HOW WEB DESIGN CHARACTERISTICS AFFECT CONSUMER ONLINE BEHAVIOUR

Thesis by: Papapancu Marily

International Hellenic University
MSc in Strategic Product Design

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Abstract

This study seeks to extend the existing knowledge in the effects of web design characteristics in consumer online behaviour. The characteristics explored are referring to colour attributes, colour contrast, categorization and product taxonomy, informativeness of the content and visualization. Following an inductive approach during the qualitative research conducted, there were arisen parameters such as brand consistency, relevant advertisement and suggestions. These features were interpreted in relation to trust ease of use, navigation, flow experience and finally the subsequent behaviour towards the website. Although studies in ecommerce and website characteristics have been abundant, research in real life online retail contexts is sparse. Hence, the purpose of the present paper rests in addressing this gap by understanding better the nature of the online shopping experience and gain valuable insights of how web design elements are perceived by the consumers.
**Introduction**

In parallel with the development of technology on hardware and software facilities in the computer world, the internet has become an indispensable part of our daily lives. This leads to new opportunities and new perspective on all aspects of business for reaching a wider customer population (Hasan and Abuelrub 2011). In particular, electronic commerce (e-commerce) has become essential to our daily lives and represents a growing market day by day. The prevalence of shopping on the Internet has changed both consumers’ purchasing environments and retailers’ marketing strategies. (Eroglu et al., 2001). For retailers, online stores offer a way of conducting business, as well as a driver of competitive marketing strategies (Varadarajan and Yadav 2002). Hence, effective design of websites helps firms/organizations to reach their aim. There are lots of design parameters that play an effective role on website design. Hence, website designers have to take an increasing number of design parameters into account during design process to satisfy users’ needs. The present study aims to investigate the factors and web design features affecting customer’s purchase intentions in online shopping environments.
Literature Review

Design parameters of websites

According to the literature there are several design characteristics that greatly varying depending of the type of website or even the scope of the research (conceptual or technical). Different studies can apply in different concepts or companies. Therefore, different classifications have been proposed for website categories in the literature. Some of the studies more relevant to the current research topics are as follows;

According to (Cebi, 2013) the website design characteristics consist of four main criteria: usability, visual aspects, technical adequacy, security, communication, and prestige. Usability includes ease of use, ease of learning, and memorability. Visual aspects involve layout, graphics, and text. Technical adequacy includes system availability speed accessibility and navigation. Security consists of reliability, accuracy, and privacy. Communication includes contact info, online help, and responsiveness. And prestige involves reputation, sustainability, and currency.

Demangeot and Broderick (2010) show that site architecture, visual design, and informativeness offer critical cues for online shoppers. Ha and Im (2012) also demonstrate that fonts, colours, and multimedia features are central factors in Web site design. According to the theory of planned behaviour (Bagozzi 1992), perceived control also has positive influences on behaviours, including purchase intentions (e.g., Folkes, Koletsky, and Graham (1987); Song and Zahed (2005)). In line with their freedom to browse any web pages that they want and decide how long to spend on each step of the shopping process, without any pressure of time limitations or sales tactics. Therefore, the Web site needs to be well designed, such that customers can adapt to it quickly and perform their shopping tasks easily. If online customers browse a poorly designed Web site that makes them feel out of control, they would probably leave it.

Researchers (Misic and Johnson, 1999) have endeavored to uncover the complexities of speed, uniqueness of functionality, ease of navigation, counter, currency, wording, and colour and style factors. Also, Aladwani and Palvia (2002) presented the
key characteristics of a website based on users’ perceptions. In their study, the website designs were evaluated with respect to three main criteria; adequacy, web content, and web appearance.

Last but not least, retail customer interface, commonly termed store atmospherics, may account for up to two-thirds of in-store purchases (Bandyopadhyay et al., 2000). In an online context, atmospherics are subsumed in the computer interface, yet little is currently known about how this interface affects consumers’ purchase intentions (Richard, 2005). Several research areas provide insights toward building a theoretical model of web interface features. For instance, Chen and Wells (1999) have identified elements contributing to customers’ positive assessments of websites; namely entertainment, informativeness, and organization. According to Eighmey (1997), a successful website is accomplished through the intersection of information and entertainment, suggesting both are important for positive evaluations. Furthermore the U&G literature supports that a website high in perceived informativeness, entertainment, and low in irritation is likely to generate a favorable attitude toward the site (Chen, Clifford, and Wells, 2002).

As it is clearly illustrated above, even though there are limited studies in the literature, there are a lot of criteria which have been taken into consideration. However, the importance degree of website design parameters varies according to the types of websites and thus, it is necessary to use different sets of criteria. The present study intends to explore the website elements more related to online shop websites. More specifically, the web design characteristics that may enhance the purchase intentions of the potential customers.
Purchase Intentions

As already mentioned above this study will attempt to explore web design factors that affect customer’s purchase intentions in online shopping. To elaborate more, customer’s attitudes to be explored will include intentions to purchase, intentions to revisit the online store, recommend this online shop (e-loyalty) and also the plausibility to be encouraged to visit the physical shop afterwards.

Great emphasis is placed on the Theory of Planned Behaviour (TPB) developed by Ajzen states that “behavioural beliefs” influence “attitude toward the behaviour” and that the latter will have an impact on “intentions.” Attitudes are defined as the individual’s positive or negative feelings about performing a behaviour. It has been also showed (Castaneda et al. 2007) that attitudes toward a website are a strong predictor of intentions to revisit the website. Moreover, Chen and Wells (1999) propose that attitude toward the site indicates the online shoppers’ “predispositions to respond favorably or unfavorably”.

Particularly concerning online shopping intentions, (Song and Zinkhan, 2003) identify behavioural intentions associated with website usage as: repeat purchases; repeat visits to the website; recommendation of website to others; and positive remarks or comments about the website. In the present study it is advocated that, intention to return to the website and intentions to purchase from the website are positively related to attitude toward the website.
Trust

Trust has long been recognized as a critical success factor for e-commerce (Torkzadeh and Dhillon, 2002). Recent surveys show that the success of current online shopping sites is primarily attributed to the fact that they have earned the trust of users. At the same time, the lack of customer trust, long identified as one of the greatest barriers inhibiting online commercial transactions (Hoffman et al., 1999; Dayal, Landesberg and Zeisser, 2001) continues to be high (Consumer Report WebWatch, 2002, 2005; eMarketer, 2006, 2008). For this reason it is perceived essential to push our understanding more towards this direction and explore those factors affecting trust in e-commerce.

Trust in e-commerce has been extensively addressed as a research topic from different viewpoints and different levels of analysis. It is an important predictor of online consumer behaviour as it influences the intended use of an e-commerce website. As such, it has been the topic of numerous studies, looking into trust antecedents. The interface of the vendor web site has been identified as being an important contributor to trust (gefen et al., 2003). Several empirically tested models on trust include website characteristics as factors that affect trust, such as perceived site quality (Kim and Tadisina, 2005; Gorbitt et al., 2003; McKnight et al. 2004) website appeal (Hampton-Sosa and Koufaris, 2005), ease of use (Gefen et al., 2003; Koufaris and Hampton-Sosa, 2004), usefulness (Koufaris and Hampton-Sosa, 2004), usability (Flavian et al., 2006; Roy et al., 2001), navigation (Bart et al., 2005; Sultan et al., 2002) and security (Koufaris and Hampton-Sosa, 2004; Gefen et al., 2003)

By and large, the definition of trust has varied from study to study but one of the definitions that has prevailed was provided by Mayer et al. (1995) and states that trust is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the agility to monitor or control that other party.” This definition is general enough to encompass trust in all types of operations and transactions. The “actions” of the other party can be the timely delivery of the product, the delivery of the right product previously agreed upon, or even the use of personal information gathered during the transaction.
To this direction, factors of security/privacy are the most important ones for websites that market products requiring physical delivery (Saraph et al., 1989). To elaborate more, Privacy/security Zhang et al. (2000) defined privacy/security feature of a website as “confidentiality of info, things that give or assure safety and guarantee”. Websites frequently gather personal information of their users for their own purposes; this creates a serious privacy/security concern (Yang et al., 2005). A strong privacy/ security policy of websites and confidentiality of personal data of users enhance the reputation of the company as well as confidence of users. This in turn creates a positive perception of users towards quality of websites.

While in offline commerce it is the salesperson that often influences the buyer’s trust in the seller (Doney and Cannon, 1997) in the Internet context it is the website that does that (Lohse and Spiller, 1998). Therefore, one would expect that the customer experience with the web site would also have a strong effect on customer trust in the company. One important experiential factor is enjoyment. Shopping enjoyment can have a significant impact on customer attitudes and behaviour on the web and can increase customer intention to return (Jarvenpaa and Todd, 1997; Koufaris, 2002). Research has found that perceived enjoyment of using a system has a positive relationship with perceived ease of use (Venkatesh, 1999; Venkatesh, 2000; Moon and Kim, 2001). Another experiential factor in our model is customer perceived control, i.e. how much the customer feels in control over his or her actions while shopping at the company’s web site. Perceived control has been studied in the context of electronic commerce and found to have a positive effect on customer attitudes and behaviour (Ghani et al., 1991; Novak et al., 2000; Koufaris et al., 2001-2002).

Another significant factor affecting customer’s online behaviour is proposed to be the perceived company size and perceived company reputation which is suggested to have a great effect on the level of trust for that online company by customers (Jarvenpaa et al., 2000). The results indicated that reputation has a large positive association with trust and size has a smaller positive association that may depend on the type of company (the effect was significant for travel sites but not for bookstores). Trust also had a positive effect on willingness to buy through its positive relationship with attitude towards the company and its negative relationship with customer risk perception. Therefore, this study intends to further explore how customer perceptions of the online company affect their trust as an antecedent of purchase intentions.
Consistent with the Theory of Planned Behaviour (Ajzen, 1991), customer trust (a belief) influences customer intentions. Empirical research has shown that trust increases customer intention to purchase a product from a company (Jarvenpaa et al., 2000) as well as customer intention to return to a company (Doney and Cannon, 1997). We expect our results to reflect those past findings. In alignment with these notions it will be attempted to provide with further evidence on whether customer trust is actually positively associated with customer intention to purchase and in which level.
The concept of flow

In the realm of online flow, it has been defined as a cognitive state experienced during navigation (Hoffman and Novak, 1996). In alignment with other researchers (Csíkszentmihalyi, 1997) characterizes online flow as involving machine interactivity, enjoyment, loss of self-consciousness, and as self reinforcing. This cognitive state has been characterized as an “optimal experience” that is “intrinsically enjoyable” (Csikszentmihalyi, 1997). Meanwhile, (Smith and Sivakumar, 2004) propose that flow facilitates online behaviours such as browsing, shopping, and repeat purchases. In accordance with the theory, Hoffman and Novak 1996 argue that when consumers are seamlessly navigating through a website they are in a state of flow resulting in more time spent at the website. The authors further note that, consumers who are in flow are also more likely to remember the online company’s name and visit the site again. Lastly, Hoffman and Novak (1996) identified and Novak et al. (2000) empirically measured and modeled a set of key constructs related to flow, including interactivity, involvement, focused attention, skill, control, challenge, arousal, telepresence, time distortion and exploratory behaviour. These constructs can be used not only to characterize flow, but also to provide an understanding of what leads to flow experiences. Therefore, it is presently indented to describe how this state of flow is aligned with the notions of the present study.

Respectively, it is endeavored to depict the consumer’s emotions as experienced in online shopping environments. Specifically, it is attempted to interpret the correlation of the web design features, with the concept of flow on online shopping environments. It is aimed to explore how exactly these elements facilitate such an optimal experience. One objective is to discover the feelings of consumers experiencing the state of flow (such as their personal perception of time) and their subsequent behaviour. Moreover, it is currently proffered that, flow feelings such as the absence of worry, memorability, and time distortion are resulting from the ease of use (effortless navigation) and are more correlated with the website atmospherics rather than the informativeness of the content. Also it may be affected by the individual’s state of mind and purchase purposes as well. In such context, the present research differs from that of Hoffman and Novak (1996) who combine interactivity (the means) with the psychological aspects of flow in their construct.
Content Design

At this point it is deemed essential to distinguish content from design. Content refers to the information, features, or services that are offered in the Web site. Design to the way the content is made available for web visitors. Both concepts have been operationalized by means of objective and subjective measures to capture features as well as perceptions. Both content and design can be measured by means of features (objectively) and perceptions (subjectively). The present paper will integrate these two distinctive notions with the intention to draw conclusions on how consumers’ perceptions are influenced by the design of the content features.

From an informational standpoint, commercial content can provide insight into the background of the company and may involve the mission statement, financial statements, a list of important customers, and an overview of completed projects. This kind of information is important to present the organization to (potential) customers or other stakeholders (shareholders, the public, politicians, etc.). A web site can also support the sales function with product information, such as prices, specifications, terms of delivery, and descriptions or animations of the product in action and transaction related features.

Informativeness has been defined as the amount and richness of information included on a web site. A website is informative if it allows prospective customers to evaluate among alternatives to reach satisfying exchanges (Montoya-Weiss, Voss, and Grewal, 2003; Ducoffe, 1996). Human factors, such as using terminology familiar to users, rather than computer jargon, allow users to get desired information in less time. Computer factors that affect the arrangement of information, including factors such as page length and number of links, are also very important in determining informativeness (Schneiderman, 1996). Thus, the perception of the content can be measured as the degree to which the web site is considered to be informative. Informativeness exerts an important influence over online customers’ attitudes toward a Web site (Hausman and Siekpe 2009; Richard et al. 2010). It is proposed that, should a consumer feels that the information of a websites is useful and that he acquired the desired knowledge he will be granted with a greater sense of control which is expected to result in trust and enhanced purchase intentions.
From a different angle, in agreement with the “Dual coding theory” (Paivio, 1990) there are two types of phenomena handled by separate cognitive sub-systems: one specializes in the representation and processing of nonverbal (visual) information while the other specializes in dealing with verbal (text) information. In general, the parallel processing in the visual system tends to facilitate quicker information scanning and decoding than the sequential processing the verbal system. It is currently adopted the view that, imagery stimuli are more likely to be coded both visually and verbally; while texts are less likely to be stored visually. Therefore, the dual coding of images makes them easier to be remembered, resulting in the “picture superiority effect”, i.e. the superior memory of pictures and images over words. Hence, the objective of this study concentrates on how the content is being presented and whether these messages are successfully communicated. Presentation mode addresses how easily product information can be comprehended to facilitate the shopping process.

A thought provoking aspect of representation of the content information is concerning partial arrangement. Taken for granted the information content that should be communicated through the website (including number of products, sizes, product images etc.), the spatial arrangement of products greatly affect users’ online shopping experience. The spatial arrangement of products in the present study will include the product taxonomy and the placement of product attribute information as they are displayed in the navigational structure of the website. Product taxonomy has been employed to give a clear view of the product lines in tree structure. It is practically represented as a tree and categorizes a set of products at a low level into a more general product at a higher level (Cho & Kim, 2004). This presentation structure is a foundational element which greatly impacts the time spent in product searching, the task completion rates and also the logical assumptions inferred regarding the available product range.

The above mentioned characteristics will be employed, to determine the presentation of the website content as perceived by consumers in online shopping experiences. It will be attempted to be explored, in correlation with the other issues raised, such as trust, state of flow and consumer attitudes. It is aspired that the findings will provide with useful insights to both designers and retailers on how to successfully display the product information.
Colour in web design

Although various elements of website design have significant impacts on consumer perceptions and willingness to interact with or return to a website (Fornell and Larcker, 1981; Szymanski and Hise, 2000), research is sparse when examining potential impacts of website colour (Marcus and Gould, 2000) although a few researchers (Lui et al., 2004) have tackled this challenge. As it has pointed out, research on the effect of colour on emotions has been inconclusive and further research is needed to clarify the issues (Valdez and Mehrabian, 1994). This is because colour perception is a complex process in that it is more than a mere physiological or psychological fact. It is also shaped by the consumer’s national culture, general education and socio professional backgrounds. To this day, the effects of colour components on Internet commercial spaces have been but seldom documented. The purpose of this study is to shed light on this issue by exploring the colour particularly in online customer interfaces and exclusively in online shopping.

It is evident by now that, colour has the potential to elicit emotions or behaviours. Also, it has been identified as a pivotal component of e-commerce websites (Lemoine, 2008). The issue to be currently investigated, is how exactly colour affects trust or satisfaction on the part of the viewer. Generally, numerous results reveal that website colour appeal is a significant determinant for website trust and satisfaction with differences noted across cultures. The findings have practical value for web marketers and interface designers concerning effective colour use in website development.

In the commercial realm, colour influences our attitude and expectations toward brands. Moreover, it has been found that visual design of the website resulted in trust, satisfaction, and loyalty (Cyr, 2008). However, to our knowledge there is no study in which colour is considered as a catalyst to user loyalty toward a website. In this sense, if a user likes the colour of a website, which arouses reactions of trust or satisfaction, then one would expect the user to return to the website or to purchase from it in the future, typically termed e-loyalty (Falk and Miller, 1992). Evocation of this potential flow of relationships has practical value if web marketers and interface designers wish to use colour as a catalyst in website development with a goal of attracting potential online consumers both in local and international markets. To address the apparent
gaps in research to date, colour appeal in website design is one of the focus features of the current paper.

For many years, psychologists have been interested in the effect of colour on preferences (Goldberg et al., 2002). “Colours are known to possess emotional and psychological properties” (Lichtle, 2007) and have the potential to convey commercial meaning in products, services, packaging, and Internet design. Marketers have long known the power of colour in corporate brand-building for logos or displays (Lui et al., 2004; Rivard and Huff, 1988). A growing body of literature employs significant notions regarding colours in web design as introduced below:

First and foremost it is adopted the view that, colour appeal is defined as the degree to which colours on websites are perceived by the user as pleasing, appealing, and appropriate. Subsequently, it is advocated that, in an online environment a vendor’s competence will be largely assessed not only by the Informativeness of the website generally and the product related information, but also through the presentation of these products. Overall most e-commerce websites present a product using images. These should be clear, of high quality and with high colour precision (Papadopoulou, 2007).

Also notably, the context of visiting an e-commerce website takes into account the reading of commercial information and of posted comments from other customers. It also concerns the viewing of photographs and images related to the products. It can also be a place where it is possible to play with the different plugins or elements dedicated to keep the visitor longer. It is also a place to shop. These various occasions can be either enhanced or disturbed by the readability of the webpage as a direct result of colour brightness, contrast, hue and saturation (as cited by Pelet, Papadopoulou, 2009). Generally, colour information such as hue, brightness, and saturation has the potential to affect our perceptions (Latomia and Happ, 1987), physiological reactions, emotional reactions or behavioural intentions (Valdez and Mehrabian, 1994).
As shown below, hue is referring to the colour itself (as in primary colours red, blue, yellow), brightness to the relative degree of black or white added in a given hue (light colours such as white versus dark colours such as black or grey), and saturation refers to how pure or intense a given hue is (intense versions of a colour versus pastels). There is also the colour temperature which describes how warm or cold the colour is perceived.

**Fig 1: “Hue, brightness, saturation”**

To this direction similarly, Gorn and Alii’s works (2004), focusing upon the impact of the colour components of brightness, hue and saturation, on downloading time perception, demonstrate that lengthy waiting time influences the user’s appraisal of the internet site and can lessen his desire to recommend it to others. Moreover, Kiritani and Shirai (2003) show that the effects of screen background colours upon time perception vary according to the tasks performed by internet users. When reading a text written on a white blue or green screen background, users have the feeling that time passes more slowly.

Colour likewise, has an influence on behavioural intention, with blue producing stronger buying intention than red (Becker, 2002; Latomia and Happ, 1987). These findings, mostly from marketing and advertising, are considered here in the context of website design. Furthermore, blue is generally associated with “wealth, trust, and security” (Lichtle, 2007) and is universally liked (Carte and Russell, 2003; Meyers-Levy and Peracchio, 1995; Nielsen and Del Galdo, 1996). In part, this may explain the use of blue by corporate entities such as banks to establish a professional and credible image. A comprehensive review of all basic colour attributes will be provided subsequently, where secondary data will be examined thoroughly.

On the other hand, Karvonen (2000) suggests that a direct relationship exists between trust and the “aesthetic beauty” of a website. As Simon (2001) suggests, effectiveness of the communication medium through website design including colour can result in trust and more positive perceptions of the website. It is evident by now, the significant impact of the atmosphere inside stores on the prospective buyers’ activities and
behaviour in a traditional buying context (Kotler, 1973; Donovan & Rossiter, 1982; Fisler, 2003; Lemoine, 2003). And, as it has been generally studied but remains largely under investigated, the correlation between customer trust and website colours, it is deemed necessary to further explore the unrevealed aspects of it. To address this gap it is intended to further explore how trust is affected by colour, as an **atmospheric variable** and as a component of e-commerce interfaces.

The colour has been shown to be important for the **readability** and **memorization** of the information, information seeking and navigation within the web vendor site (Pelet, 2008, 2010). These colour dependent factors constitute or are closely intertwined with antecedents of trust, which are associated with a web vendor's site. In addition to this, colour has always been used by human beings as an aid to distinguish important information from unimportant or irrelevant information (Pelet, Papadopoulou, 2009). It also aids an individual's memory in many uses such as presenting information, assisting in education or even in the intention to purchase (Harisson, 2001).

Last but not least, numerous researchers have determined that an effectively designed website including the use of appropriate colours may engage and attract consumers resulting in satisfaction with an online vendor (Adams and Osgood, 1973; Fernandes, 1995; Hair et al., 1995; Karvonen, 2000; Moore et al., 2005; Straub, 1989). Furthermore, online shoppers are more likely to revisit a website if they like its design and capabilities (Falk and Miller, 1992; Junglas and Watson, 2004; Madden et al., 2000; Venkatesh and Ramesh, 2006).

In synthesizing the above mentioned notions it is currently advocated that colour as a significant determinant for customer's perceptions, satisfaction derived from website atmospherics, online trust, memorization, and is expected to be an important antecedent of customers behaviour resulted in purchase intentions. The purpose of the present study lies in elucidating the unrevealed aspects of these views and provide with a valuable contribution to both scholars and practitioners understanding of effective web site design.
Colour Theory

At this point it is deemed essential to provide with earlier views regarding the nature of colour and how these are perceived by humans. The Theory of Colours (Goethe, 1810) is considered groundwork of historical importance and for this reason will be taken an essence of the basic conceits. By this way it will be obtained a holistic view of philosophical and theoretical assumptions, hence critical research of current views and experiences could be successfully accomplished.

Goethe included aesthetic qualities in his colour wheel, establishing a kind of colour psychology. He associated red with the “beautiful”, orange with the “noble”, yellow to the “good”, green to the “useful”, blue to the “common”, and violet to the “unnecessary”. These six qualities were assigned to four categories of human cognition, the rational to the beautiful and the noble (red and orange), the intellectual to the good and the useful (yellow and green), the sensual to the useful and the common (green and blue) and, closing the circle, imagination to both the unnecessary and the beautiful (purple and red).

As an aftermath of Goethe’s theory, the study Vision and Colours (Schopenhauer, 1816) acquired the basic principals but adopted a different perspective on the issue. Schopenhauer tried to physiologically demonstrate that colour is “specially modified activity of the retina”. In contrast with Goethe, Schopenhauer concentrated on the subjective rather than the objective, on the observer’s experience rather than the observed object. Specifically he advocated that, the range of all colours contains a continuous series of innumerable shades that blend into each other. Basic colours represent the retina’s activity in the simplest fractions or ratios. Colour is the qualitatively divided activity of the retina “. It is apparent that such a topic can be analyzed by different standpoints providing with diverse results attained different people in different times. Hence, it is endorsed the view that reality is constructed by the way each individual experiences (Lincoln and Guba, 2002; Weaver and Olson, 2006).

Fig 2: “symmetric colour wheel with associated symbolic qualities”
E-commerce applications

Web design history

Therewithal, by synthesizing these earlier views with e-commerce current data it is endeavored to uncover the complexities of the current landscape of colour impact in online shopping experiences. Correspondingly, it will be provided nowadays paradigms of colour psychology more related to the web design. Different colours are used in e-commerce to communicate different messages and elicit diverse emotions. By this way, from a consumer’s point of view, colours affects in various ways the shopping experience. The Internet is a colourful place, and there is a lot that can be accomplished by using colour in the right way.

In this section it will be presented an overview of the milestones in web design history. By this way it is indented to acquire a comprehensive insight concerning the fashion of the websites through times and how these evolved to the recent trends.

- Web design history was initiated in 1991 with the first exclusively text based website. Prior to the late 90s what is considered as "design layout" did not exist. While later versions of HTML allowed for more complex design capabilities, the function of these early sites was purely informational.

- By the mid-90s, structure and appearance had been changed and the content was organized in table based layouts. In 1996 Flash provided with virtual graphics and interaction possibilities that weren't feasible with basic HTML. This was the starting point of a more visitor-focused design including features such as colour-changing navigations, neon colours, 3D buttons, and splash pages.

- In early 2000s with CSS the content was distinguished from design. Content developers and web designers could work independently but in cooperation as well. Content could now be developed exclusively from design, and vice versa. This made websites easier to maintain, more flexible and quicker to load. (Kelly, 2013).

- The introduction of the Web 2.0 has given rise to multimedia, interactive content, improved use of icons, and social media as new features of this time.

- Today, in terms of modern aesthetics, we have seen the proliferation of minimalism, flat graphics, blended typography, and large background images. In addition, UX has introduced design features such as infinite scrolling and single-page design (Kelly, 2013).
Colour psychology in web design

Therewithal, by synthesizing these earlier views with e-commerce current data it is endeavored to uncover the complexities of the current landscape of colour impact in online shopping experiences. Correspondingly, it will be provided nowadays paradigms of colour psychology more related to the web design. Different colours are used in e-commerce to communicate different messages and elicit diverse emotions. By this way, from a consumer’s point of view, colours affects in various ways the shopping experience. The Internet is a colourful place, and there is a lot that can be accomplished by using colour in the right way.

To begin with, blue as already stressed out is associated with trust, peace and loyalty. Blue calls to mind feelings of calmness and serenity. The world’s biggest social network is blue. For a company whose core values are transparency and trust is not uncommon to be chosen a blue colour as their primary web design colour (Haller, 2012). Multiple examples are added on the previous one such as Twitter, LinkedIn and numerous online banks as well.

Green is ideal for environmental and outdoor products. Perhaps the most intuitive colour connection is eco-friendly, nature, and the environment. Green essentially is a chromatic symbol for nature itself. Starbucks is proud of its responsibility to the environment and its fair trade coffee products (Haller, 2012).
Purple has been traditionally associated with royalty, nobility, wealth, mystery, dreams, fantasy as well as with ambiguity and uncertainty (Marinica, 2014). Cadbury’s trademark purple pairs well with its rich chocolate products.

![Cadbury website](Fig 6)](Fig 6: Cadbury website)  ![Cadbury packaging](Fig 7: Cadbury packaging)

Orange on the other hand, is warm and energizing. Companies using orange are seen as “fun, playful and enjoying social interaction.” Orange can also represent physical comfort, like food and warmth. It is stimulating the customers to take decisions since it leaves a feeling of enthusiasm.

![Amazon.com](Fig 8: amazon.com)

Websites that use yellow are “expressing a personality of happiness, optimism and friendliness (Haller, 2012). IKEA uses yellow in order to tell consumers that shopping at IKEA is a fun experience. Indeed, IKEA website gives a sense of warmth and familiarity, pretty much as the actual place does.

![IKEA website](Fig 9: IKEA website)
Black adds a sense of luxury and value. Black is considered, especially in the design industry, a stylish and elegant colour. It is also associated with sophistication, strength, mystery, depth, gloom, evil and sexuality. ‘Black, when used correctly can communicate glamour, sophistication, exclusivity’ (Marinica, 2014).

![Image](image1.jpg)

*Fig 10: Channel official website*

Brands use brown to show warmth and dependability safety, reliability (Marinica, 2014). Below it is illustrated a website related with healthy food lifestyle, which communicates a sense of natural warmth. Moreover it successfully employs the effect of colour contrast in product display since all items are grouped into coloured item circles.

![Image](image2.jpg)

*Fig 11: gomakro website*

Brands use red when they want to be seen as powerful, passionate companies (Haller, 2012). The primary colour in the Coca Cola website design is red; the background is light gray and white which it gives it a better visibility and contrast.

![Image](image3.jpg)

*Fig 12: Coca Cola website*
Last but not least, in most of the colour psychology material, there is a forgotten feature. Maybe that's because colour theorists cannot come to an agreement on whether white is a colour or not. However, it is apparent that the use of white space is a powerful design feature (Haller, 2012). **White** is commonly associated with purity, simplicity and newness.

The Apple website is distinctly a clean website design. All white background, suggesting simplicity and newness and the glossy gray header which make us associate the website with something serious but in the same time and elegant. The combination of gray, white and black here is done in a magnificent way.

Finally, it is vital to stress out that some cultures have different symbolism and association of colours and it is necessary to take into consider this aspect when creating a website design for a specific audience. For instance, many Russian people may still have a negative association with the colour red, as a symbol of Communism; white portrays purity in Western culture, but it's a symbol of death in some Eastern cultures; yellow signifies jealousy in France but is sacred to the Chinese.
Colour Contrast effect

Colour contrast and its effects is a significant issue raised in the present study. As past studies reveal colour contrast is an area which still remains uninvestigated with regards to e-commerce. For this reason it is presently intended to unveil the hidden aspects of colour contrast and how its impact on consumer online behaviours.

It is understandable that, contrast makes things stand out from their surroundings. Things with higher contrast will be more noticeable (Gremillion, 2009). In addition to that, it is currently advocated that, it is facilitating readability and memorization and also influencing the navigation and ease of use.

Fig 14: Colour contrast effect

As a matter of course, designers use contrast to help users to browse effectively by guiding the eye swiftly and effortlessly around the page. A web page that has been well crafted feels refreshingly easy to look at, because it helps to minimize the difficulty of interacting with a screen (Gremillion, 2009). High contrast is employed to promote more important features. Low contrast helps to make less important features recede a little from view.

However, as demonstrated adjacent example of minimum tonal contrast it is understandable that, navigation becomes difficult since the scannability and readability are decreased dramatically. Thus, it is reasonable to assume that the propensity of abandonment of such web page will increase.

Fig 15: Insufficient contrast website

Additionally, it is worth mentioning that some colours such as green or red are frequently used in contrast with lower tones such as grey or white in order to prompt customers to take crucial actions online. Green, apart from its fairly obvious outdoorsy suggestiveness, it is effective when used in combination with the “isolation effect,” also known as the von Restorff effect, which states that you remember things better if they stand out. The technique works efficiently for calls to action, and green is an ideal choice. (Elliot et al, 2012)
Research Methodology

Reformulating the research topic

This research endeavor to portray the current e-commerce landscape and to provide with a valuable contribution to the academic community. Past papers suggest, for future research to be conducted in more complex and more natural, environments. Prior research was based on artificial websites of a single main colour which looked unnatural as numerous participants noted. Real-life websites are deliberately designed in one specific colour symbolizing a particular brand (Hausman and Siekpe, 2009). Hence, it is deemed necessary to cover different types of websites in a single study, which will be presenting diverge aspects of e-commerce (Huizingh, 2000).

These guidelines will be encompassed to our research topic in order to address this gap and provide with a more realistic approach and also facilitate the comparison among different websites.
Research area

The scope of this research has been posed initially broad and becomes progressively narrower as the research progresses. In particular, the research topic is concerning web design and consumer behaviour in online environments. Less abstract, the research objective to be addressed is regarding, web design features in e-commerce and their effects in consumer attitudes towards the website. Thus, research questions to be interrogated are as follows:

- How website colour attributes influence consumer psychology?
- What are the colour contrast effects in readability and memorization?
- How do consumers contemplate informativeness of the content of a website?
- How do the consumers consider information visualization?
- What is the importance and repercussion of the product information arrangement as presented? What are the key elements facilitating their purchase process?
- How all these notions are linked with experiencing the state of flow in online environments?
- What are the characteristics that inspire trust in online environment?
- How do all the former formulate consumer’s attitude towards the website?
Following, the research model is clearly illustrating the conceptual framework as shown below:

As it is clearly demonstrated above, colour temperature, colour contrast, informativeness of the website content, visualization and spatial arrangement including product taxonomy and presentation of the specifications of the product consist the web design characteristics under research in the present study. These, affecting trust towards the website and facilitating the perceived ease of use and are. Subsequently, these may cause an optimal experience (state of flow). It is currently advocated that these elements provide with a profound impact on the overall experience of the consumers and consequently to the attitude towards the website. The purpose of this research lies in shed light in these challenging issues raised, by interpreting consumer’s perspectives.
The above figure illustrates the model on which this project was planned. As indicated the research process was initiated with a proposal of the research topic where primary objectives and expected outcomes were introduced. The milestones of this process plan were the critical review of the literature where various characteristics of web design were appraised and the focus was addressed on specific colour and content design features. The subsequent secondary research on data relevant with the research topic such as colour attributes and symbolisms related to online paradigms. Following these, all the enlightening information taken into account the research topic has been clarified the project is progressed into the actual research design. This will include steps such as research question formulation, research approach selection and methodology. Afterwards, the primary research includes activities such as enquiring experts' and user's opinion, with in depth semi structured interviews and where it is appropriate, observation with the intentions to draw valid conclusions meeting the research purpose. Finally the indispensable last parts of data analysis and interpretation followed by a findings report and a conclusion.
Research philosophy and approach

The selected approach to this research is founded in interpretivism. The heritage of this stand of interpretism comes from the intellectual tradition of phenomenology. Phenomenology refers to the way in which we as humans make sense of the world around us. (Saunders et al, 2007). In the case of online behaviours and attitudes towards web design elements it is considered highly appropriate. Not only consumer behaviour and e commerce fields are complex, but they are also unique. They are a function of a particular set of circumstances and individuals. This immediately raises questions about the generalizability of research that aims to capture the rich complexity of social situations. However advocates of interpretivist would argue that generalizability is not of crucial importance (Saunders et al, 2007). We are constantly being told about the ever changing world of innovation and marketing. If we accept that the circumstances of today may not apply in three months time then some of the value of generalization is lost. Similarly, if we acknowledge the fact that all websites are unique, that too renders generalization less valuable. Hence, the purpose here lies in understanding better the nature of the online shopping experience and gain valuable insights of how web design elements are perceived by the consumers. It is intended to convey sufficient information and acquire alternative explanations of what is going on.

As dictated by the theory, researches in this tradition are more likely to work with qualitative data and to use variety of methods to collect these data in order to establish different views of phenomena. (Easterby-Smith et al., 2002). Thus it is proffered, to employ a diversity of approaches; both deductive as the research questions are primarily based on the conceptual framework but also inductive by allowing respondents pose new perspectives on the subject. Furthermore, opinions will be acquired from both users and experts. By this way, it is undertaken the triangulation of results which will help to understand more fully the complexity of issues by examining them from different perspectives, and generating data in different ways by using different methods. The more information we have from varying perspectives, the more able we are to test our ideas and eliminate bias that might arise from each method. (Gray and Malins, 2004). Hence an exploratory study will be conducted as a means of “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light” (Robson, 2002).
Research Findings and Analysis

This section focuses on the findings of the study in relation to the research objectives which aim at answering the main research question: How web design characteristics affect consumer online behaviour. The primary research as dictated by the research methodology has formed by the experts opinions along with the user’s opinion with the intention to achieve a triangulation of the results and obtain a more balanced understanding of the subject explored. The analysis and interpretation was realized concurrently with the data gathering in order for the processes to be iterative and inform each other. The data were divided into meaningful segments with the connection to the research context maintained at all stages (Gray and Malins, 2004). The data analysis was a reflective activity, aiming to move from the data generation to a conceptual level.
In the first place, it will be presented a detailed overview of the experts opinions acquired through the research. In particular it has been conducted 6 in depth interviews to both academics and professionals specialized in the fields of: consumer behaviour, industrial design, visual arts and graphic design. With the intention to obtain a holistic perspective in the research topic it has been selected specialists from various backgrounds to comment on the web design aspects discussed in the present paper. Their opinions have been synthesized and will be presented as an integrated review classified according to the research enquiries. Some of the subjects raised were determined by the research questions and some emerged within the research process.

To begin with, it has been firmly established the position that the colour ought to be in alignment with the general culture, corporate identity and aestheticism that characterizes the firm and also in correlation with the consumers target group. An indicative example to support this argument is referring to environmentally friendly products, targeting a market sensitive to such issues which are commonly involving green colours. On the other hand, a more industrial firm or product is plausible to use strong business colours. Therefore it is understandable that, the colours of the website should embrace the identity of the brand. Furthermore is maintained that, it is imperative for a firm to maintain a brand consistency along all the mediums of communication with their targeted customers. Specifically, the website is an indispensable part of the entire integrated marketing communication strategy of the firm and should comply with the guidelines of it. A fundamental objective of this strategy is to create a comprehensive approach to the customer. For this reason, it is deemed crucial, that the consumer should perceive the brand in a similar way when he interacts with any of the communication mediums of the firm. Conversely, in cases that there is no continuity and integrity in all means of communication there would be the reverse effects that follow any non integrated strategy. Explicitly, should the website is not in alignment with the general communication and branding activities there will not be “ripple effect” meaning that the communication activities will not progress accumulatively in consumer's perception.
Regarding the **colour psychology** issues raised in the present paper, it has been advocated that it is plausible that the colour effects may not distinguished by consumers themselves as a part of their cognitive experience in online environments. This is owing to the fact that, even if colour attributes are indeed affecting their frame of mind and attitude, this is occurring partly subconsciously and is also a subjective matter of the personal, social and cultural background. However designers are urged to comprehend the effects of colours in consumer’s psychology in order to follow meaningful patterns and implement the suitable course of action.

Respectively, one parameter of colour psychology that ought to be taken into consideration is corresponding to the feelings derive from the colour. For instance, in bottles of water colours such as blue, light green or transparent are normally encountered as water is perceived clear, natural and refreshing. In contrast it would be highly inappropriate to colour the bottle of the water brown or yellow seeing that it would be associated with not a clear content. Similarly, in alimentation products are used natural colours which are normally encountered in food and not blue or purple which would be a bad positioning in such packaging. Hence, the first parameter is correlated with the way consumers perceive the colour primitively. The second one is referring to the semantics of the web design. Semantics, concerning colour applications in marketing, branding and web design may refer to what each colour is signifying which is closely linked to the subjects of representation. A striking example of this is green apprehension as natural environment mentioned before. The issue of semantics is purposefully applied by firms with the intention to achieve the expected outcomes. The third parameter to be taken into account is concerning the operational aspect of the colour which in this case is the use of colour contrast in the websites. Where it is essential to draw consumers attention the colour contrast should be intense perhaps with a variety of colours, in order to be more distinguishable and where there is less important information, low contrast with harmony between colours is suggested. By this way the interaction will be directed and will facilitate user’s navigation.

Regarding the optimal balance between **image and text** in the websites it is stated that it is highly depending on the nature of the product, whether it is essential to acquire detailed information about the specification of the product or it is more pleasing to navigate through a variety of images to accomplish the selection process. Although, as argued in both cases, evidently images and icons are much more
powerful, since they are memorized effortlessly in contrast with text information which has to be processed for a short time period. When it is concerning e commerce, a excellent quality image should be displayed next to a clear and specific descriptive text covering the necessary information indicatively with an analogy of 70-80% of visuals along with 30-20% of text as suggested (always depending on the subject). Moreover, as an emerging trend of nowadays, communication is increasingly based on images and videos as well. Even in cases of products that it is significant to provide with all the specifications in detail (such as cars), it is considered effective to communicate these information with one well presented video. By this way the consumer will adopt all the details required in an amusing way without spending much time in reading elaborated texts.

Over the above, it has been stressed out that interactivity it is a highly significant parameter influencing the overall perceived website quality and consequently affecting the customer’s attitude as well. As a matter of fact, interactivity facilitates customer’s engagement which may result in co-creation or redesign of the product. To elaborate more, when there is high interactivity the consumer spend more time connected, he is more involved and engaged which result in high probability of positive attitude and subsequent purchase behaviour. A striking example of this application is the user’s reviews and feedback on the e commerce websites. There is interactivity not only between consumers and the firm but also between consumers themselves which is working as mouth to mouth communication and positively affect their trust towards the website.

From a design point of view, it has been indicated that organization of the information is a parameter that acquires a pivotal role in consumer’s online experience. To elaborate more, great attention should be paid in the hierarchy of the information, considering the fact that nowadays a vast amount of information are available in online environments. People during their online experiences are called to manage thousands of information that encounter only once, and their requirements for functionality constantly increase. The more information provided the more fundamental becomes the issue of structure. Within the frame of appropriate organization of the information lies the natural mapping (Norman, 1988). The real function of natural mappings is to reduce the need for any information from a user’s memory to perform a task. Specifically in e commerce, natural mapping is concerning the interactive experience between human and computer which is optimized with a
functional design. The role of the design in this case is to convey the essence of the websites operation, in a way that navigation is uncomplicated, pleasant and flowing. Careful analysis should be carried out in advance in order for the consumers to encounter the information enquired where expected and accomplish tasks without delay. An illustrating example of incorrect organization of information is when a consumer is frustrated by searching through the products without finding out what is looking for, which many times result in a purchase abandonment. Another practical aspect of this notion which has been expressed by professionals is information architecture in online environments. To be more specific, information architecture in websites is creating intuitive navigation schemes which make it easier for users to find the desired information. These navigation schemes must be concise, descriptive, and mutually exclusive and possess an information scent. This conception is in parallel with the previous one of the natural mapping. Both of them are explored through product categorization, product taxonomy, ease of use, and navigation characteristics inquired in the present study.

Regarding the web site atmospherics it has been noted that their effects may be more apparent with users searching for products of low involvement. When there is no time pressure and the product not that complicated these parameters tend to have a significant impact. In addition to this, the consumer decision process is another parameter correlated with web design perceptions. It is different to search for products goal directed or with discovery purposes. Embracing the likelihood elaboration model groundwork, It has been adopted the view that different feelings and behaviours may arise from the same stimuli depending of the circumstances which in this case are determined not only from the nature of the product and the website, but also from the individual’s subjective perspective. Hence, there is great diversity in consumer’s perspectives about colour contrast, navigation and also flow experience depending on multiple parameters such as type of the product, level of involvement, time available, decision and even personal mood.

It is proposed the view that, flow may occur as a result of indecisiveness of the person and a great variety of products available online. Therefore determining factors for experiencing the state of flow are time available, decision and information available. An interesting aspect stems from this view, is related to the negative perception of flow. It is supported that, when consumers do not have plenty of time available or they search for specific product (goal directed) it is plausible that they would avoid a
boundless navigational situation. An illustrative example of that is the infinite scroll use in e-commerce. It has been revealed that, using this application the consumers are prone to abandon any purchase intention due to the overload of information. Thus too many information may result in reverse outcomes. This condition will be further explored by acquiring the user's feelings and viewpoints on that.
Users Opinion

This section focuses on the findings of the study regarding user’s perspectives on the web design subjects that have been explored. The purpose of this research rests in interpreting the views of the consumers concerning the website characteristics and how these affect their attitude towards the website. It has been conducted 18 in-depth interviews based on semi-structured questions addressing the research objectives. As the research strategy dictates, there were discussed subjects corresponding the conceptual framework and additional viewpoints, observations, and propositions of the consumers regarding their experiences in e-commerce environments. The interviewees selected were both women and men, with experience in online shopping and their ages were ranging from 20-45. As the proposed in the research strategy the respondents commented on the website characteristics while navigating online in real websites of their preference. Obviously, the websites were varying regarding the type of the products and the respondents’ requirements and purposes accordingly. For this reason, it was deemed essential to provide with a classification with respect to the products as high or low/some involvement goods (Tanner and Raymond, 2012) and to the consumer intentions as goal directed or experiential (Novak et al., 2003). By this way, the data analysis will elucidate meaningful insights in the relevant context. The tables below illustrate the major differences between the distinct categories and will serve as criteria for analyzing the data in a comprehensive way that mirrors the users’ attitude clearly.

<table>
<thead>
<tr>
<th>High Involvement</th>
<th>Low Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important purchases</td>
<td>Casual purchases</td>
</tr>
<tr>
<td>Need more information</td>
<td>Need less information</td>
</tr>
<tr>
<td>High prices</td>
<td>Lower prices</td>
</tr>
<tr>
<td>Higher risk</td>
<td>Low risk</td>
</tr>
<tr>
<td>Complex decisions</td>
<td>Impulse buying</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Goal Directed</th>
<th>Experiential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilitarian value</td>
<td>Hedonic value</td>
</tr>
<tr>
<td>Directed search</td>
<td>Ongoing search</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Affective</td>
</tr>
<tr>
<td>Work</td>
<td>Fun</td>
</tr>
<tr>
<td>Planned purchases</td>
<td>Compulsive purchases</td>
</tr>
</tbody>
</table>

Table 3: Purchase involvement  
Table 4: Consumers purchase purpose
Subsequently, there will be presented the main categories formulated along with indicative statements of the interviewees.

<table>
<thead>
<tr>
<th>COLOUR CONTRAST</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>It is convenient because it helping me read texts clearly</em></td>
</tr>
<tr>
<td><em>Helps me in navigation, attention, especially the buttons with high contrast they give me a direction</em></td>
</tr>
<tr>
<td><em>It is helping me locating the information that I am looking for. However too much colour contrast makes me lose my concentration</em></td>
</tr>
<tr>
<td><em>It is helping me find basic activities like my basket and relocate them during purchase process. These activities should be recognizable and available always</em></td>
</tr>
<tr>
<td><em>Helps me find the information I want, but also draw my attention to info I wouldn’t pay any attention otherwise</em></td>
</tr>
</tbody>
</table>

**KEYWORDS:** navigation - ease of use - readability - memorization

*Table 5: Colour contrast*

As it has been outlined above, the majority of the respondents contend that colour contrast facilitate their navigation process in matters of readability, drawing of attention, recognizing information which can be recalled subsequently. It is notable that, colour contrast is a characteristic that generally facilitates the navigation but even if is affecting his attitude towards the website it does not further motivating into purchasing. Nevertheless, it is assumed by the proclamations that the absence of colour contrast will result in reverse effects.
As it is described above, categorization and product taxonomy is a fundamental website characteristic. Respondents strongly declare that it is expected to be found and essential for a variety of reasons. Those one who have already decided what they want (goal directed consumers), find that it facilitates the shopping process in a less time possible. On the other hand, those who have not decided yet and intent to discover their alternatives (experiential directed consumers) believe that categorization should filter their preferences in an effective manner. In addition to this, the consumers that are going online to buy high involvement products appear to have more requirements regarding the product taxonomy. They consider crucial, all categories to be specialized and obtain comparison option between the products in order to facilitate their decision process.
Ample evidence suggests that, it is significant for the website to be consistent as a design with the brand design strategy in general. Otherwise the consequences will involve loss of trust and dependability, feeling of confusion due to the changes which is possible to result in negative attitude as it has been stated. These responses are confirming the propositions of the experts, by further supporting the view that the website ought to confront with the integrated communication strategy of the firm by following similar design guidelines. However, there are some exceptional cases that would react positively to the changes, should these were aesthetically pleasing, as a creative redesign of the firm’s presentation online.
As it is described above all of the respondents confirm that they recall images better, as they attract their attention and are easier to be memorized. With respect to the level of detail, the opinions diverge. Some of them contend that it is more useful to display all the necessary information next to the image of the product, in order to save time from opening multiple windows and facilitate the comparison process. Those respondents, who made this statement, were consuming high involvement products and mentioned the lack of time available. However, the great majority prefer the image to be displayed adjacent to text with basic information solely and in case they are more interested to check inside for all the details. At this point, it is critical to stress that this was the prevailing opinion among all respondents, regardless the type of products or their purchase purposes. Hence, it is reasonable to conclude that this option appears more functional predominantly except for some cases where lack of time is involved.

Table 8: Image, text and level of detail

| KEYWORDS: navigation - attention - memorization - time available - multiple windows - product specifications |
As it has been confirmed by the users the strong established brand name is a major parameter affecting their trust. The second most important one appears to be the transaction/payment options. The prevailing opinion was that secure transaction options provide them with feelings of safety and trust. Moreover, there are multiple statements from consumers of high involvement goods that have indicated that PayPal as a transaction option is a defining condition to whether the transaction is secured or not. In addition to this, consumers of high involvement goods has also argued that reviews from previous users are important in building trust even for unknown websites.
Advertising and suggestions relevant to consumer’s previous purchases is a subject emerging from the research process as the great majority of the respondents were commenting on that issue for various reasons. Thus following an inductive approach it was explored how this is affecting consumer’s online behaviour. As it has been affirmed, many people get annoyed when the advertisements are very aggressive and put pressure, even if this is flashing buttons, sounds to attract attention or popup windows. It is apparent that, it is an annoying characteristic which affect negatively the psychology of the consumers. Furthermore, the majority of the respondents that were positive towards relevant advertisements were those ones who were consuming low involvement products. Also, it is remarkable that, some of them stated that this may initiate a flow experience arising from discovery intentions regarding products associated with their preferences. Undoubtedly, they are experiential directed and not goal directed as they haven’t made any prior decisions and their purchases are characterized by impulsiveness. On the contrary, respondents consuming high involvement products are more prone to be annoyed by the advertisements and even if they are not, they prefer to be discreetly positioned.

Table 10: Advertisement and related suggestions

| KEYWORDS: | popup windows | pressure | supplementary products | flow |

“*All advertisements related or not I find them annoying*”

“I don’t mind only if advertisements placed on the right bottom of the page. I tend to abandon the page when there is pop up sounds, I lose my concentration”

“It helps me find interesting products I do not find it annoying”

“*Maybe this is a reason for a state of flow, I like the suggestions if they are relevant and I tend to check and go from one link to another. However, I hate when they pressure you to press buttons*”

“I like the suggestion when they are supplementary to the previous purchase for example accessories for the mobile I just got”
In this question the interviewees were questioned whether they had experienced the state of flow, followed by a short description of this experience as introduced in the conceptual framework, and then as they remember what were the main reasons leading to that. As it is described above, more than half of the respondents had indeed experienced the state of flow online. Those who stated that they have never had such an experience explained that they go online with a specified purpose, and for this reason, usually they do not get abstracted. Thus, it is suggested that goal directed users are less likely to experience the state of flow as they have defined their search objectives in advance and tend to follow them strictly. On the other hand, those who asserted that they did had experienced a state of flow online, they indicated as principal reason the interesting information found, leading to other information resulting in continuous navigation from one link to another. Another indicative reason observed, was the visualization, including images or videos attracting their attention, which more often than not, were referring to products similar to their search criteria. Thus a significant reason is concerning advertisements and relevant suggestion as introduced before. Users that have not decided what they want in advance and go online with discovery intentions have the propensity to get influenced by suggestions relevant with their search criteria. What is more, it has been revealed that, consumers searching for high involvement products are more attracted to interesting information whereas those searching for low involvement products tend to be more attracted by the images.

**FLOW**

“Yes, I had experience flow but only when I haven’t decided what I want otherwise I just go for it”

“Yes many times. Due to related suggestions to the products I am interested in”

“Yes, because I see images of products I like attract my attention”

“No, never I only go online to buy something specific”

“Yes, I had experienced flow online. Mostly because I find information that I am interested in leading to similar ones and so on…”

**KEYWORDS:** decision – discovery – attention – images – related suggestions

Table 11: Flow experience

In this question the interviewees was questioned whether they had experienced the state of flow, followed by a short description of this experience as introduced in the conceptual framework, and then as they remember what were the main reasons leading to that. As it is described above, more than half of the respondents had indeed experienced the state of flow online. Those who stated that they have never had such an experience they explained that they go online with a specified purpose, and for this reason, usually they do not get abstracted. Thus, it is suggested that goal directed users are less likely to experience the state of flow as they have defined their search objectives in advance and tend to follow them strictly. On the other hand, those who asserted that they did had experienced a state of flow online, they indicated as principal reason the interesting information found, leading to other information resulting in continuous navigation from one link to another. Another indicative reason observed, was the visualization, including images or videos attracting their attention, which more often than not, were referring to products similar to their search criteria. Thus a significant reason is concerning advertisements and relevant suggestion as introduced before. Users that have not decided what they want in advance and go online with discovery intentions have the propensity to get influenced by suggestions relevant with their search criteria. What is more, it has been revealed that, consumers searching for high involvement products are more attracted to interesting information whereas those searching for low involvement products tend to be more attracted by the images.
Finally the last questions are regarding the consequent consumer’s attitude towards the website. The responses unveil two distinct behavioural clusters one of the goal directed purchases/ high involvement goods and the other of experiential purchases/ low involvement goods. These categories were merged together due to the familiarity of responses observed. The findings are demonstrated in the table below.

<table>
<thead>
<tr>
<th></th>
<th>Website Quality</th>
<th>Intentions To Revisit</th>
<th>Intentions To Recommend</th>
<th>Purchase Intentions</th>
<th>Visit The Physical Store</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal Directed</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>High Involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experiential</strong></td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Low Involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 12: Consumer attitude towards the website*

As it is shown above, all respondents have stated that all the aforementioned website characteristics would definitely affect their perception for the website quality and their intention to revisit the website. Whereas, the goal directed / high involvement respondents appeared positive to recommend as they were interested in reading reviews as well, the experiential / low involvement respondents were not that motivated as observed, and stated maybe/don’t know. Subsequently, as expected, the purchase intentions of the first group were not influenced from the website features in any case whilst the second group was positively affected. Last but not least, their intentions to visit the physical place were very much contrastive. On one hand the first group was negative in visiting the physical place because they were finding no reason to do so, should the website overall quality is satisfactory. On the other hand, the second group was very positive in visiting the physical store. Not only were they interested in discovering if it is similarly designed, but also they wanted to experience the “look and feel”. Additionally, it has been mentioned several times that, they were always looking for the store locator and the existence of a physical store nearby establish dependability for the website as well.
All the viewpoints outlined earlier are providing with enlightening insights drawn from this study. To summarize, these notions have been synthesized and depicted in a mind map as illustrated below:

Table 13: Consumer online experience mind map
Discussion and Conclusion

The goal of this paper was to enlarge our understanding of how the web design characteristics of colour and content such as colour attributes and contrast, categorization and product taxonomy, level of detail and representation are affecting trust, ease of navigation the flow experience and what is the impact in consumer’s behaviour. The qualitative research was executed in online retail context with the intention to interpret the consumer’s feelings in realistic web environments. It was deemed necessary to provide with a classification of the data with respect to the type of products and purchase purposes in order to mirror consumer’s behaviour in a meaningful manner. The findings showed that, low involvement and experiential consumers are more appealed to website atmospherics and visual content, more positive to relevant advertisement and tend to experience flow more often. On the contrary, consumers of high involvement and goal directed are less appealed to website atmospherics, more interested in informational content; they appear to be annoyed by any kind of advertisement and more negative to the state of flow. These insights constitute a valuable comprehension to be taken into consideration throughout the development of any commercial web space.

However, it is notable that, this study was limited in several ways. For example, websites have been analyzed at one point in time while the Web is a highly dynamic medium. Similar studies at different times are likely to show different results. Also, the data could be categorized in multiple ways providing enlightening information applying to diverse subjects. Another limitation concerns the subjective measures. As it has been underlined earlier, colour psychology effects in online consumer behaviour was difficult to be determined by the respondents themselves as it is a matter occurring subconsciously and it could be subjective as well. For instance, there was no classification according neither to the respondent’s cultural background nor the website’s country of origin. In order to establish validity of the results, an experimental procedure would be suggested as an additional course of action. Moreover the research explored websites of the interviewee’s preference, which clearly have been visited repeatedly. Thus it is reasonable to assume that, the interaction of first time
visitors would bear no resemblance with those that they were regular customers. Last
but not least, the interviews were all conducted with users navigate through laptop,
whereas as a common trend of nowadays a great number of consumers are using
tablets or even mobile devices. Therefore, it is proposed for future research to be
processed in different mediums of connectivity.

In conclusion, although it is currently supported the idea that web design parameters
acquire a pivotal role in e-commerce it is important to determine what is appealing
and efficient for users in a given context. In the case of website design, a number of
elements can have a significant impact on users’ or visitors’ perceptions, judgments
and willingness to navigate particular sites (Bonnardel N. et al., 2011). Nevertheless,
the present paper provides with fresh insights regarding web design features with
practical applications in e commerce. It is hoped, that it will prompt new enquiries and
further studies and that it will also provide with useful guidelines for web designers,
marketers, web developers and web based companies.
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