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## on Apparel European Web Sites

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# A Study of Customer Relationship Management (CRM) on Apparel European Web Sites

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## Abstract

This study explores customer relationship management (CRM) on the Web sites of apparel firms in Europe. Customer relationship management and data mining are critical differentials that enable competitive edge for firms focused on increasing customer market share. Though investment in marketing, sales and service innovation can be constrained due to economic and cultural considerations, the initial analysis of the study indicates common European consumer apparel sites enable *higher content depth, navigational context and help, consumer communication,* and *commerce efficiency.* However, the study concurrently indicates *lower customer customization* and *mining, lifestyle connection and marketing,* and *consumer community interaction,* on the sites. The analysis, conducted as an assignment by adult students at a leading European university, contributes insight into the limitation of customer relationship management and data mining investment on the Web. This study will benefit practitioners and researchers who continue to evaluate innovation in technology on the European Web.
*Keywords: apparel industry, business-to-consumer (b2c), e-commerce in europe, customer relationship management (crm), data mining on web, european union.*

## 1 Background

The World Wide Web is an important consideration in the growth of business firms in America. From its inception, the Web has initiated unprecedented change in enabling improved channels of business with customers Porter [1]. From customer-centric channels to customer-focused processes, firms have employed innovation in customer relationship management (CRM) to enhance their business-to-consumer (B2C) models Seybold [2]. New features for marketing, sales and service on the Web have contributed benefits to customers and firms in America Peterson, Balasubramanian & Bronnenberg [3]. The design of feature functionality of customer relationship management on a Web site is important in the effectiveness of the site in influencing the attitude and the behavior of a customer towards the firm.

The effectiveness of customer relationship management on a Web site is differentiated in the experience of the customer on the site Novak, Hoffman & Yung [4] & Nielsen [5]. Experience may be a crucial element in the intention of the customer to buy on that site. Experience is influenced by dynamic interaction between the customer and the customer-oriented firm Webb, Webster & Krepapa [6]. Important in the interaction is the influence of the customer interface on future customer relationship Rayport & Jaworski [7] & Haubl & Trifts [8]. Implementation of infinite designs of an interface on pages of the Web site is a complex and constant challenge for designers of sites Singh, Dalal & Spears [9]. Firms continue to be challenged in customer interface, in order to have competitively distinguishable customer relationship management on the Web.

The expectations of customers continue to escalate in customized and personalized interfaces on the Web Rust & Lemon [10] & Bolton & Lemon [11]. Personalizing and convenience customers demand experiences of interpersonal gratification and service from a Web site Fitzsimmons & Fitzsimmons [12]. Budget justification of customized innovation in functionality of customer relationship management and data mining is, however, difficult in firms in America, due to dissatisfaction from failures in implementation of the technologies and to economic issues. Though customer relationship management is important in influencing customers Lawler [13], the effectiveness of innovation on the Web sites in financially limited firms is not clearly evaluated in academic literature. Given the global domain of the Web, an exploratory study of customer relationship management in industry, at an international level and initiating in Europe, may be helpful in introducing designs for intelligent investment in the technologies.

## 2  Introduction

The World Wide Web is an important factor in the growth of firms in Europe as in America European Commission [14]. The number of consumers on the Web in Europe is approximately 231 million in 2004, an increase of 124% from 2000, for 28% of international consumers, in contrast to 222 million, 106% and 27% in North America Internet World Statistics [15]. Retail consumer revenue in Western Europe approximated 69 billion euros in 2004, and sales are estimated to grow to 274 billion in 2008 [16]. Though consumer sales of larger firms on the Web approximated 5% of all revenue sources in the European Union in 2003 [14], in contrast to 8% in America in 2005 Gagnier [17], consumers on the Web in Europe are growing to be mainstream customers of this buying channel. The importance of e-Business on the Web in the European Union is indicated in industry in Figure 1 below. This index indicates growth in the retail industry, which, in apparel firms of this industry, may benefit from customer relationship management on the Web.
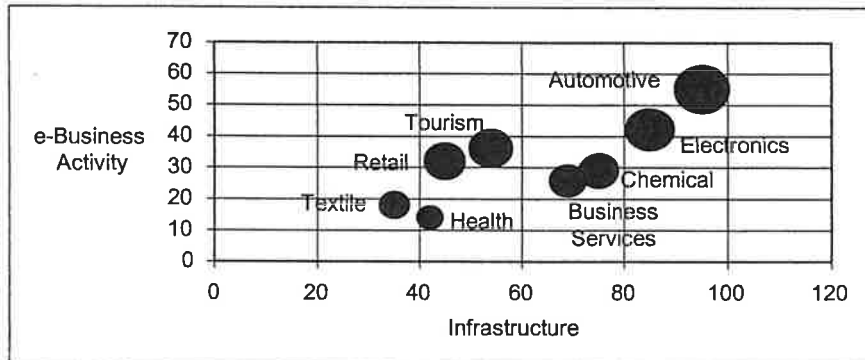
Source: European Commission, 2004 (Adapted) [14]

Figure 1: E-business european union index (indices).

The inclusion of customer relationship management on European retail sites, such as apparel clothing sites, is indicated in Figures 2, 3 and 4. Figure 2 indicates inclusion of basic design feature functionality of content and context of help Rayport & Jaworski [18] on the sites. Figure 3 indicates functionality of communication and commerce [18], and Figure 4 indicates initial investment in customer relationship management technologies. Not clear in the figures is an indication of advanced design functionality of community, connection and customization [18], and data mining, on the European sites. Firms in Western Europe Friedman [19] may be hesitant in fully investing in customer relationship management design on their Web sites Ferguson, O'Mahony, Padmore, Saynor, Sinclair, Smith & Yates [20], Markillie [21] & Zhu, Kraemer & Xu [22].
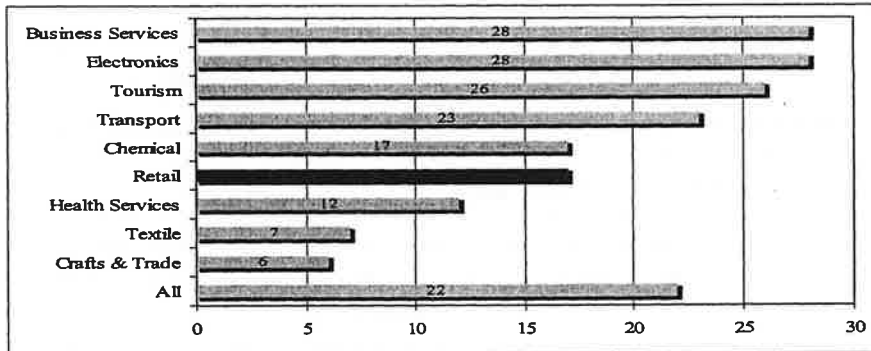
Source: European Commission, 2004 (Adapted) [14]

Figure 2: E-business basic functionality of european sites on web (indices).
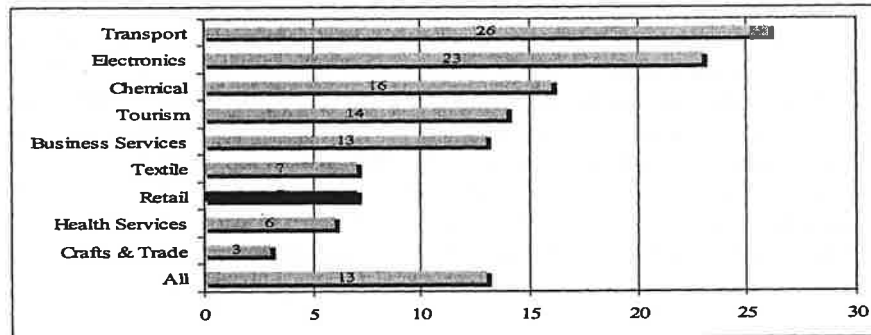


Source: European Commission, 2004 (Adapted) [14]

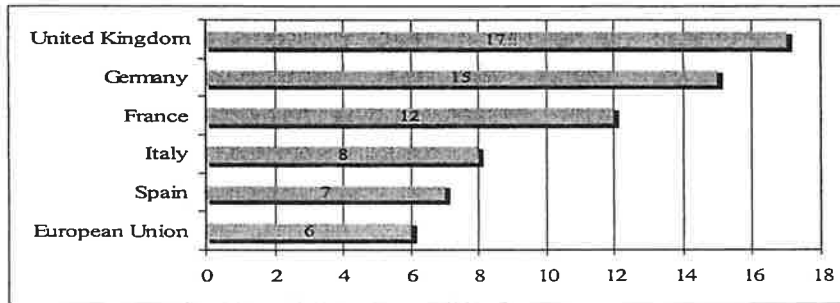Figure 3: E-business advanced functionality of european sites (indices).

Source: European Commission, 2004 (Adapted) [14]

Figure 4: E-business customer relationship management initial investment on sites (indices).

To help in increased buying on apparel sites, firms have to differentiate in their design of experience Pullman & Gross [23] & Winter, Saunders & Hart [24]. Differentiation in encountering a home page of an apparel Web site, searching and choosing clothing from a catalog on the site, ordering and paying for the clothing, and contacting customer service if needed enables experience in apparel shopping on the Web. Experience is not infrequently abysmal Betts [25] & Underhill [26]. Innovation in the design of the apparel buying experience is indicated to give an edge to apparel Web sites Kontzer [27]. Further differentiation in experience and in interface on the site may be needed in advanced functionality of technology.

Studies indicate the functionality of personalization and customization of apparel Web sites as important in the differentiation of these sites Drogan & Hsu [28]. Customization allows consumers to alter choices and configurations of clothing during shopping on the Web site Schrage [29]. Examples of customization in the apparel industry are www.landsend.com Turban, King, Viehland & Lee [30], www.gap.com, www.nike.com, and www.wemadebyme.com Piller [31]. Personalization allows firms to change catalog configurations of clothing and accessory offerings to customers on the Web, based on explicit or implicit buying preferences during the shopping Keenan [32]. An example is www.jcrew.com. Personalization and customization mining technologies are indicated to give an improved edge to the apparel Web site Roberts [33].

This study analyzes *content, context, communication* and *commerce*, and *community, connection* and *customization* [18], as features of customer relationship management, defined as important in the differentiation of experience on apparel European Web sites. This functionality forms an initial base for studying the extent and effectiveness of current customer management and data mining on the sites. The importance of the *full functionality* of customer relationship management technologies on European sites is not clear in academic studies.

## 3   Features of Apparel Clothing Sites on the Web

The features of customer management, on the sites of apparel European firms analyzed in the study, are elements of e-Commerce customer interface influencing effectiveness of relationship on a Web site. Rayport and Jaworski define these elements as *content, context, communication, community, connection, customization* and *commerce* [18], enhanced in this study of clothing sites to include the following constructs:

- *Content*, defined as depth of information in arrival clothing, consumer buying guides, organized, relevant and searchable seasonal clothing inventories of stores, consumer designed dress models, fashion mannequin models, multi-dimensional multimedia pictures, representations and simulations of non-mannequin models, and videos;
- *Context*, depth of comfort in color moods and ease of layout in fast and intuitive navigation in European languages, text help, hyperlinks, mouse over text, and search systems;
- *Communication*, degree of dialogue in service and sales chats, e-mail links, e-mail newsletters, frequently asked questions, instant messaging, live Web help, hot-line telephone, telephony, and wireless;
- *Community*, degree of consumer interaction in firm branded consumer bulletin boards, blog chats, Webcast events, forums, entertainment event sponsorships, games, help from other consumers, consumer product reviews, and pop-up surveys;
- *Connection*, degree of connection to affiliated lifestyle and marketing merchant sites on the Web;
- *Customization*, degree of explicit and implicit customization and mining in personalization of customer configurations of dress models and clothing choices, contextual and affinity marketing of clothing, recommendations in clothing and accessory selections and in sartorial lifestyle services, and special Webmercials; and
- *Commerce*, extent and speed of commercial interaction, choices of delivery, discounts, special offers, one-click express checkouts, methods of payment, customer order tracking, privacy and security services, and tools and transaction on wireless.

These constructs consist of advanced and basic functionality on the Web that enable customer relationship management, defined in this study to be the following:

- *Customer Relationship Management* (CRM) – strategy of optimizing the processes of apparel firms, which enables the marketing, sales and service of clothing, through innovation and data mining of integrated customer channels, including that of the functionality of the Web, and which enables customer loyalty and apparel firm profitability.

## 4   Focus of Study

The focus of this study is to analyze the current effectiveness in innovation of customer relationship management on apparel European Web sites. The study attempts to demonstrate the extent of features of data mining and customer relationship management innovation on the sites, in generic contrast to American sites. Though guidelines in the design of Web sites abound in practitioner and scholarly studies, this study is focused on exploring functionality that facilitates relationship on apparel European sites and on furnishing a future framework for intelligent investment in customer relationship management technologies on the Web.
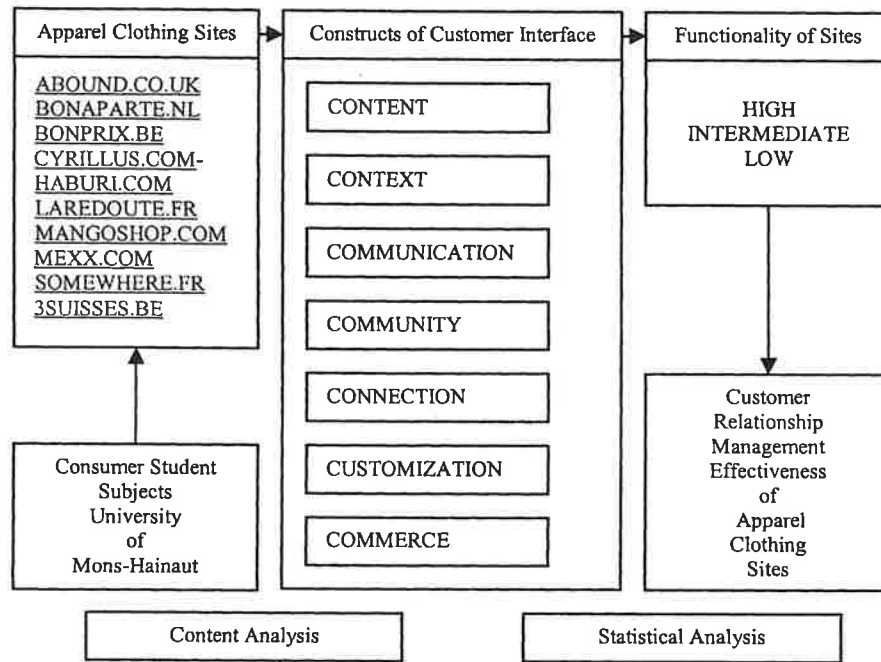
## 5   Research Methodology

The research methodology of the study consisted of a content analysis of a sample of on-line apparel firms in Europe, in *five iterative stages* of analysis. In *stage 1*, 150 different clothing sites were chosen by 40 adult postgraduate, graduate and undergraduate business marketing students, as an assignment in an *e-Business Concepts and Applications* course, at the University of Mons-Hainaut in Belgium. The students chose the 150 sites based on consumer commonality of the sites on the Western European Web.

In *stage 2*, 10 clothing sites from the 150 in *stage 1* were chosen for analysis by the instructors. The instructors are the authors of this study. They chose Dutch, English, French, German and Spanish language sites, consisting of abound, bonaparte, bonprix, cyrillus, haburi, laredoute, mangoshop, mexx, somewhere, and 3suisses, in e-Commerce European traditionalist countries Ferguson, O'Mahony, Padmore, Saynor, Sinclair, Smith & Yates [34]. The instructors chose the 10 sites based on earlier frequency of choice, functionality of e-Commerce, and diversity of language on the sites. The students were adequately conversant in languages to analyze the 10 sites. These sites were analyzed anonymously and independently in the spring 2005 semester of the course.

The 40 students who analyzed the 10 sites were knowledgeable consumer subjects. Demographics of the students indicate that their average age was 24 years, they were employed part-time (30%) in local industry, and they included female (45%) and male (55%) subjects. They were frequent and intelligent consumers of the Web (12.2 hours a week on the Web in 2005 for 5.5 years, with higher broadband, cable and internal networking connectivity than in America). The findings, however, of an analysis that includes such a small sample of students may not be generalized to a larger population in European society without caution. Studies nevertheless indicate the appropriateness of students in analyses of on-line research and shopping, inasmuch as students are perceived as mature consumers McKnight, Choudhury & Kacmar [35] and wired on the Web Bellman, Lohse & Johnson 36]. The students in this study of apparel European Web sites were enthusiastic and realistic subjects.

The 10 sites were analyzed in *stage 2* for their potential relationship effectiveness in the constructs of *content, context, communication, community, connection, customization,* and *commerce,* applying a three-point scale of 3 = high, 2 = intermediate, and 1 = low functionality in technologies, as illustrated in Figure 1. The constructs were defined from a checklist instrument of the 69 functions indicated in the earlier Features of Apparel Clothing Sites on the Web section of this study, and the functions spanned depth of content to transaction on wireless. The students were instructed in the constructs during lectures in the course.

In *stage 3* of the study, the data from *stage 2* was collected from the students and analyzed in summer – fall 2005 by the authors, in order to determine construct mean scores and statistical significance. This analysis, in the next section, included unadjusted averaging that was considered better than an advanced analysis, due to ease of interpretation and robustness. Though averaging limited the degrees of freedom available for analysis, adequate strength was available to distinguish between the constructs.

Construct Source: Rayport and Jaworski, 2004 [18]

Figure 5: Research methodology of study.
- *Stages 2* and *3*

(In *stage 4* of an advanced study, the evolving sites in *stage 2*, with a larger sample of other apparel clothing sites where feasible, will be analyzed in the course, in fall 2005 – summer 2006. *In stage 5*, a sample of the sites in *stages 4 and 2* will be analyzed in case studies of customer relationship management strategies of the industry managers of the sites, in summer – winter 2006.)

## Analysis of Apparel Clothing Sites on the Web

The analysis from *stages 2* and *3* indicated that most of the apparel Web sites in the sample of the study has *higher content, context, communication and commerce*, but *lower customization, connection and community*. That is, content (210 [score]), context (200), communication (175) and commerce (172) constructs as a group are high in functionality; customization (55), connection (86) and community (101) as a group are low, and *customization is the lowest* (55), as summarized in Table 1. From the analysis, female students (45%) evaluated the sites lower than the male students (55%), as the female students are inclined to buy higher in off-line stores but not on on-line sites on the Web.

Table 1: Summary analysis of apparel european clothing sites on web*.

| | Apparel European Clothing Sites ** Effectiveness in Functionality | | | | |
|---|---|---|---|---|---|
| | **Constructs** | **High Score 1** | **Intermediate Score 2** | **Low Score 3** | **Analysis Completion Percentage ***** |
| C1 | Content | 210 (52.5%) | 151 (37.8%) | 38 (9.5%) | 99.80% |
| C2 | Context | 200 (50.0%) | 157 (39.3%) | 43 (10.8%) | 100% |
| C3 | Communication | 175 (43.8%) | 159 (39.8%) | 65 (16.3%) | 99.80% |
| C4 | Community | 101 (25.3%) | 112 (28.0%) | 185 (46.3%) | 99.50% |
| C5 | Connection | 86 (21.5%) | 97 (24.3%) | 215 (53.8%) | 99.50% |
| C6 | Customization | 55 (13.8%) | 147 (36.8%) | 198 (49.5%) | 100% |
| C7 | Commerce | 172 (43.0%) | 136 (34.0%) | 85 (21.3%) | 98.30% |

\*  n=10 Apparel European Firm Sites x 40 Consumer Students
\*\*  Detailed Analysis of Specific Sites Available upon Request of Authors
\*\*\* Limited Number of Non-Analysis Completions Due to Language Limitations of a Few Students

Construct Source: Rayport and Jaworski, 2004

The interpretation of the results in Table 1 is that clothing sites in the sample are effective in commercial interaction, facility for dialogue, guiding the consumer, and in information. Such functionality enables the initiation of relationship. The cultivation of the consumer as a customer is not effective in limited functionality of consumer-to-consumer and lifestyle merchant interaction. Customization and intelligent personalization of recommended products and services by consumer or customer types are not evident on the sites. Mining of the customer is not clear from the sites or from furnished documentation of the stores.

The effectiveness of customer relationship management is elusive on the sites in the initial study. In the best of the sites, the focus of investment is on colorful content depth, context navigation, and commerce functionality. In the worst of the sites, investment is focused on faster commerce functionality. None of the sites excel in customer relationship management, as contrasted to the best of American apparel clothing sites, as in *www.jcrew.com* or *www.landsend.com*. The study from *stages 2* and *3* indicate *lower potential for relationship*.

(The importance of the constructs in customer relationship management, including community, connectivity and customization, will be analyzed further in *stages 4* and *5* of the advanced study. Though the results of the expanded study will not be final until completion of *stage 5*, in winter 2006, the scores of *stages 3* and *2* of this study are helpful in introducing implications in the current effectiveness in innovation and investment in customer relationship management and data mining on the apparel European Web sites.)

## 7 Implications

The immediate implication of this study is the clear indication of *higher innovation in the fundamental customer relationship management functionality of content, context, communication and commerce* on the European sites. Results indicated conformance to design importance noted in scholarly papers Koufaris, Kambil & Labarbera [37] & Kim & Stoel [38]. Firms analyzed in the study have effectively invested in initially favorable experiences for consumers.

The next implication is the contrasted indication of *limited differentiation and lower innovation in the advanced customer relationship management functionality of customization and data mining*. The importance of customer centric contextual and customized marketing, sales and service, and of customer demand, is noted in scholarly studies Luo & Seyedian [39], & Sheth, Sisodia & Sharma [40] & Sharma & Sheth [41]. The results of this study however indicated limited investment in back-end and front-end functionality of personalization and customization, on the analyzed clothing sites. Such results are consistent with current European practitioner studies Piller [42], but are impacted by European Union Directive 2002/58/EC, Directive on Privacy and Electronic Communications, informational privacy regulations European Parliament [43]. These regulations are stricter than those in America Baumer, Earp & Poindexter [44]. The results are further impacted by generic factors in security and trust. Some studies imply, if not indicate, hesitancy in continued investment in customization of sites on the Web Piller [45] & Gonsalves [46]. Interfaces on sites, however, have to be beyond fundamental functionality of commerce, communication, context and content, in order to have an edge Griffith, Krampf & Palmer [47] & Jukic, Jukic, Meamber & Nezlek [48]. Firms initiating innovation may have to consider effective incremental exploitation of advanced customer relationship management technologies.

Implications of the study include indication of *lower innovation in community and connection functionality*. Results indicated low investment in connection of the clothing sites to affinity product sites and in inclusion of consumer evangelistic communities of interest on the analyzed sites. Such functionality of sharing is frequent on the best of American apparel sites on the Web, as in the Converse Gallery site in the United States. The importance of this functionality is noted in studies Zwass [49]. European firms may have to consider impact and incremental investment, subject to cultural factors and to business strategies.

Further implications include implied indication of *benefits of considering improved inclusion of e-Commerce European governmental and industrial initiatives*, in helping firms in their strategies. Such initiatives as those of the European Commission and the e-Europe Action Plan [20] in entrepreneurship have to be increased to stimulate firms in innovation. The partnership support of governmental and industrial organizations is important in the investment of skills and technologies.

The final implication of the initial study is the indication of the *benefits of including students as consumers* Alavi, Wheeler & Valacich [50]. Though their number was a controlled and non-random small sample, the Belgian students at the University of Mons-Hainaut were dedicated, eager and fashion interested subjects. Motivation by the instructors was not an issue. These students were clearly realistic subjects, wired in the technologies of the Web, and future customers of clothing Web sites. Lastly, the study was helped in insight by two of the authors as instructors in e-Commerce, at the School of Computer Science and Information Systems at Pace University, in America and the other as an e-Business instructor, at the Warocque Research Center of the University of Mons-Hainaut, in Europe.

## 8 Limitations and Opportunities in Research

This study furnishes a framework for evaluating customer relationship management on European Web sites, as the implications of the small sample of only one industry cannot be generalized and have to be interpreted cautiously. Not only a larger, more natural and random sample selection of firm sites and of bona fide consumer subjects, but also of sites and of subjects in other Western and Eastern European languages and societies, have to be considered for analysis of the apparel industry on the Web. Expanded empirical investigation of results will be helpful in insuring creditability of future planned studies.

# 9 Conclusion

The initial study indicates that popular apparel firms in Europe are focused *less on advanced customization and mining, lifestyle connection and marketing, and community interaction*, and *more on fundamental commerce efficiency, communication, context and help, and content depth functionality*, resulting in limited customer relationship management on the Web sites. To compete more effectively for increased market share, the clothing firms may need to further invest in innovation on their sites. Further research is needed to analyze the customer relationship management strategies and the data mining technologies of apparel European firms on the Web.

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