		
When you have a problem the e-tailer would always act in your interest	3,52	0,93	0,90		
When you have a problem the e-tailer would do its best to help you	3,64	0,93	0,93		
Reliability (Trust)				0,81	0,68
The e-tailer is very effective in selling this kind of products	3,73	0,92	0,81		
The e-tailer is effective in providing products	3,79	0,93	0,83		
Customization				0,79	0,56
The e-tailer makes an effort to be customized to your personal needs	3,35	1,04	0,81		
The e-tailer makes purchase recommendations related to customers' past product selection and purchase	3,50	1,01	0,68		
The e-tailer enables the customers to order products that are tailor-made for them	3,39	1,00	0,76		
Privacy				0,89	0,67
The e-tailer keeps its confidentiality commitment	3,71	0,91	0,92		
The e-tailer respects its customer privacy	3,66	0,92	0,89		
The e-tailer keeps your personal information for itself (email, address and telephone number)	3,46	1,06	0,69		
The e-tailer protects your personal information	3,69	0,94	0,76		
Contact				0,81	0,69
The e-tailer cultivates its relationship with customers by mail	4,01	0,94	0,89		
The e-tailer makes an effort to keep regular contact with you by mail	4,12	0,89	0,77		
Care				0,90	0,76
The products are delivered within the time promised by the e-tailer	3,98	0,94	0,73		
The e-tailer is able to deliver products on time	3,82	0,90	0,94		
The e-tailer makes reliable promises about delivery of products	3,83	0,92	0,92		
Choice				0,91	0,72
The e-tailer has good selection	3,83	0,90	0,79		
The e-tailer proposes a wide variety of products	3,93	0,87	0,89		
The catalog offers a wide range of categories and products	3,78	0,89	0,80		

The e-tailer carries a wide range of products	3,89	0,89	0,91		
Aesthetics design				0,93	0,78
The website is visually appealing	3,55	1,02	0,88		
The website displays a high quality of graphics	3,60	0,96	0,82		
The website is pleasant to browse through	3,70	1,00	0,92		
The website is attractive for visitors	3,64	0,98	0,92		
Navigation				0,87	0,57
The website offers a logical layout of products selection that is easy to follow	3,69	0,96	0,75		
This website is easy to move and you can easily find what you are looking for	3,69	0,95	0,74		
This website provides a clear directory of products	3,73	0,95	0,77		
Through this website, you feel you have control over pages displayed	3,66	1,00	0,69		
Through this website, you are feeling of control over how you navigates	3,63	0,91	0,80		
Community features				0,78	0,55
In this website, you can share experiences with other customers	3,23	0,98	0,83		
The e-tailer makes the interaction easier between customers	3,05	1,05	0,70		
The e-tailer makes you want to share your views about products	3,46	1,00	0,69		

Fit indexes: $\chi^2 = 2646.26$, $df = 636$, $CFI = 0.99$, $NFI = 0.98$, $RMSEA = 0,037$

Psychometric qualities of the constructs

We first performed Exploratory Factor Analysis (oblimin). As expected, it leads to the extraction of twelve (12) factors: eight e-CRM drivers, two dimensions of trust (reliability and benevolence), relationship commitment and actual customer patronage behavior. The measurement scales show the psychometric qualities (reliability and validity) to be adequate, even though the items were mixed in the questionnaire so as to not artificially increase the validity of the measures.

Then, using the structural equations method (AMOS software), we performed Confirmatory Factor Analysis with these 12 constructs (latent variables) and 39 items (manifest variables). In table 3, we observe that all the constructs exhibit a satisfactory degree of convergent validity: standardized factor loadings are all significant and vary between 0.69 and 0.94; the average variances extracted vary between 0.55 and 0.82, which means the variance of each construct is better explained by its measures than by error (Fornell and Larcker, 1981). Reliability coefficients ($R\hat{\rho}$) are also satisfactory (between 0.78 and 0.93).

Their discriminant validity can also be underlined. Table 4 includes perceptual constructs, actual customer patronage behavior and both types of emails (company vs. customer-initiated emails). The Root AVE index of each construct must then be superior to any other correlation with the other latent variables, which is clearly the case here for the constructs. There is just one exception: perceived reliability is more correlated to aesthetic design ($r = 0.86$) than to its measures (0.82). However, if the two constructs are assembled into one component, the model's fit with the data becomes unacceptable ($RMSEA = 0.12$), whereas it is satisfactory in a two-dimensional model ($RMSEA = 0.06$). Considering

also that aesthetic design is supposed to be a strong antecedent of an e-tailer's perceived reliability, we will distinguish these two constructs.

Table 4. Correlations Matrix ($P < 0.05$; $N=1796$)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Customer patronage behavior	0.83*													
2 Relationship commitment	0.28	0.87												
3 Benevolence (Trust)	0.12	0.56	0.91											
4 Reliability (Trust)	0.11	0.66	0.62	0.82										
5 Customization	0.12	0.52	0.55	0.61	0.75									
6 Privacy	0.13	0.50	0.62	0.58	0.52	0.82								
7 Contact	0.06	0.36	0.45	0.56	0.63	0.39	0.83							
8 Care	0.11	0.50	0.64	0.61	0.50	0.67	0.48	0.87						
9 Choice	0.15	0.54	0.48	0.67	0.59	0.51	0.50	0.53	0.85					
10 Aesthetics design	0.10	0.63	0.56	0.86	0.56	0.54	0.47	0.55	0.61	0.88				
11 Navigation	0.14	0.55	0.54	0.67	0.52	0.56	0.40	0.52	0.58	0.71	0.75			
12 Community	0.15	0.47	0.53	0.50	0.66	0.62	0.43	0.53	0.55	0.52	0.51	0.74		
13 Company-initiated e-mail	0.09	0.09	0.07	- 0.05	ns	0.05	ns	ns	ns	ns	ns	0.10	-	
14 Customer-initiated e-mail	0.59	0.33	0.12	0.16	0.18	0.14	0.09	0.11	0.17	0.16	0.17	0.16	0.21	-

* Root AVE

TEST OF THE MODEL AND RESULTS

The structural equations method was used to simultaneously test the entire model and our five groups of hypotheses (Figure 1). Global fit of the model is satisfactory: the fit indexes (AGFI, CFI, NFI) are greater than 0.90 and the RMSEA rises to 0.04, which conforms with the standards established in the literature (Sharma *et al*, 2005). Table 6 summarizes the results for the entire sample ($N = 1796$) and for each e-tailer: «Dealsandco» ($N = 732$) and «Giftandco» ($N = 1064$).

Table 6 - Test of the Model and Hypotheses

	All (N=1796)	P	«Giftandco» (N=1064)	P	«Dealsandco» (N=732)	P
Effects of e-CRM drivers on Trust						
Effects of Customization on Trust (a)						
Customization → Benevolence	0.16	0.00	0.18	0.00	0.14	0.03
Customization → Reliability	0.06	0.11	0.01	0.81	0.12	0.07
Effects of Privacy on Trust (b)						
Privacy → Benevolence	0.21	0.00	0.20	0.00	0.20	0.00
Privacy → Reliability	0.08	0.00	0.12	0.00	0.09	0.10
Effects of Contact on Trust (c)						
Contact → Benevolence	0.03	0.31	-0.01	0.82	0.04	0.40
Contact → Reliability	0.09	0.00	0.10	0.00	-0.02	0.70
Effects of Care on Trust (d)						
Care → Benevolence	0.31	0.00	0.32	0.00	0.26	0.00
Care → Reliability	0.11	0.00	0.06	0.03	0.11	0.03
Effects of Choice on Trust (e)						
Choice → Benevolence	-0.05	0.10	-0.01	0.85	-0.08	0.08
Choice → Reliability	0.15	0.00	0.27	0.00	0.15	0.00
Effects of Aesthetics Design on Trust (f)						
Aesthetics Design → Benevolence	0.13	0.00	0.11	0.04	0.03	0.61
Aesthetics Design → Reliability	0.63	0.00	0.55	0.00	0.41	0.00
Effects of Navigation on Trust (g)						
Navigation control → Benevolence	0.09	0.00	0.11	0.01	0.10	0.05
Navigation control → Reliability	-0.01	0.68	-0.02	0.58	0.07	0.20
Effects of Community on Trust (h)						
Community → Benevolence	0.02	0.49	-0.03	0.53	0.22	0.00
Community → Reliability	-0.05	0.06	-0.02	0.50	0.14	0.04
Mediating role of Trust and/or relationship commitment						
Relationship commitment → Customer Patronage Behaviors	0.11	0.00	0.24	0.00	0.12	0.00
Benevolence → Relationship commitment	0.19	0.00	0.22	0.00	0.15	0.00
Reliability → Relationship commitment	0.41	0.00	0.36	0.00	0.38	0.00
Effects of Emails on Customer Patronage Behaviors						
Company-initiated email → Customer Patronage Behaviors	-0.04	0.04	-0.05	0.09	-0.09	0.00
Customer-initiated email → Customer Patronage Behaviors	0.55	0.00	0.39	0.00	0.60	0.00
X ²	2597.48		1740.33		1560.30	
DF	666		666		666	
RMSEA	0.040		0.039		0.043	
AGFI	0.92		0.91		0.90	
NFI	0.95		0.94		0.93	
CFI	0.96		0.96		0.96	

Four main results can be underlined:

First, most e-CRM drivers reinforce customer trust, which result is consistent among the two e-tailers and in line with previous research (Bart et al, 2005). But the e-CRM drivers do not affect the

facets of trust in the same way: while the e-tailers' perceived benevolence (willingness) is enhanced by care, privacy, customization and navigation, the e-tailers' perceived reliability (ability) is enhanced by care, choice and aesthetic design. Therefore, e-tailers which aim at demonstrating their reliability or at proving their benevolence must leverage different drivers to effectively build trust over time. The roles of the two other e-CRM drivers - community and contact - are more context-specific. Community features strongly enhances trust – both perceived reliability ($\beta=0.14$) and benevolence ($\beta=0.22$) – but just for «Dealsandco» customers: this e-tailer must facilitate exchanges, transparency and fairness between its customers on its website. The community features are therefore critical to build trust in this business model, whereas it has no significant effect on trust in more traditional e-commerce. We also note that the perceived frequency of contact has a positive impact on perceived reliability but just for «Giftandco» ($\beta= 0.10$). The customers are regularly informed about new products and a sort of familiarity can be established: this is more important for «Giftandco»'s customers who are looking for product quality, originality, and innovation rather than for «Dealsandco»'s customers who are most interested in low prices. Thus, H1_{a, b, d, e, f, g} are validated whereas H1_{c, h} are invalidated.

Second, RM theory can effectively be applied to e-commerce. A good relationship between e-tailers and customers is critical to effectively enhance actually customer patronage behaviors and thus to leverage profits. Indeed, for both e-tailers, trust and/or relationship commitment totally mediate the effects of e-CRM drivers on actual customer patronage behavior. The eight e-CRM drivers are just means to improve relationship quality between e-tailers and their customers. Therefore, H2_{a, b, c, d, e, f, g, h} are validated.

Third, relationship commitment totally mediates the effects of trust on actual customer patronage behavior. It stresses the critical role of relationship commitment, in comparison to trust. H3 is validated. Trust also totally mediates some e-CRM drivers' effects (privacy, care, aesthetics design, and community) on relationship commitment. Thus, H4_{b, d, f, h} are validated. However, the mediation is just partial for other e-CRM drivers: relationship commitment is directly and positively influenced by customization ($\beta=0.17$) and choice ($\beta=0.11$) for «Giftandco» customers and by navigation ($\beta=0.19$) for «Dealsandco» customers (see appendix 2). These additional, direct and positive effects on relationship commitment are therefore context-specific: While website's navigability is critical for «Dealsandco»'s customers who are searching best deals among 120 000 new and secondhand goods, «Giftandco»'s customers pay stronger attention to the variety of products (6000 actually) and expect customized offers. «Giftandco»'s customers want wider range of products, also need to be supported in their choice and expect their e-tailers to facilitate their buying task. Finally, surprisingly, contrary to previous literature (Merivaso and Raulas, 2004; Dufrene et al, 2005; Yoon, Choi and Sohn, 2008), the perceived

frequency of email contact has a direct but negative effect on customer commitment for both e-tailers. While its positive effect on trust (reliability) is context-specific, its negative effect on relationship commitment is consistent among both websites (utilitarian / hedonic). The increasing number of emails received by customers from their e-tailers leads them to a disengagement from the e-tail relationship. It can be interpreted as a form of customers' reactance to e-tailers' intrusion in their personal lives and email box. Therefore, H4_{a, c, e, g} are invalidated.

Fourth, the effects of actual email practices are ambivalent: Customer-initiated emails and company-initiated emails tend to have contradictory effects: While customer-initiated mails are strongly and positively associated with actual customer patronage behavior for both e-tailers, company-initiated emails have a negative effect on actual customer patronage behavior for «Dealsandco» ($\beta=-0.09$; $P<0.05$) and «Giftandco» ($\beta=-0.05$; $P<0.10$). Along with the negative and direct effect of perceived emails (Contact) on relationship commitment, actual company-initiated emails have a negative impact on actual e-loyalty. These results strongly stresses the need to use systems of marketing automation that create trigger based email campaigns on actions, behavior and timing. When customers engage themselves in a course of action on a website, they are more likely to accept messages from e-tailers and less likely to disengage from their e-tailing relationship. Therefore, H5 is validated⁴.

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

This research has two key contributions:

First, to our knowledge, it is the first attempt to examine the links between e-CRM identified in the literature and actual customer patronage behavior. We then show despite their importance in marketing literature, e-CRM drivers (Customization, Privacy, Contact, Care, Choice, Aesthetics design, Navigation and Community) do not directly affect actual customer loyalty. Both, trust and relationship commitment play a key mediating role between actual behavioral loyalty and customers' perceptions of an e-tailer's website, email practices and data-capture and utilization. It strongly supports the adoption of a relational view over the internet, whereas numerous managers still have a transactional perspective (short-term objectives, hard selling, promotional pressure, non-customized offers, etc.).

⁴ We also test the potential effects of company vs customer-initiated emails on trust and relationship commitment. We found that customer-initiated emails are related to relationship commitment for both e-tailers ($\beta=0.20$; $N=1796$). The other effects are context-specific: for instance, company-initiated emails enhance «Dealsandco»'s perceived benevolence ($\beta=0.09$, $P<0.01$) but decreases «Giftandco»'s perceived reliability ($\beta=-0.08$, $P<0.01$). In other words, promotional pressure is seen as positive for wise shoppers who look for low prices but seems negative for hedonic customers who look for expertise.

Furthermore, this research provides a critical point of view on previous research, which has often over-estimated the importance of some constructs, such as privacy, customization, navigation, community features or contact. In fact, their impacts on actual customer loyalty are either context-specific or small. For instance, the overall influence of privacy, customization, and navigation –via perceived benevolence - is rather small, especially for utilitarian customers: the e-tailer’s perceived benevolence has twice less influence on relationship commitment than perceived reliability ($\beta = 0.19 < \beta = 0.41$); and relationship commitment has twice less influence on actual loyalty of “dealsandco” customers (utilitarian) than “giftandco” customers ($\beta = 0.12 < \beta = 0.24$). Among the e-CRM drivers, care and aesthetics design are the most influential drivers of actual customer loyalty: an e-tailer must first deliver products relative to orders placed by consumers and also improve the website overall graphical look. This remains the best way to build customer trust and to enhance actual customer loyalty.

The second contribution of this research concerns the differing effects of company versus customer-initiated emails. We then note that emails which implicitly result from a customer’s actions have positive effects on actual customer patronage behaviors. Customer-initiated emails are even more associated to repeat purchase behavior than relationship commitment. Moreover, surprisingly, company-initiated emails are associated with customers’ disengagement from the relationship. The perception of the frequency of emails is not significantly correlated with the actual company-initiated emails sent by the e-tailer (165 emails a year on average). However, they respectively contribute to decrease customers’ commitment to the relationship and actual customer loyalty (number of orders, number of items and amount of purchase of each respondent during the year). Thus, this research stresses the need to keep a customer focus, to empower them and to tailor messages to customers in response to their personal needs and not just to managers’ objectives (Kumar, Venkatesan and Reinartz, 2008). While Ramani and Kumar (2008) consider firms’ interaction orientation from the managers’ point of view, we support their ideas from the customers’ standpoint.

These results were obtained since we crossed perceptual and attitudinal data with actual behavioral data extracted from two e-tailers’ databases (732 «Dealsandco» and 1064 «Giftandco» customers). This research then demonstrates a reasonable degree of external validity for e-tailers which serve hedonic and/or utilitarian customers. However, it has some limitations: First, we cannot extend our results to other online environments (web portals, information, search engines, etc.). Replications could be done to reinforce or moderate our results. Second, our research design is cross-sectional while relational processes are dynamic and develop over time. For instance, as suggested by Bart et al (2005), online trust has an implicit dynamic nature and further research need to be done with a longitudinal

design. Third, we differentiate company-initiated emails from customer-initiated emails. However, even though emailing is a major communication tool with customers, we did not take into consideration the other communication technologies, such as m-mobile or web 2.0, as suggested by Ramani and Kumar (2008). Fourth, we here adopt a quantitative view of emailing (number of emails received by each customer) but fail to apprehend the qualitative nature of them (type and content of messages). As suggested by Cases et al. (2010), email campaigns need to be judged qualitatively attractive to influence purchase intention. Finally, we underline the absence of correlations between the perceived frequency of contact and the actual number of company-initiated emails. Customers may attribute emails to an e-tailer, even though it is not the main source of these messages. While the increasing number of unsolicited emails threatens customer's acceptance of email solicitations, it could also be interesting to integrate the impact of the total email pressure perceived by customers.

E-commerce comes to maturity and e-tailers start to rethink their business orientation. Technology provides them effective support: online communities, web design, data-capture and utilization, trigger based email campaigns, etc. But technology is not an end in itself. Its benefits have to be perceived by consumers and technology must improve customer relationship quality (trust and relationship commitment). It requires that e-tailers move from a sales or product focus to a customer focus. We hope this study will encourage this cultural shift and more research in the area of e-CRM.

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Appendix 1 - Additional direct effects of e-CRM drivers on relationship commitment

	ALL		«Giftandco»		«Dealsandco»	
Customization → Relationship Commitment	0,12	0,00	0,17	0,00	0,06	0,37
Contact → Relationship Commitment	- 0,13	0,00	-0,14	0,00	-0,10	0,05
Choice → Relationship Commitment	0,07	0,02	0,11	0,03	0,06	0,22
Navigation control → Relationship Commitment	0,08	0,01	0,01	0,84	0,19	0,00