Analysing digital genres: function and functionality in corporate websites of computer hardware

Medina, Luis Losada García

Universidad de Las Palmas de Gran Canaria

abolanos@dfm.ulpgc.es

Abstract

The aim of this paper is to characterize corporate websites by describing some linguistic, semiotic and pragmatic properties regarding function and functionality. We also try to define the current prevailing set of functionality features of hardware corporate websites. For the purposes of our research we have analysed an English corpus of corporate websites of computer hardware from the United States. This research has been carried out as a part of the DIGALTT (Digital Genre Analysis for Language Teaching and Translation) Project, currently funded by the University of Las Palmas de Gran Canaria. Conclusions are intended to be applied to the teaching of English for Specific Purposes and Web Site Translation.

Key Words: digital genres, genre analysis, netlinguistics, ESP, electronic discourse

Resumen

Análisis de géneros digitales: función y funcionalidad en sitios web comerciales de hardware informático

El objetivo de este artículo es caracterizar los sitios web comerciales mediante la descripción de sus propiedades lingüísticas, semióticas y pragmáticas. Asimismo, identificamos el marco predominante de características de funcionalidad de los sitios web de equipamiento informático de empresas estadounidenses, para lo que hemos analizado un corpus textual en inglés. Esta investigación ha sido realizada en el marco del proyecto DIGALTT (Digital Genre Analysis for Language Teaching and Translation), financiado por la Universidad de Las Palmas de Gran Canaria. Sus conclusiones se aplican a la enseñanza del Inglés para Fines Específicos y la traducción de sitios web.

Palabras clave: géneros digitales, análisis de géneros, lingüística de la red, IFE, discurso electrónico

Introduction

Corporate websites are published and maintained by companies in order to promote the image of a firm (by building awareness of the company name, product range, values, etc.) and to facilitate the buying and selling of goods and services over the Internet. The fact that they constitute an economical, versatile and easily updatable means of communication, together with their customizable and interactive potential, has contributed to the extraordinary boom of e-commerce in recent years.

The purpose of this study is to characterize corporate websites by describing some of their linguistic, semiotic and pragmatic aspects regarding function and functionality. A further goal is to define the current dominant set of functionality features of hardware corporate websites. This research has been conducted as part of the DIGALTT Project (1). Conclusions are intended to be applied to the teaching of English for Specific Purposes and Web Site Translation.

Our analysis of websites within their social context of production builds upon an understanding of the notion of genre as a dynamic construct (Devitt, 1993; Fortanet et al., 1999; Posteguillo Gómez, 1999; 2003) which allows our cognitive system to recognize and comprehend communicative acts (Beghtol, 2000; Kwasnik et al. 2001). Digital genres are patterns of communicative action in electronic media which are associated with a particular situation and show a relatively stable combination of content, form, function and functionality (Shepherd & Watters, 1998; Schmid-Isler, 2000). Digital genre analysis has already been productively applied to the study of electronic communication (2) in the framework of a new branch of Applied Linguistics, known as Netlinguistics, which has steadily consolidated due to the need to account for the scope of changes in discourse imposed by the digital medium (Lan, 2000; Yongyan, 2000; Crystal, 2001; Shortis, 2001; Yus, 2001; Bolaños Medina, 2002; Posteguillo Gómez, 2003), such as the redefinition of coherence and cohesion (Posteguillo Gómez, 2003).

According to Shepherd and Watters's (1998) classification, corporate websites constitute a novel, spontaneous genre, since they have come into existence thanks to the electronic medium. During their ten years of existence, they have evolved beyond the brochure-like single linear page of text to fully interactive multimedia (MacManus, 2004). The evolution of web design is inevitably linked to that of technology. Thus, the incorporation of dynamic Internet languages such as ASP and

PHP entailed the appearance of more complex sites which simplified the updating and customization of data back in 1998. Another major breakthrough took place in 2000, with the onset of web standards and the generalization of CMS (Content Management Systems), which led to more and more predictable and standardized corporate websites, in contrast with the chaotically structured earlier versions.

This trend towards consistency is currently forcing the standardization of the characteristics of this specific digital genre, which leads us to assume that it is a particularly right moment to perform a descriptive analysis to shed some light on the way this communicative instantiation takes shape. Furthermore, as several authors have claimed, more research is needed in this particular field (Toms, 2000; Renau Renau & Bovea Menero, 2004), since it may contribute, among others, to facilitate user-document interaction.

Computer hardware companies and their reachable customers constitute a predictable discourse community which has been present in web development since its onset (Crowston & Williams, 1997: 32). Corporate websites have a directive communicative function, but they are also informative, as Borja et al. (1999: 448) explain: "besides the dominant instructional contextual focus, the text will generally also have a secondary expository focus, as users have come to expect a high level of information in Internet." As for their contents, they consist mostly of information and advertisements about the company's products or services (Shepherd & Watters, 1999).

As we have already mentioned, functionality refers to the capabilities of websites which provide some service to the user or, in other words, the additional possibilities of user interaction and processing offered by the new media. Its influence on web design is so important that it has been incorporated in the framework of a model of "stages of growth" accounting for predictable patterns of development in organizations. In fact, functionality can be set at the root of the evolutionary and revolutionary stages of corporate websites development, depending on the degree of change in their general design (Piccoli et al., 2004). In this way, the emergence of a new dominant web site design and a new set of functionality features for a given communicative situation typify a period of revolution; every dominant design given comprises many features which were once unique and a source of differentiation. This is clearly illustrated by Piccoli et al. (2004: 14):

> Few today would ask whether an airline's Web site enables booking of flights, or whether the Web site of a personal computer manufacturer enables system customization. These features, once unique, are now implicit in what defines a firm's Web presence in an industry. They are part of the dominant Web design in that particular industry.

Finally, another major feature of corporate websites is that their structure is hybrid in nature, a factor which is undoubtedly favoured by hypertextuality. A web site is commonly composed of various information nodes, some of which constitute different digital genres on their own and whose limits are fuzzy. In this context, terms such as "genre repertoire," "genre hierarchy" and "genre system" have appeared in order to name the set of documents in use within a given discourse community (Breure, 2001). More recently, the concept of "genre ecologies" has drawn the attention of researchers by strengthening dynamism and adaptability (Spinuzzi, 2004). However, that dynamism is counterbalanced by a certain stability, suited by the development of relatively stable connection and coordination among different genres and information nodes, or what has been coined as "dynamic equilibrium" (Spinuzzi, 2004). The application of this concept to websites has received little attention from genre analysts, particularly due to its novelty, but we believe that this approach to exploring the interrelations of genres which interact in specific settings will bear fruit in the near future.

Methodology

For the purposes of our research we have analyzed an English corpus of 27 corporate websites of computer hardware companies from the United States. In order to select it, we first considered the most widely used search engine in the world (Google), only to find that the information we required was so fragmented under several specific categories that we feared our results could be misleading. Instead, we used Yahoo.com, the second most important combination search engine and search index to information on the World Wide Web. We obtained 149 results, which were carefully checked in alphabetical order. A total of 27 corporate websites were finally chosen and 14 were discarded for various reasons: 11 belonged to different sectors of activity, with 6 leading to software retailers, developers or consultants; 3 references to resources could not be found because the Uniform Resource Locator (URL) was not valid, the link did not exist, or the server which contained the resource was busy or was having other technical difficulties.

An exact duplicate (or "mirror") of every web site was created, complete with subdirectory structure and all required files, up to three links from the starting address. This step enabled us to "offline browse" the site at ease while making sure no content or structure changes would be made during our analysis. Then the whole corpus was put on a server so that all researchers could access it. A relational database management system (MySQL) was also used for the automated storage, treatment and retrieval of all the data relevant to our research purposes. A reduced sample of the corpus selected was pre-analyzed to help settle an adequate content and design for the database interface and test its functionality. Finally, a virtual "shared workspace" specially conceived to enhance collaborative work (BSCW) was used both as a means of communication among all researchers and as a centralized repository for all the documentation and computer applications needed.

All markers identified in the analysis of the electronic corpus were introduced in online database input forms, which had been carefully designed to contain the relevant information for every parameter. Such customized dialog boxes automatically retrieved some data and accepted the researchers input through HTML editors which allowed us to directly copy and paste relevant markers. They also carried out information-based actions, such as queries to view, change, and analyze entries in different ways. A database query can show a subset of data (all imperative verbs), or combinations of data from different tables, such as hyperlinks containing images. Data were thus stored in tables which were easily adjustable to the growing needs of our research, since every update automatically appeared throughout the database. Researchers viewed, added, edited and manipulated the information stored through a data access web page directly connected to a MySQL Database Server.

The pattern of analysis comprises function, as expressed by images, linguistic markers and functionality.

Images:
- o Type: whether it is a banner, a logo, a photograph, an icon or other.
- o Content: product, person, own logo, other company's logo or other.
- o Position within the web page.
- o Whether it is animated or not.

Linguistic markers:
- o Colloquialisms: whether their nature is lexical, syntactical, orthographical or iconic.
- o Verbs: person, number, tense, voice and semantic content.
- o Personal pronouns: person, number and function (subject or object).
- o Adjectives: position (premodifier or postmodifier), semantic content.

Functionality:
- o Hypertext: internal and external links (type, position and syntactical structure)
- o Functionality set of computer hardware corporate websites.

The analysis of functionality has been based on the 27 complete websites as downloaded in the corpus. All the other linguistic and semiotic parameters acting as a means to express function have been analysed in all 27 corporate home pages (3).

Results and Discussion

Function

Text function is a pragmatic quality assigned to a text both by the sender and by the receiver in a given context. We are therefore interested in studying some structural features used by authors of corporate web pages to signal their communicative purpose and intention to receivers, who will interpret them basing on their processing of situational markers, together with their expectations towards the text.

Almost every text has more than one function, this is why it is most appropriate to use the term "set of functions" instead. As we have already seen above, corporate web pages are no exception, since they are both directive and informational in nature, being the former their dominant communicative function. Given that a great load of the inherent directive function of corporate websites is to be found in the evocative power of images and in the choice of certain linguistic means, the first part of this study has been focused on some iconic and linguistic features.

Images

Electronic discourse has a mixed textual and iconic nature. In the visual space of the computer screen, the verbal text must compete for the reader's attention with a variety of iconic elements (Bolter, 1991). Despite the acknowledged fact that images can be seductive to the point of distraction, which can sometimes be detrimental for

both the authors and the audiences of websites (LaGrandeur, 2003), they are widely used as an advertising ploy in corporate websites of computer hardware. The distribution per site of the 499 images found is rather irregular, as it is shown in Table 1, ranging from a home page containing only 1 to another with 61, although if we discard these extreme results we obtain a mean of 17.52 items per sample.

Company	Instances
Abc2000	21
Aberdeen	32
Acma	31
Alienware	17
Amaxit	61
Amrel	10
Apache	11
Armsystems	41
Arsys	30
Atiosys	14
Averatec	10
Chembook	18
Colorwarepc	19
Compamerica	51
Csslabs	24
Ctxintl	22
Cybernetman	20
Cytecsys	7
Datalux	1
Datatrek	7
Digitaldynamics	11
Discoverycomputers	8
Dolch	4
Equix	6
Eyecom	7
Gateway	15
Gopc	1

Table 1. Images distribution per websites.

According to the results, photographs are the most frequent type of graphic found in the corpus. As we had hypothesized, the ease of digitizing images in the electronic medium has undoubtedly contributed to this fact and most images represent computer products (47.74%). We must not forget that commercial websites are partly supposed to be the digital counterparts of traditional advertising brochures and product catalogues. In contrast, people only appeared in 2.58% of the corpus photographs.

Banners constitute the second most used type of images (15.13%). This term, originally applied to newspaper headlines that run across the full page, has gained new attributes in the electronic age. Banners are graphic web elements, usually horizontal, used for various purposes, such as to title the page, head a new section, present a company's or advertiser's message, or provide a link to another page. Most banners are also interactive hyperlinks.

On the basis of the data obtained, icons accounted only for 5.26% of all the images retrieved. These graphical representations of concepts were initially used in program interfaces as small symbols of files, folders and other key elements on a computer which had to be clicked on to be activated. On the World Wide Web, icons have also remained intrinsically related to some kinds of functionality, such as printing, shopping cart, checking out, etc. But they are usually accompanied by a written explanation of their function, maybe due to the fact that they are far less frequent than in program interfaces (see Figure 1).

Figure 1. Icon example from the corpus.

Up to 50.32% of all images analysed include text. The reason behind this fact is twofold. First, if we consider that many hardware products, specially those being manufactured by the same company, can look identical while containing components of very different levels of performance, inserting a brief technical description together with the photograph seems indispensable (see Figure 2). Secondly, most entries in conventional and contextual menus are button-like, combining one or a few words in a coloured rectangular shape.

Figure 2. Product photographs with text from the corpus.

Brand logos of the advertising company (15.48%) and those of other firms (21.29%) are far behind. This latter high percentage could be interpreted as partly due to the need for hardware companies to explicitly show compliance with major software

manufacturers specifications and compatibility with other products firmly established as favourites within a large part of the market, in order to promote sales (see Figure 3).

Figure 3. Images showing compliance and compatibility with standards of major manufacturers.

As far as the position within home pages is concerned, they seem to be equally distributed at the top (23.31%), at the bottom (23.51%) and in the body (23.11%) of the page. They were less frequent on both sides, with a higher preference towards appearing on the left side. Only 8.39% of all images are animated, a percentage rather low in contrast to findings described by Renau Renau and Bovea Menero (2004) about their presence in 50% of the ceramic tile company websites they studied.

Confronting our results with those found by Fortanet et al. (1999), the fact that pictures were the most often used type of image in netads, with photographs far behind, could give us ground to suggest that the predominance of photographs could be a distinctive trait of corporate websites. Renau Renau and Bovea Menero's (2004) results seem to support this claim.

Linguistic analysis

Colloquiality

Since colloquiality has been proved to be a typical characteristic of American reader-oriented technical texts such as computer manuals and specialized magazines (Luchtenberg, 1994; Rodríguez Medina, 2002), informal speech was expected to be common in these webs. However, this trend towards informality was significant only in four web pages, which were full of colloquialisms and informal expressions (see Table 2), whereas it was completely absent in fifteen webs and only eight showed some colloquial features and were classified as semicolloquial. The results of this analysis

seem to indicate a clear preference for serious professional-looking commercial web pages, as this may help the companies to reinforce their image on the Internet as reliable corporations and sell more products to the most demanding customers.

	Instances	Percentage
Lexical	27	19.57
Syntactic	48	34.78
Orthographic	60	43.48
Iconic	2	1.45
Others	1	0.72

Table 2. Distribution percentage of markers of colloquiality per categories.

Nevertheless, we should point out that some interesting linguistic and iconic markers of colloquiality were found in the few highly-colloquial pages of our corpus, which are worth describing:

- o   emphasizers (exclamation marks and capital letters)
- o   informal abbreviations
- o   syntactic colloquialisms and alterations
- o   informal words and expressions
- o   elements typical of direct speech (imperatives, repetition of pronoun *you*).

In these texts, exclamation marks proved to be the most widely used marker of colloquiality (see Table 2). They generally denote emphasis for the advice given, the services included in the offer and the superior quality or low prices of the products (capital letters are also sometimes added) (4):

Unwire your 2004 Office! (15); Make sure that you get our weekly e-promotions! (24); DOWNLOAD OUR CATALOG! (24); Free Shipping! (2); Wide Screens! (14); RELIABLE!!! (14); GREAT SERVERS!!! (14); Low Cost Laptops! (14); It's like getting your computer for FREE! (22)

The positive features and advantages of the company are also emphasized:

Your neighbourhood computer store with growth over 4000% over the past 5 years! (22); We Are Expanding Across Canada and the US! (22); New Stores Opening Soon! (22); We're BETTER… Guaranteed! (24)

We observed some cases of abbreviation of words and use of symbols to simplify the message. Although it is not a dominant characteristic in our corpus, it contributes to accentuate the concise style of the sentences, as the following example shows: "SBCs + Industrial Power Supplies + our expertise in heat dissipation = Higher Reliability" (10).

Another relevant characteristic detected is the way syntactic structures are altered through processes such as the ellipsis or the change of the syntactic order, in an attempt to attract the reader's attention and convey informality:

> Looking for? They're here [without an anaphoric reference] (2); Want a quiet PC for your home or office? (8); Do you have an iPod and would like it in color (13); When you think PC, you think big box… (17)

A wide variety of informal words and expressions was also found. We can include in this section the joke inserted in an animated image of one particular web page (2), where the question "What is a backup monster?" is seen first, followed by a picture of Frankenstein running and the answer "No, that's not it. This is a backup monster" (with a photo of one of the company's products). Many other examples of informal language were detected: "Best bang for the buck" (2); "Get in gear!" (4); "Best is a beast" (2).

Finally, it should be pointed out that there is a clear stress on directness and direct speech, since these web pages are aimed at involving the reader in a friendly rather than descriptive way, and besides, customers are regarded as people in need of help. That is why the second person pronouns and possessive adjectives ("you," "your") are so much used and there is a clear prevalence of imperative tenses expressing advice, suggestions and recommendations:

> Let ARM build one for you (8); A computer that is right for you (13); A. D. has a product designed for your business (7); It is perfectly sized for your small business (2); Our staff is trained to help you with your needs (8); Visit (16); View (26).

Verbs

Imperative and present simple tenses are clearly dominant (5), being the frequency of the imperative slightly higher (31.08%), since most of these web pages include plenty of recommendations, invitations, suggestions and advice related to their commercial products, expressed in a direct friendly language as explained in the previous section.

This may be intended for the customers to feel close to the company, what helps to make them buy more. As a consequence of this, almost all of these verbs refer to instructions to see the products in more detail or find more information about them:

Scan (26); select (10); find out (20); view (5); discover (22); search for (20); call (2); talk (20); contact (1); visit (4); email (25); click (26).

In other cases, imperatives are more involved with clients, sales and the personal advantages they will obtain if they deal with the company and end up buying the products or services:

Buy (17); save (24); win (4).

The present simple tense is the second most commonly used (29.08%), above all when describing the characteristics of the company, the products or the services offered:

Manufactures (19); applies (26); allows(13); has/have (14); is/are; offer (22); require (26).

Modal verb "can" is widely present ("can help" [22]; "can design" [22]), though it is the only modal auxiliary detected, except for one case of "may" (26). On the contrary, the progressive form of the present is insignificant (4 cases). The general results indicate that the other verb tenses appear just occasionally, since only 5 conditional forms, 5 future forms and just 2 past simple forms were found. This can be explained by the vocative and descriptive nature of the content of these web pages, which favours almost exclusively the presence of the present simple and the imperative. Besides, perfect tenses are rarely used, being the present perfect the only one detected (11 cases).

As regards the contrast between personal and impersonal verb forms, the percentage of impersonal verbs is rather high (32.48%). This is due to the frequency of present and past participles, whose conciseness is very convenient in the short sentences typical of this genre, where they function mainly as adjectives, as observed in the examples:

Past participles (53 cases): extended (26); built-in (16); tested (2); advertised (26); reviewed (26); preferred (15); accepted (2).
Present participles (47 cases): increasing (10); operating (5); introducing (25); featuring (4); servicing (15).

The use of infinitives to express purpose has also proved to be very common, especially when dealing with the functionality of the products and services being advertised (38 cases were found), as in: "It is perfectly sized for your workgroup remote office to storage backup. Click here to email sales" (2).

As far as personal verb forms are concerned, we stress the fact that the second and third person singular and the first person plural are the only ones present in the texts, since they are necessary to address the reader ("you can carry your music collection around" [13]), to describe the products/company ("Chem USA is a provider of computer notebooks" [12]) and introduce corporate statements or descriptions of the company services ("we offer high performance hardware platform" [10]).

Regarding voice, it is noteworthy that the percentage of passive structures is considerably low (6.21%), in contrast to the almost absolute predominance of active voice (93.79%) (see note 2). These data seem to corroborate our previous comments on the directness of the messages in these texts, what makes them less prone to the passive, generally considered to be more impersonal and distant in the eyes of the buyer. In fact, all the examples of passive verb forms are found in the most formal contexts, that is, in corporate statements about the guarantee of the products or other legal aspects ("are guaranteed" [17], "is certified" [12], "is registered" [5]), except for some few cases associated with specific details of the products intended to help the customer ("is optimized" [2], "are equipped" [10], "can be configured" [2], "are provided" [12], "can be purchased" [2]).

Pronouns

A general tendency to avoid the use of pronouns has been observed, though the results obtained in their analysis are interesting for the study, since they are obviously closely related to our previous considerations on the verb forms. Out of a total of 73 pronouns found, "you" and "we" as subjects (33.3%) and "us" and "it" as direct objects (66.67%) are the only ones detected, being the first person plural ("we" and "us") the most widely used by far, followed by "you" and "it," as shown in Table 3:

Person	Instances	Percentage
First	42	57.53
Second	21	28.77
Third	10	13.70

Table 3. Distribution of pronouns per person.

Being the buyer ("you") and the company ("we," "us") (6) the centre of attention of most messages, it is no wonder that no cases of "I," "me," "she," "her," "they," "them" were registered and only one exceptional "he/him" appeared in one particular web page. "It" is sometimes used in relation to specific products, though it is not as generalized as expected. Both products and services are advertised with their complete names and when dealing with them, instead of mentioning them with pronouns such as "it" or "they," their commercial names are constantly repeated as a marketing strategy (Renau Renau & Bovea Menero, 2004). These are typical sentences and expressions where the most common pronouns are always present:

- o About us (21).
- o Contact us (21)
- o We + verb + (preposition) + object, expressing some achievement or success of the company ("we delete the competition" [1]; "we keep our eyes on future trends" [3]; "we guarantee results" [24]).
- o This (or the name of the product) + verb (makes, allows, lets, permits) + you + (preposition) + verb, expressing the advantages of a product for the potential buyer ("this lets you run two software applications in parallel" [2]; "our exclusive service allows you to transform your favorite products" [13]).
- o You can + infinitive + (preposition) + object ("you can count on AMAX" [5]).
- o Adverb + you + verb + object + imperative ("if you need point of sale equipment," "talk to our trained professionals" [20]).

Adjectives

Adjectives are relatively abundant in the analysed sample, with an average of 6 items per home page. This is coherent with the main function of corporate websites: attractively presenting and describing their products, services and the company's brand image in order to increase sales. As we had expected, most of them (93%) appear as premodifiers, with only few rare exceptions (attributes such as "functional" [10] and "reliable" [8] placed at the end of a sentence). As regards their semantic content, 37,43% of all adjectives found intended to highlight all sorts of advantageous qualities of products ("compatible" [14], "wireless" [10]). However, the more widely mentioned benefits referred to their level of performance, accounting for 22.81%: "multiple" (15), "space-saving" (17), "powerful" (5), "advanced" (2).

Another important group of adjectives (28.07%) did not refer to any specific feature, but expressed subjective modality, rather common in advertising discourse (see Figure 4). In this respect, they imply a thorough positive judgement on the product as a whole and superlative forms are sometimes used. Here are some examples: "exclusive" (13), "special" (14), "great" (12), "perfect" (16), "outstanding" (2), "unbelievable" (2). In both groups superlative and higher comparative forms are found to be rather frequent: "faster" (16), "fastest" (15) or "best" (3).
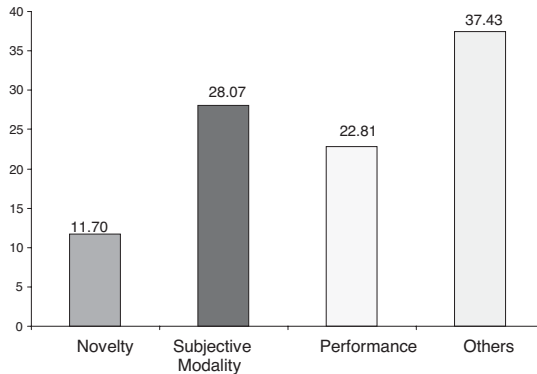
Figure 4. Distribution of adjectives per semantic content.

Finally, up to 11.70% of all items referred to novelty and innovation of the commercialised equipment (such as "upcoming" [10], "latest" [2], "hot" [2]), which are both known to be one of the more solid selling criteria of any market and constitute a must in the sector of technology. According to these results, adjectives are among the markers which more clearly convey the vocative function of our object of study.

Functionality: Hypertext

Hypertext, defined as a collection of documents (or nodes) containing cross-references via links (or hyperlinks) which, with the aid of an interactive browser program, let the reader move easily from one document to another, is the main specific feature of websites. But this reading nonlinearity does not imply an arbitrary networking of information units (Rouet & Levonen, 1996); the structure and position of hyperlinks has also been analysed in the present work.

Internal and external links have been studied. In order to obtain comparable results, the same parameters have been applied in both cases. Whereas internal links point to

a document on the same WWW server, external ones direct the user/reader to a different URL. First, we have classified the links according to their type, so we have obtained three different categories attending to the fact that they were only text, only images or both of them. Secondly, their current position within the page has been presented. Finally, we have analysed the linguistic structure of all links.

Researchers retrieved up to 878 internal links, which are clearly dominant over external ones, although both types are irregularly distributed (see Table 4). While up to 192 internal links were analysed in one single home page, only one was found in another.

Company	Internal Links	External Links
Abc2000	11	2
Aberdeen	192	2
Acma	15	1
Alienware	54	0
Amaxit	51	0
Amrel	33	0
Apache	41	0
Armsystems	47	0
Arsys	31	1
Atiosys	13	1
Averatec	8	0
Colorwarepc	14	0
Compamerica	25	5
Csslabs	11	3
Ctxintl	18	0
Cybernetman	8	1
Cytecsys	1	0
Chembook	13	0
Datalux	26	0
Datatrek	29	2
Digitaldynamics	31	1
Discoverycomputers	27	6
Dolch	58	1
Equix	12	3
Eyecom	21	3
Gateway	82	2
Gopc	6	0
Apache	41	0

Table 4. Distribution of internal and external links.

Most internal links are composed only of text (62.59%). While the combination text plus image has been observed in 34.99% of occasions, the use of plain images for this purpose is rather occasional (2.42%); it is not very common to find links that are not explained by text.

Surprisingly enough, the higher frequency of internal links is to be found in the body of the page (30.81%), although they are most likely to be scattered in different chunks of information than integrated in a sole piece of text. Other links tend to concentrate

in navigation menus at the top op the page (26.23%) and on the left–hand side of the page (20.85%); they usually adopt a button-like shape (see Figure 5).

Figure 5. Button-like links with a noun phrase structure.

According to the results, noun phrases constitute, by far, the linguistic structure mainly used in hyperlinks; their denominative conciseness seems to fit well in order to label nodes of information. Acronyms are also used. Here are some examples:

> One noun: support (2); products (4); government (3); keyboards (19); sales (2).
> Noun + noun: industry awards (23); customers testimonial (5); privacy policy (5); system integration (10) .
> Acronyms: PHP (4); MySQL (4); IPIX (19) FAQ (4); IPL (24); PCs (14).

Noun phrases including adjectives account only for 9.89% of the total number of links (e.g. "technical support" [3]). Verb plus modifier structures (e.g. "view cart" [2]), imperative verbs (e.g. "buy" [17]) and prepositional phrases (e.g. "About ChemUSA" [12]) are less habitual.

In comparison with the high amount of internal links, companies are less prone to use external links: only 34 links distributed in 14 websites were found. Interestingly, in studying what type of syntactic structure was characteristic of external links, it was observed that the most widely used is the text plus image (70.59%) one, which differs from the above mentioned trend identified as regards internal links. Text links accounted for 26.47% and images were also rarely used alone (2.94%). According to the position within the web page, the situation is different from the one regarding the analysis of internal links. These links never appear at the top of the page, this privileged position being reserved for the host company's internal links, for obvious reasons. They have rarely been found in the web page body. Instead, they tend to be on the left side (38.24%) and at the bottom of the page (29.41%).

Finally, the linguistic structure of internal links seems to be rather diverse. Although noun phrases are also used (36.36%), up to 57.58% are composed of a mixture of

different structures such as adverbial phrases, URLs, prepositional phrases, etc. No verb form alone was found in this case.

Unlike other genres, such as weblogs, which are often defined in terms of linking to content elsewhere on the Web (Herring et al., 2004), or Frequently Asked Questions, in which about two thirds of documents analysed by Crowston and Williams (1997) contained links pointing to other hosts, the hypertextuality pattern of corporate home pages of computer hardware seems to aim at enticing people in and entertaining them long enough to sell them something.

Other functionality patterns

Other patterns of functionality, related to capabilities of the system which provide some service to the user, have been analysed. In 1999, Shepherd and Watters attributed two main functionalities to the prevalent corporate web site design at the time: email communication and hyperlink navigation. Even if these both have remained the most salient, others have been signalled since, such as software downloads, on-line purchase and search tools (Bolaños Medina, 2002). Since we have not found any previous classification which could help us organise the relevant data, we have established an *ad hoc* systematic arrangement according to the underlying means of interaction and involving 3 sub-groups: input-based functionality, onclick functionality and immediate functionality.

Input-based functionality involves an input from the user by typing some kind of information on the keyboard. This category can be divided into email-based functionality and input-form based functionality. Email-based functionality refers to the capability of sending messages from the customer to a particular company service or employee, directly from the web site. In corporate hardware websites, two main addressees have been found: the company's customer service and the webmaster or person responsible for administering a Web Site. The former is, by far, the most widely-used, being present in 85.18% of all sites; the latter feature was only offered in 3 out of 27 analysed sites.

Concerning input-form based features, online purchase is offered by 96.30% of sites, while checking the order status is possible in 88.89% of them. Another frequent pattern is asking for technical support. As expected, these three features seem to be characteristic of the current dominant set of functionality features of commercial websites. Table 5 shows the distribution of less frequent built-in capabilities of this category.

Input based functionality	Instances	Percentage
Order status	24	88.89
Online purchase	26	96.30
Contact via email	23	85.18
Technical support	16	59.25
Sign-in (user registration)	6	22.22
Email Webmaster	3	11.11
Mailing list subscription	2	7.41
Database modification	2	7.41
Search tools	2	7.41
Restricted-content access	1	3.70
Content customization	1	3.70

Table 5. Input-based functionality distribution.

As regards to onclick functionality, we have used this term to refer to system capabilities which are accessible simply by mouse clicking one or several times, without a need for further customer interaction. Results presented in Table 5 confirm that most sites (96.30%) include a utility which keeps track of what visitors have ordered and allows them to add or remove items from a "virtual shopping cart." Thus, the consumer can review the items placed into the shopping cart before finalizing the purchase; often, items can be "held" for the customer between visits to the online store.

Rather unexpectedly, a zoom feature was found in 40.74% of websites. This is a software option that allows users to expand the size of a display window, thereby revealing more detailed graphics or written information on-screen. This high rate of occurrence may be due to the high frequency of photos, specially the ones showing products to be examined by potential customers.

Product customization allows the customer to select the technical components to be assembled to fit individual product specifications, only by clicking through detailed lists. This feature was detected in 6 samples (22.22%). It seems that hardware manufacturers on the Internet are moving towards product customization in an attempt to gain competitive advantage, given that it can be used to increase sales by satisfying demand in geographically distinct markets. Furthermore, enabling customer involvement in the customization process through the Internet minimizes the risk of overwhelming consumers with too many choices (Research and Technology Executive Council, 2002). However, according to our results, product customization cannot yet be considered as a feature implicit in what defines a firm's web presence in Internet,

unlike what Piccoli et al. (2004) had predicted. All features classified under onclick functionality appeared only occasionally and are shown in Table 6.

Onclick functionality	Instances	Percentage
Shopping cart (add/remove)	26	96.30
Zoom	11	40.74
Product customization	6	22.22
Other software downloads	2	7.41
Print-friendly version	2	7.41
Product quotation	2	7.41
Assisted purchase	2	7.41
Drivers/company software downloads	1	3.70

Table 6. Onclick functionality distribution.

Immediate functionality refers to capabilities which exist in a web page without any kind of direct intervention by the customer. We have introduced this category to account for the navigation path which is automatically displayed on a site indicating the previously visited pages. The fact that this pattern has only been found in one sample could be related to the relatively low degree of complexity of most of the websites in the corpus as far as design is concerned. We hypothesize that this immediate functionality is more frequent in multinational companies' websites, although further research is needed.

Finally, if we compare these results to those initially found by Bolaños Medina (2002), we must conclude that new functionality features such as product customization and zoom among others, are progressively being incorporated to corporate websites of computer hardware. Due to the vertiginous shifts of constantly changing dominant web site design of corporate websites, in their quest for competitive advantage, more research is necessary in order to establish the functionality features currently in use.

Conclusions

The present work is a preliminary analysis to be completed during the two following years. However, despite the relatively limited length of the corpus selected, it is encouraging to see that findings seem to shed some light as far as some key trends in function and functionality are concerned. To begin with, the study of images indicates that they are widely used as an advertising ploy. Photographs of hardware products are the most frequent type of image, followed by banners; icons are far less

frequent than in program interfaces. Approximately half of all analysed images include text and most are equally distributed at the top, at the bottom and in the body of the page. Colloquiality was not found to be common in these pages, since there seems to be a clear preference for serious professional-looking commercial websites, but emphasizers (such as exclamation marks and capital letters), informal abbreviations, syntactic colloquialisms and informal expressions and other elements typical of direct speech are abundantly found in the few highly-colloquial pages of our corpus.

As regards linguistic parameters, imperative and present simple tenses are clearly dominant together with impersonal verbs, which can be explained by the vocative and descriptive nature of the content of these websites; the high frequency of use of the modal verb "can" and the absolute predominance of active voice are also characteristic of this genre. The first person plural pronouns ("we" and "us") are, by far, the most widely used. The majority of adjectives appear as premodifiers, highlighting the qualities of products or expressing subjective modality.

As far as internal links are concerned, results show that they are rather frequent, mostly composed of text, with a relatively high frequency of text plus image structure. They tend to concentrate in navigation menus at the top of the page and on the left-hand side of the page and constitute noun phrases. Companies are less prone to use external links, most of which present a text plus image pattern and a higher degree of variation in their linguistic structure. Most frequently found patterns of functionality can be classified as input based features, of which checking the order status, online purchase and asking for technical support seem to be a part of the current dominant set of functionality features of hardware corporate websites, together with adding products to a shopping cart, using a zoom utility and product customization (classified as onclick functionality).

In conclusion, we consider that these results constitute a first step to pinpoint elements of comparison between American corporate websites and their Spanish counterparts, as well as between those of multinational companies created both in English and in Spanish, as scheduled in the DIGALTT project.

Ultimately, we believe that all these data can help teachers find new ways of introducing electronic documents in the context of ESP and Web Site Translation

Teaching (Bolaños Medina, 2003; Borrás, 2003; Cabero et al., 2003). On the one hand, combining the potential of the Internet as a materials resource and as a classroom tool, we believe that making the *ad-hoc* online analysed corpus available for our students, together with a set of specific tasks, could enhance their understanding of certain key elements of the textual strategies typical of this genre. On the other, the results from the present study could also be used as first hand information to update the contents of formation programmes designed to recycle the teachers' knowledge in order to give our students the possibility of acquiring up-to-date linguistic and technical skills

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Alicia Bolaños Medina is a Lecturer in Scientific and Technical Translation at the University of Las Palmas de Gran Canaria and a Doctor in Translation and Interpreting. Her main research interests include Technical Translation teaching, Web Site Translation and Netlinguistics.

María Jesús Rodríguez Medina is a Lecturer in English Language at the University of Las Palmas de Gran Canaria. She is a Doctor in Translation and Interpreting and her main research fields are: Anglo-Spanish contact, Sociolinguistics, Netlinguistics and Technical Translation.

Lydia Esther Bolaños Medina is a Lecturer in Technical English for Engineering students at the University of Las Palmas de Gran Canaria. Her main research areas are: English for Specific Purposes, Use of Internet in English teaching in technical contexts and Netlinguistics.

Luis Losada García is a Doctor in Computer Science and a member of a research group in Computational Linguistics and Data Structure at the University of Las Palmas de Gran Canaria.

Appendix

Corporate websites analysed

	Company	URL
1	Abc2000	www.abc2000.com
2	Aberdeen	www.aberdeeninc.com
3	Acma	www.acma.com
4	Alienware	www.alienware.com
5	Amaxit	www.amaxit.com
6	Amrel	www.amrel.com
7	Apache	www.apache.com
8	Armsystems	www.armsystems.com
9	Arsys	www.arsys.com
10	Atiosys	www.atiosys.com
11	Averatec	www.averatec.com
12	Chembook	www.chembook.chemusa.com
13	Colorware PC	www.colorwarepc.com
14	Compamerica	www.compamerica.com
15	Csslabs	www.csslabs.com
16	Ctxintl	www.ctxintl.com
17	Cybernetman	www.cybernetman.com
18	Cytecsys	www.cytecsys.com
19	Datalux	www.datalux.com
20	Datatrek	www.datatrek.com
21	Digital Dynamics	www.digitaldynamics.com
22	Discovery Computers	www.discoverycomputers.com
23	Dolch	www.dolch.com
24	Equix	www.equix.com
25	Eyecom	www.eyecom.com
26	Gateway	www.gateway.com
27	Go PC	www.gopc.com

NOTES

[1.] The Digital Genre Analysis for Language Teaching and Translation Project was born at the University of Las Palmas in May 2003, out of the interest of linguists, translators and computer scientists for evolving ways of digital communication. Its objective is to analyse the generic, linguistic and functional features of websites and find out and define how American corporate websites influence the shaping of their Spanish counterparts. A further aim is to identify similarities and differences in generic conventions in both cultures by means of a contrastive analysis.

[2.] As illustrated in the numerous contributions to The Hawaii International Conference on System Sciences (HICSS) board on digital documents since 1996. Ranging from the analysis of specific genres and their evolution (Erickson, 1997; 2000; Schultze & Borland, 1997; Watters & Shepherd, 1997; Roberts, 1998; Fox et al., 1999; Posteguillo, 1999b; Rieffel, 1999), to research about genres in use (Yates & Sumner, 1997; Smith, 1999; Zhang et al., 1999; Karjalainen

et al., 2000; Yoshioka & Herman, 2000), some contributions also apply genre analysis theory to specific digital documents (Saint-Georges, 1998; Bergquist & Ljunberg, 1999). All these papers can be found at .

3. A home page is the introductory or first page users see when they log onto a web site (sometimes it is also called the "top page" or the "root page") and it usually directs clients to the information that can be found within the site. In such a hybrid genre ecology, home pages constitute a specific genre of particular interest, since they usually provide an introduction and a navigation outline for the site and make possible the main level of its hypertextual structure.

4. Each example is followed by a number that indicates the web site where it was taken from, as referenced in the appendix with the list of all websites analysed. When the example is in brackets, the reference number appears in square brackets. This system will be used with all the examples cited in the paper.

5. The predominance of imperative and present tenses was also found to be a typical characteristic of English netads in the study published by Palmer (1999), though Renau Renau and Bovea Menero (2004) detected a higher frequency of the present tense in their analysis of commercial web pages of Spanish ceramic tile companies. Besides, their figures and comments on active and passive voice coincide with ours in both cases (Palmer 1999; Renau Renau & Bovea Menero, 2004). The comparison of these results may be interesting for future research work when establishing the similarities and discrepancies between different types of web pages within a digital genre.

6. As Renau Renau and Bovea Menero (2004) explain, most companies prefer to use "we" and include their staff and workers "in order to support the idea of 'team spirit'."