

WEBSITE DESIGN AS MODERATING FACTOR OF ONLINE USER BEHAVIOR¹

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ABSTRACT

It is widely assumed that online user behaviour is mainly utilitarian, although hedonic motivations such as enjoyment have also been found by recent research to have a marked influence on such behaviour. The present study explores the influence of website design (utilitarian motivation) on online user behaviour, in the context of a site promoting a tourist destination. The results underline the importance of utilitarian aspects for the effectiveness of online information-processing and the formation of perceived risk online. It is recommended that websites should reflect this type of motivation so as to make browsing useful for the online consumer.

KEYWORDS:

Website design, usability, browsing time, perceived risk online

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1. Introduction

Thanks to the arrival of digital media, firms and institutions have changed how they communicate with their stakeholders. While this communication used to be one-way only and largely functional in nature, it is now two-way, reflecting a more integrated, relational approach. In this regard, Duncan & Moriarty (1998) assert that it is interactivity, rather than mere persuasion, that forms the basis of relations between firms and their stakeholders, and that such relations are therefore difficult to achieve without interactive media.

The development of information and communications technologies (ICT) has led to greater diversity in the contexts within which relationships based on exchange may evolve. The passivity shown by consumers in traditional markets may largely be attributed to the impossibility of interacting with firms, rather than to their lack of interest in doing so (Pels, 1999). By contrast, the tremendous scope for interactivity offered by the Internet has led to an increase in consumers' involvement with the brand and its promotional messages, and thus in their brand receptivity. This brings with it greater participation in the firm's marketing initiatives, leading to the concepts of 'reverse marketing' (Giannakis & Croom, 2004; Miceli, Ricota & Costabile, 2007; Sharma & Sheth, 2004; Sheth & Sharma, 2005), consumer-centric orientation (Drews, 2009; Klein & Laczniak, 2013; Sheth, Sisodia & Sharma, 2000; Stellefson & Eddy, 2008) and relationship marketing (Patsioura, Vlachopoulou & Manthou, 2009; Rafip, Fulford & Lu, 2012; Wang, Head & Archer, 2000).

Meanwhile, Ramey (2000) highlights the importance of personal motivation in the user's development and skill-acquisition in the digital environment. Motivations can be classified as utilitarian (extrinsic) or hedonic (intrinsic) (Childers, Carr, Peck & Carson, 2001; Scarpi, 2012; Wolfenbarger & Gilly, 2001, 2003).

Amongst the key aspects of utilitarian benefits are comfort, ease of access to products and services, time-saving and reduction of errors committed during purchase, and sensation of control – all of which are related to the usability dimension of the website design. This latter aspect is related to the sense of insecurity experienced by some users, which some authors have measured as perceived risk (Belanche, Casaló & Guinalú, 2012). Meanwhile hedonic factors include: surprise, excitement and uniqueness; social benefits; the search for online bargains; involvement with a product or service category; the corresponding information available on the website; and the flow achieved by the user whilst browsing (Belanche *et al.*, 2012; Bolton & Saxena-Lyer, 2009; Bridges & Florsheim, 2008; Childers *et al.*, 2001; López & Ruiz, 2011; Overby & Lee, 2006; Turel, Serenko & Bontis, 2010).

From this perspective, website design – measured in terms of usability – would be related to utilitarian motivation, thanks to its connection to attributes such as functionality, perceived usefulness and ease of use (Chiu, Chang, Cheng & Fang, 2009; Coursaris & Kim, 2011; O'Brien, 2010; Schaik & Ling, 2008, 2009, 2011).

In view of these factors, the present work seeks to examine mainly the effect of website design (utilitarian motivation) on perceived risk online and on site effectiveness during the browsing process – the latter being measured in terms of the number of errors committed by the user while selecting an online purchase, together with the length of time spent browsing to complete the selection.

2. Literature review

2.1. *The effect of website design on site effectiveness*

In the sphere of electronic commerce – both business-to-customer (B2C) and business-to-business (B2B) – a firm's website represents its image in the digital environment. The site acts as an interactive shop window via which the firm can attract clients and display its online product catalogue – rather like an intermediary with potential customers. In this regard it operates both as a virtual shopping cart and also as a means of closing the sale. As such, the usability of a firm's website is a key success factor. Usability refers to the speed and ease with which users are able to carry out their tasks via a given website (Nielsen, 1993). A website with good usability is one that: is well organized (Nielsen, 2005); shows and explains the products and services clearly and concisely (Greiner, 2007); makes the registration process as simple as

possible (Nielsen & Norman, 2000); downloads quickly; (Nielsen & Coyne, 2001); is easy to use (ibid.); and fosters positive experiences for the user (Nielsen & Norman, 2000).

Achieving usability therefore involves focusing on the potential users of a site so as to structure it around their needs, organizing the navigation such that it facilitates the information-search process. The key strategy that should inform the entire process of site design, then, is to draw on the needs of users and the requirements of potential customers as a reference point.

Many authors have based their work on that of Shackel (1991), which is particularly notable for its focus on the user, to measure website usability using various methods (Han, Yun, Kwahk & Hong, 2001; Huang & Cappel, 2012; Kay, 2009; Koohang, 2004; Lin, Lin & Roan, 2011). Shackel (1991) proposes that the practical acceptance of a system is determined by four factors: (1) effectiveness, in terms of achieving tasks during the interaction, as measured by processing time and errors committed; (2) learnability, which refers to the time required by the novice to learn to use the system properly; (3) flexibility, in terms of adaptability of tasks to specific requirements (different sectors or target publics, for instance); (4) and attitude, referring to acceptable levels of human costs, such as tiredness, unease, frustration, and personal effort. Nielsen & Loranger (2007) also make an important contribution to the literature in their work on website design. They explore what is considered by some to be a key factor in usability, namely site effectiveness when carrying out tasks online, which is directly related to the speed with which users can learn to navigate the system, learnability, and effectiveness of use. Following the recommendation of Macleod & Rengger, (1993) in their Diagnostic Recorder for Usability Measurement (DRUM), the researchers decided to measure speed by the time spent, and effectiveness of use by the number of errors committed by the user during the purchasing process. Other authors have also used time spent and number of errors as a way to measure effectiveness; for example, Hussain & Kutar (2009) for mobile phone application, Huang & Strawderman (2011) for multiple device systems (UPMDS); and Seffah, Donyaee, Kline & Padda (2006) in their model for usability measurement and metrics.

In light of these works, the following hypothesis is proposed:

H₁: Site effectiveness, measured in terms of user browsing time during the purchasing process, will be significantly greater amongst sites that are perceived to be usable than amongst those that are not.

H₂: Site effectiveness, measured in terms of the number of errors committed by the user during the purchasing process, will be significantly greater amongst sites that are perceived to be usable than amongst those that are not.

2.2. The effect of website design on perceived risk online

Usability and appearance are two of the indicators that represent the utilitarian aspects of a website. Those websites with high usability of design enable users to carry out their tasks coherently and achieve the results they expect (Palmer, 2000). This sensation of control during browsing is inversely related to the sense of insecurity and vulnerability experienced by the user (Diamantopoulos & Winklhofer, 2001; Featherman & Paulou, 2003; Mayer, Davis & Schoorman, 1995; Roth, Straub & Richter, 2005). Perceived risk online is a key element in the initial interaction between user and website, on which users base their assessment of the site (Beldad, Jong & Steehouder, 2010; Chang, Cheung & Tang, 2013; Klaus, 2013; Koufaris & Hampton-Sosa, 2003; Zhang *et al.*, 2011). On the one hand, Belanche *et al.* (2012) analysed the moderating role played by perceived risk in website usability, finding that the effect of usability on consumer satisfaction is moderated by perceived risk. Following on from the work of Belanche *et al.* (2012), Ting, Chen & Lee (2013) confirmed the importance of perceived risk online in users' acceptance of websites. On the other hand, Green & Pearson (2011) found that website design (measured via usability) influences confidence, perceived risk and intention to use, and demonstrated that the usability of a website influences several outcomes that are important for businesses endeavouring to attract and retain customer. In this same vein, Herrero & Rodriguez (2010) and Kim, Kim & Shin (2009) affirm that perceived risk is also a critical factor that exerts a significant influence on the user's decisions when visiting or revisiting a site. In view of these assertions, the following hypothesis is proposed:

H₃: Perceived risk will be significantly lower amongst websites that are perceived to be usable than amongst those that are not.

3. Research Methodology

3.1. Experimental design and sample

In order to achieve the research objectives a between-subjects experimental design was conducted, in which the website design type was the independent variable. With regard to the site design, in order to manipulate this, the works of Moss (2004) and Nielsen (1993, 1999, 2004, 2009) were followed as a guide (see Table 1), with two treatments being established: (1) website design with high usability (V1) and (2) website design with low usability (V2).

Table 1
 Design factors for the website

Factor	V1: Website with high usability	V2: Website with low usability
Invisible browsing options	In this version all the options will be visible, with no need to pass the mouse pointer over the screen.	In this version, multiple options will appear as the mouse pointer passes over the screen.
Inconsistent browsing	The information conveyed to users via icons, links and images will be easy to use.	Icons will not be recognized as commonly used on the Internet, and the menu may appear to the right of the screen rather than the left, or divided in two, horizontally and vertically.
Menu option style	The main options, icons and symbols etc. will be those commonly found on the Internet.	
Page length excessive	The length of each page will be normal.	The length of each page will be excessive, especially in terms of image and font size.
Pop-ups	There will be no pop-ups on the site.	The site will carry pop-ups.
Product information	The product information will be organized in tabular form.	The product information will be presented in unbroken narrative text.
Scroll bar	The pages will be separated by category and adjusted so as to avoid the user having to use the scroll bar.	The different pages will be designed in such a way that the user has to browse using the scroll bar, either horizontally, because the images are too big, or vertically.
Design of the structure	Recommended guidelines for designing the site will be applied, with information structured around where the user finds themselves. The site will be divided into categories but not overly so.	The site will be badly structured, with poorly designated categories, and it will be more extensive than V1 in terms of number of pages, but they will be of no use to the user.

Source: Own elaboration, based on Moss (2004) and Nielsen (1993, 1999, 2004, 2009)

A website for a fictitious tourist destination called Buyuada was used as the framework for the experiment. The reasoning behind choosing the tourism sector as the focus for the research was that the World Tourism Organization (WTO) has declared that the key to success in this medium as a source of tourism information is to swiftly identify consumers' needs and establish direct contact with tourists. Furthermore, the WTO has asserted that websites should offer tourists information that is comprehensive, personalized and up-to-date (Vich-I-Martorell 2004). The Internet is one of the main sources of information used by tourists when making travel plans (Buhalis & Law 2008; Wu, Wei & Chen, 2008).

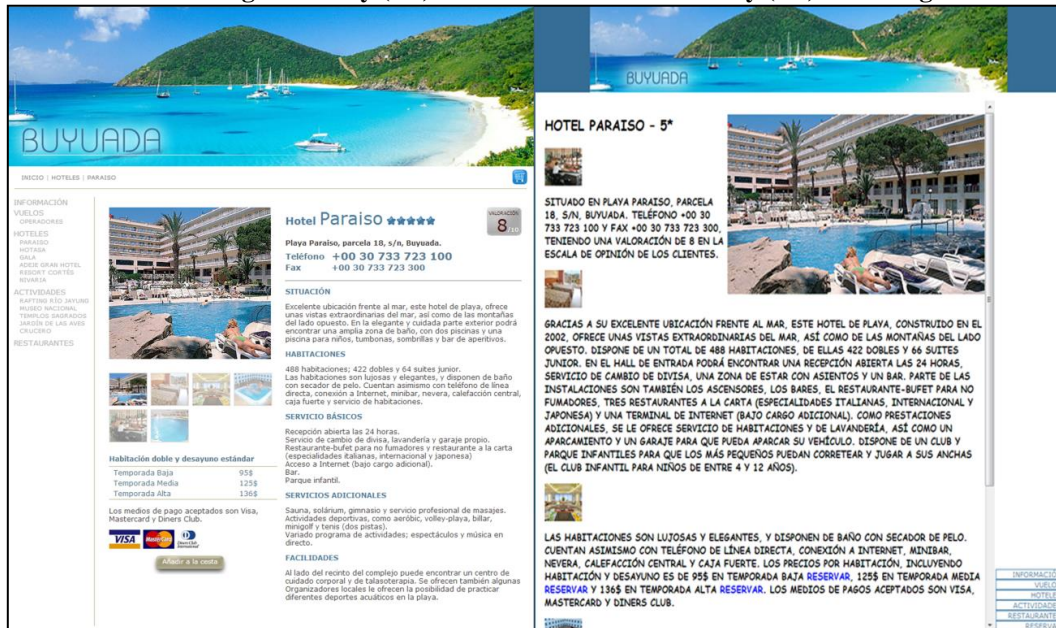
A fictitious location was devised with a view to avoiding a scenario in which subjects' previous awareness of, or attitudes towards, the destination might affect the results. In this same regard, Dahlén, Friberg & Nilson (2009) used fictitious brands to minimise the possibility of differences between subjects, as using real brands could have meant that some individuals had preconceived representations and associations. Similarly, Nelson, Yaros & Keum (2006) recommend using fictitious brands as this gives the researcher greater control over the possible effects of subjects' past experiences.

The experiment itself required a professional website to be purpose-built, with its own domain name, providing information on the fictitious tourist destination (www.buyuada.org). The site was hosted via a domain pertaining to the researchers, enabling them to simulate natural

browsing conditions at all times for the subjects. Two versions of the site were created: V1 (site with high usability) and V2 (site with low usability) (see Figure 1).

FIGURE 1.

Site with high usability (V1) on the left and low usability (V2) on the right



The subjects were selected by an external company commissioned to establish an online survey panel for the experiment. The company made email contact with each panel member, following the gender and age quotas that had been pre-established: 240 individuals (planned sample size) (120 V1; 120 V2).

The subjects were sent a link to the appropriate version of the website (V1 or V2), together with instructions (see Figure 3 and its translation in Table 2).

Figure 3

Instructions given to the user (original Spanish version)

Buyuada

A continuación, visitará una página web relativa a un destino turístico durante un tiempo mínimo de 2 minutos. Concretamente, se trata de la isla de Buyuada situada en el mar Mediterráneo.

Buyuada está surgiendo como un destino cada vez más demandado por parte de los turistas.

Su tarea consistirá en simular una situación en la que usted tiene pensado ir de vacaciones en los próximos meses durante **temporada media** para lo cual deberá diseñar un paquete de turístico en Buyuada que incluya lo siguiente:


- Un vuelo de ida.
- Un vuelo de vuelta.
- Un hotel donde alojarse.
- Un restaurante.
- Una actividad o excursión a realizar.

Para contratar estos servicios debe seleccionar la alternativa deseada, pulsar el botón "añadir a la cesta" y finalmente confirmar la reserva a través del carro de la compra.

Tenga en cuenta que entre las alternativas que encontrará hay una que es mejor que las demás en relación calidad - precio. Todos aquellos participantes en el estudio que hayan respondido a las preguntas del cuestionario y al final hayan seleccionado la mejor opción en términos de calidad-precio, entrarán en el sorteo de un iPod-Touch que se celebrará el día 15 de enero de 2011. Para ello, deberá proporcionarnos al final del cuestionario su dirección de email.

Gracias por su colaboración.

[Entrar a la web](#)



Contacto

Table 2
Instructions given to the user (text translated into English)

Next, you will visit a web site relating to a tourist destination – namely, the island of Buyuada in the Mediterranean. The visit will last a minimum of 2 minutes.

Buyuada is becoming increasingly popular as a tourist destination.

Your task is to imagine a situation in which you are thinking of going on holiday in the next few months, during mid-season. To this end, you need to design a tourist package on Buyuada that includes the following:

- *An outward flight*
- *A return flight*
- *A hotel for your stay*
- *A restaurant*
- *An activity or excursion*

To book these services you must select the options of your choice, press the button ‘add to basket’ and confirm your bookings using the shopping trolley icon.

Please bear in mind that, amongst all the alternatives you will find, there is one option that is superior to the others in terms of quality/price.

All those participating in the study who have responded to the questionnaire and who have chosen the best option in terms of quality/price will be entered into a draw to win an iPod-Touch. The draw will take place on January 15th, 2011. If you wish to be entered, please provide your email address at the end of the questionnaire.

Thank you very much for your collaboration.

Enter the website

The users were thus invited to browse through the website and put together their own tourism package based on an outward flight, a return flight, hotel accommodation, and a restaurant, from the multiple options on offer. In line with the recommendations of several authors (Muñoz-Leiva, Sánchez-Fernández, Montoro-Rios & Ibañez-Zapata, 2010), subjects were offered an incentive to achieve the optimum result for the task and complete the subsequent questionnaire, in the form of a free prize draw to win an iPod Touch.

Once they had completed the task and browsing was complete, subjects were redirected to a questionnaire.

A representative sample of the population was obtained using data issued by the Spanish Association for Media Research (AIMC, 2010) relating to the socio-demographic profile of internet users between the age of 18 and 64. The final sample size was 227 Spanish users: 110 browsing V1 and 117 browsing V2. Overall, the subjects were highly experienced in the Internet medium, with 66.08% going online for more than 10 hours a week. The minimum age was 18 and the maximum was 64, giving an average age of 38.66 years.

3.2. Measures

In line with the proposed hypotheses, the four dependent variables in the present study were: perceived risk online; the total browsing time and the number of errors committed during the purchasing process. The questionnaire consisted of closed questions for the constructs, seven-point Likert scales, and socio-demographic data (see Annex 1).

Perceived risk online was measured using the scale proposed by Wakefield and Whitten (2006). Browsing time was measured in terms of the number of seconds it took subjects to browse the experimental website and complete the task assigned to them. As regards capturing the number of errors committed by users during the purchasing process, when selecting their tourism package, for each of the four components (flight, accommodation, restaurant, and excursion) there was always one option that was preferable to the rest in terms of the relationship between quality and price. Those instances in which the subject failed to select the optimum option were thus considered to be errors for the purposes of the research. On this basis, each subject was assigned a score of between 0 and 4, depending on the number of errors they committed during the process of selecting and purchasing their tourism package. In other words, those who correctly identified the best option for all four components of the package were given a score of 4, while those who failed to do so for any of the components received a score of 0.

Perceived usability of the site, according to the subjects, was also measured, with a view to subsequently checking to ensure correct manipulation of the independent variable ‘website design’. This control variable was measured from the user’s perspective by applying the

Website Analysis and Measurement Inventory (WAMMI) scale proposed by Kirakowski, Claridge & Whitehand (1998) and adapted by Flavián, Guinalú & Gurrea (2006a, 2006b). Finally, other variables were also measured to classify the subjects: gender, age in years, and level of online experience, based on the number of hours spent each week on the Internet.

4. Results

4.1. Analysis of the psychometric properties of the scales

Prior to testing the hypotheses it was necessary to examine the reliability and validity of the multi-items scales used in the present study. For this purpose a multi-group confirmatory factorial analysis (CFA) was used, according to website design (V1 vs. V2), which demonstrated that the different scales all presented sound psychometric properties as all the standardized coefficients were significant and very close to one, while the individual reliability of each indicator was above the recommended limit of 0.50 (see Table 3). The overall goodness-of-fit indices and the Composite Reliability and Average Variance Extracted indices were also, in all cases, well over the recommended values (Hair, Anderson, Tatham & William, 1995; Del Barrio and Luque, 2012; Kline, 2011).

Table 3
 Analysis of the psychometric properties of the scales (non-standardized parameters)

Items	V1				V2			
	Param. (t-value)	R ²	Composite reliability	Variance extracted	Param. (t-value)	R ²	Composite reliability	Average Variance Extracted
RISK1	1.00 (p.f.)*	0.81			1.00 (p.f.)*	0.82		
RISK2	1.06 (29.15)	0.88	0.94	0.85	1.02 (28.66)	0.88	0.94	0.85
RISK3	1.05 (25.84)	0.87			1.07 (30.40)	0.88		
USAB1	1.00 (p.f.)*	0.75			1.00 (p.f.)*	0.75		
USAB2	0.91 (22.33)	0.79			1.16 (23.22)	0.82		
USAB3	0.92 (19.50)	0.79			1.10 (19.81)	0.80		
USAB4	0.98 (23.45)	0.91	0.97	0.79	1.08 (18.40)	0.79	0.96	0.82
USAB5	0.94 (21.37)	0.88			1.15 (19.15)	0.80		
USAB6	0.97 (18.95)	0.86			1.13 (18.31)	0.77		
USAB7	0.95 (19.84)	0.81			1.08 (18.52)	0.83		

Note (*): Value not calculated since the parameter was established at 1 in order to set the scale for the latent variable

4.2. Manipulation check

As the CFA had demonstrated that the scale of perceived usability presented good psychometric properties, an index variable was calculated as the sum of the seven indicators of the WAMMI scale (min: 7/max: 49). To check the correct manipulation of the 'website design' independent variable, a t-test was carried out to test the difference in averages of this index variable for each of the two experimental conditions (V1 and V2). The results showed that the perceived usability was significantly greater for V1 than for V2 ($p < 0.05$), which endorsed the correct manipulation of the independent variable between-subjects (see Table 4).

Table 4
 Test for differences in perceived usability by website design type (all indicators)

Items	V1	V2	p-value	Items	V1	V2	p-value
USAB1	5.70	4.92	0.00	USAB5	5.94	4.97	0.00
USAB2	5.84	4.97	0.00	USAB6	5.82	4.86	0.00
USAB3	5.80	4.98	0.00	USAB7	5.77	4.91	0.00
USAB4	5.86	4.96	0.00				

4.4. *Testing the hypotheses*

To test the hypotheses, a number of variance analyses (ANOVA) were carried out, using the following depending variables: browsing time; number of errors performed during the online purchasing process; and the perceived risk online. The experimental factor, website design (V1 vs. V2), is the independent variable. As the scales presented good psychometric properties, prior to testing the hypotheses an indicator for each dependent variable was calculated, as the sum of the items from the original scales.

H₁ and H₂ proposed that site effectiveness when the user browses the site and performs online tasks – measured in browsing time and the number of errors committed while performing these tasks – would be significantly greater amongst those websites that are perceived to be usable than amongst those that are not.

After testing to ensure that all the assumptions of the ANOVA were fulfilled, the data analysis demonstrated that the website design had a significant main effect on browsing time (F=29.46; p<0.01), such that when users browsed V1 of the site they took less time to put together their tourism package (Time_{V1}=344.72 seconds) than when they browsed V2 (Time_{V2}= 633.35 seconds). Therefore H₁ cannot be rejected (see Table 5). These findings echo those of other authors (Nielsen & Loranger, 2002; Shackel, 1991).

Table 5
 Effect of website design on browsing time (ANOVA)

Variable	Treatment	Mean	SE	F	p-value
Website design	V1	344.72	19.38	29.46	0.00
	V2	633.35	49.11		
Normality		Homoscedasticity			
No major deviations observed		Levene's test: p>0.05			

According to H₂, effectiveness of website performance – measured in terms of the number of errors committed by the user during the purchasing process – will be significantly better in those websites perceived to be usable than in those perceived not so (that is, there will be fewer errors). To test this hypothesis, once again an ANOVA was carried out. The results demonstrated that when browsing V1 of the website, users registered significantly fewer errors (N°Errors_{V1}=2.30) than when browsing V2 (N°Errors_{V2}=2.67) (F=6.354; p<0.01). Together, these findings confirm H₂ (see Table 6).

Table 6
 Effect of website design on number of errors committed (ANOVA)

Variable	Treatment	Mean	SE	F	p-value
Website design	V1	2.30	0.10	6.354	0.01
	V2	2.67	0.10		
Normality		Homoscedasticity			
No major deviations observed		Levene's test: p>0.10			

A further ANOVA was performed to test H₃ and establish whether perceived risk online was moderated by website design type. It demonstrated that website design type exerted a significant effect on perceived risk online, in the expected direction (F=7.30; p<0.01). Users exposed to the more usable version of the website generated a lower perceived risk online (Risk_{V1}=9.80) than those browsing the less usable version (Risk_{V2}=11.36), meaning that H₃ can be confirmed (See table 7).

Table 7
 Effect of website design type on perceived risk online (ANOVA)

Variable	Treatment	Mean	SE	F	p-value
Website design	V1	9.80	0.40	7.30	0.00
	V2	11.36	0.41		
Normality		Homoscedasticity			
No major deviations observed		Levene's test: p>0.10			

The ANOVA results indicate that both the effectiveness of website performance (measured in terms of user browsing time and number of errors) and perceived risk online should be considered utilitarian variables.

5. Discussion

5.1. Conclusions

The present work has examined the extent to which the functional design of the website (representing utilitarian motivations) affect their purchasing behaviour and how they process information when browsing the site.

The key contribution is the approach taken in the present study, namely to examine the effect of website design (as a utilitarian aspect) on the user's response. The findings of the present work point to the conclusion that when a firm is aiming to maximise the browsing time of users and thus reduce bounce rate, or to significantly reduce the number of user errors when performing associated tasks on the website, it should place greater emphasis on the utilitarian aspects of the site design.

Of particular interest the work lies in its original use of professional design in creating two parallel websites hosted under one single domain name (buyuada.org), each with different objectives in terms of usability. This approach is in line with the recommendations of Moss (2004) and Nielsen (1993, 1999, 2004, 2009). To date, the majority of studies examining the role of website design on online user behaviour have used subjective measurements of usability (Belanche *et al.*, 2012; Lee & Koubek, 2010; Wahab, Jusoff, Al Momani, Mohd & Mohd, 2001). The present methodology thus represents an important advancement in understanding the moderating effect of website design on online information-processing and, more specifically, on the effectiveness of the site's performance when the user is carrying out tasks while browsing. Data analysis demonstrated that a website with good usability will significantly reduce the subject's browsing time and the number of errors they commit during the purchasing process, and will also lower the perceived risk online.

5.2. Implications

A number of interesting implications for management arise from the present work. Firstly, investing in a good website design is shown to be a prerequisite for improving the interest shown by users during browsing, which will, in turn, reduce the bounce rate and increase the length of time spent on processing the website information. This issue needs to be taken into account in particular by those firms and institutions offering e-commerce (particularly those operating in the tourism-related field, such as hotels, tour operators, travel agencies, and public bodies), since consumers report important functional and utilitarian benefits when browsing a site they perceive to have high usability compared to one they consider to have low usability. Such benefits include greater effectiveness in performance and a lower perceived risk online. As also demonstrated by Wood (2004), it is important to remember that website design is not an end in itself, but is rather a means of facilitating purchase and information-search on the part of the user.

In this regard, when designing a website it is not sufficient to follow the recommendations of Nielsen (1993, 1999, 2004, 2009) by simply drawing on heuristic lists of features for usability. It is also essential to base the site design on the user, for example by seeking their views on its usability via different questionnaires. For this purpose, the present study employed the WAMMI questionnaire (Kirakowski *et al.*, 1998). Another invaluable technique that is widely employed by firms when designing their websites, so as to ensure the design is centred on the user, is card sorting. In a card sorting session, participants organize topics from a website into categories that make sense to them. Participants may also help to label these groups. Card sorting may involve physical cards or pieces of paper, or it may be accomplished with one of several online card-sorting software tools. It can help firms ascertain their users' expectations and understanding of topics central to the firm. Knowing how users group information can also help the firm to build the structure for its website, decide what to put on the homepage, or label categories and navigation effectively. There are different types of card sorting techniques, including in-person sessions with an observer, concurrent in-person sessions, and computer-based sessions.

The firm's choice of approach will depend on factors such as the available budget, the type and size of the organisation, and the complexity of their website. There are numerous examples of firms that have improved profits by investing in user-centred website design. For example, in

the late 1990s IBM increased its e-commerce sales by 400% thanks to improving the usability of ibm.com (Tedeschi, 1999), while Dell achieved an increase of 33 million dollars in its daily online sales following an initiative to enhance the usability of dell.com (Black, 2002).

The present work reveals that it is important, therefore, to build elements into the site design desired. In this regard, the requirements of usability can give clues as to how to make the browsing experience even more pleasurable, such as the use of simpler menus, bullet points, bold and italic fonts, text in different sizes and colours, hypertext, images, and search tools.

Meanwhile, social networks are changing how users and consumers share the information they derive from the Internet, and how they interact with others. To improve the user's experience it is essential to foster interactivity by including features such as widgets, buttons and plug-ins from the main social networks (that is, Twitter, Facebook, G+, LinkedIn and so on). Other means such as contact and complaint forms, forums, chat-rooms, handy tools such as personal calculators (for weight, heart rate/risk, intelligence, emotional state, for instance), or virtual assistants can be of enormous use in achieving a greater level of enjoyment for the user. This approach will undoubtedly lead to an enhanced brand image and reputation.

The results of the present study offer some interesting implications for those website managers who operate in the tourism field (hotels, tour operators, travel agencies, public bodies, and so on). Firstly, it has been clearly demonstrated that investment in good website design is critical for all firms active in e-commerce and tourism, where consumers often search online to research and compare destinations and services. They browse a site that consider as having a good level of usability. This brings a number of important benefits over a site with poor usability, such as lower perceived risk. A good site design is the very basis of the online marketing strategies developed by tourism firms. If the design is such that the user not only finds the site easy to browse, but also enjoys with it because he/she doesn't have to lose a lot of time to get the right information, it will help also to develop loyalty towards the service on offer (Alcántara-Pilar & Del Barrio-García, 2014).

Further research is therefore needed to investigate whether the hedonic motivations moderate the results of the present study.

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Appendix 1: Items used on the scale from the empirical study

Dimensions	Items
Perceived risk online	Whilst I was browsing this website, and due to its characteristics I felt that: RISK1. There is a high risk of loss if I make a reservation via this site RISK2. There is a major risk involved in making a reservation via this site RISK3. Making tourism reservations via this site is risky
Perceived usability	Please assess the website you have just browsed... USAB1. Everything on this website is easy to understand USAB2. This website is simple to use even for the first time USAB3. Finding the information I need on this website is simple USAB4. The content structure on this website is easy to understand USAB5. It's easy to find your way around this website USAB6. The way in which the content on this site is organized enables me to know where I am when I browse through the different pages USAB7. When I am browsing this site I feel in control of what I can do