

Web user Experience and Consumer behaviour: The Influence of Colour, Usability and Aesthetics on the Consumer Buying behaviour

Dr Mudita Sinha Dr Leena N Fukey & Likitha S,
Assistant Professor CHRIST(Deemed to be University), Bangalore
Associate Professor CHRIST(Deemed to be University), Bangalore
Research Scholar, CHRIST(Deemed to be University), Bangalore

Article Info

Volume 82

Page Number: 16592 - 16600

Publication Issue:

January-February 2020

Article History

Article Received: 18 May 2019

Revised: 14 July 2019

Accepted: 22 December 2019

Publication: 28 February 2020

Abstract:

What is already known about the topic?

- The influence of website design on consumers' behaviour is an important topic of interest all around the world.
- There is a need to establish a relationship between colour, usability & aesthetics on the consumer behaviour in an online setting.

. What this paper adds

- Reviews international research (from business, user experience and psychology) on influence of design on consumer behaviour.
- Highlights the impact of colour, usability and aesthetics on the consumer and his behaviour.
- Identifies issues in current research and offers recommendations for future user experience-based research.

I. INTRODUCTION

User experience and consumer behaviour in the online setting has gained traction since the early 21st century. There is a lot of evidence that supports user experience and positive consumer buying behaviour. (Constantinides, 2004); (Pan, Wang, Chen, & Qu, 2017); (Abrar, Zaman, & Satti, 2017). Although professionals in design and marketing deem user experience as vital in consumer behaviour, there is limited evidence to support these claims, especially in case of specific factors such as colour and usability. Comprehensive theoretical and practical understanding of consumer behaviour and experience is needed in order to prioritize and implement involvements targeted toward improving user experience (UX) and design of websites and mobile applications. In order to construct upon a potentially significant area of user experience and consumer behaviour research, a review of the literature examining the current state of knowledge about user experience in online platforms with regards to consumer buying behaviour was conducted. This review focuses on the factors of user experience research; namely, colour, usability and aesthetics, and highlights consequences of these factors on consumers. There are recommendations for future research included in the paper.

II. BACKGROUND

The reliability of a website is 75% based on the overall aesthetics of the website (Alsudani & Casey, 2009). Therefore, a customer's buying behaviour are largely dependent on user experience factors such as colour, usability and aesthetics. Due to large corporations focusing on customer loyalty and experience nowadays, researchers focusing on user experience on digital platforms is at an important stage. Although many user experience factors have been identified as crucial conclusions of consumer behaviour, including usability (Wang, Hong, Soonkwan, & Lou, 2010) (Leung & Rosanna, 2011) and trust (Cyr, Kindra, & Dash, 2008), there is scope for more knowledge. Improving upon what we know about consumer behaviour and the influence of user experience factors on their decisions could help to bridge this gap.

III. METHODS

The aim of this review paper was to explore the current state of knowledge about influence of user experience on consumer behaviour. To obtain appropriate research papers from the published literature the electronic data- Academia, SSRN, ProQuest, ResearchGate, DOAJ and

Jurn. Key words used in the literature searches were User experience, Website design, Consumer behaviour, Aesthetics, Colour and Usability. Reference lists of articles were analysed for subsequent publications that might have not been indexed rightly and not found through electronic searches.

Due to the limited amount of research that has examined user experience in the light of consumer behaviour, published research including differing design constraints

were included in this review. The sample subsisted of peer-reviewed research papers published in business, organizational psychology, and information technology journals from 1996 to 2019. The selection criteria for this review include those studies that were: (1) written and presented in English and (2) investigated web user experience in various settings. Nearly, 100 manuscripts were reviewed, of which 30 are referenced in this paper (Table 1).

YEAR	NUMBER OF STUDIES
2000-2005	5
2006-2010	10
2011-2015	8
2016-2020	6
TOTAL	30

IV. METHODOLOGY

User experience is a discipline involving ergonomics and human factors. Since 1950s, it has focused on the interaction between humans and machines and other related environments. Literature based on user experience has been found since late 1970s. Until now, research has been conducted on various design constraints, psychological constraints and more. This study focuses on three constraints: colour, usability and aesthetics. The three constructs are summarised in Table 2 and are defined. This next section starts with the study of colour, and continues through the remaining two constructs used to describe, measure, and empirically test this phenomenon.

4.1 Colour
Colour plays a key role in user experience of a consumer. It majorly influences consumer buying behaviour. It is a powerful marketing device that fundamentally impacts

customer purchases, so much that it represents 85% of the motivation behind why somebody chooses to buy a product (Hemphill, 1996). Colour can strongly influence the perceptions of a consumer. Studies show that spontaneous purchasers tend to be attracted by warmer colours, although cooler colours are more favoured. Humans correlate colours with meanings and perceptions (Kumar, 2017). Colour has three general properties: Hue, Lightness, and Chroma (D., 2015). (Cyr, Head, & Larios, 2010) commented that colour properties such as hue, brightness, and saturation have effects on physiological reactions, perceptions, emotional reactions and behavioural intentions. Changes in any of these properties could impact cognition, and/or behaviour, yet only hue is considered in most speculation (probably because it is the most prominent colour property) (Kumar, 2017).

Construct	Definition
Colour	<i>"Colour is the property possessed by an object that produces different sensations on the eye as a result of the light it reflects or emits".</i> Colour plays a key role in user experience of a consumer. It majorly influences consumer buying behaviour. It is a powerful marketing device that fundamentally impacts customer purchases, so much that it represents 85% of the motivation behind why somebody chooses to buy a product (Hemphill, 1996).
Usability	Usability and web design are highly tied-in and usability is linked to the consumer's ability to determine where he or she is and what he or she can do in every step of the navigation process in a website (Flavian, Gurrea, & Orús, 2007). Essentially, usability

	refers to ease of use of a website or any particular system in question.
Aesthetics	Aesthetics is apparently said to have something to do with the joy and harmony that people experience(Lindgaard G. , 2007).
User Experience	The construct of User Experience is defined as “ <i>private events that occur due to encountering, undergoing or living through the interaction with the system</i> ”(Hassenzahl & Tractinsky, 2006). Design is regarding user experience instead of regarding the creation of product (Buxton, 2005).
Consumer Behaviour	“ <i>Consumer buying behaviour is the purchasing behaviour of the final consumer which can be individuals or households that buy goods and services for their own consumption, The decisions of consumers are influenced by a number of individual characteristics that are linked to the consumer’s specific needs</i> ”(Kotler & Armstrong, 1991).

Although, many researchers tend to agree that there is no universal colour scheme that will appeal to most consumers, there are colour patterns that do yield results of varying degrees. It is said that reactions to colours can be largely influenced by physiological and environmental factors. Purple signifies excessive spending in China whereas, it is associated with ‘royalty’ in Europe. White colour denotes purity in both the United States and the Middle East, although in Japan and China, white is associated with mourning and demise (Kumar, 2017). (I. Humar, 2008)analysed legibility of varying colour combinations of text and background. The study shows that optimum results were achieved with yellow on black, cyan on black, white on blue, black on yellow, white on black, and green on black colour combinations.

According to CoSchedule(coschedule, n.d.):

- Blue is favoured by both men and women, although its mostly favoured by men (57%).
- Brown is detested by men the most while women have a strong disliking orange the most.
- Women see more colours than men, generally.

TABLE 4
COLOURS TO ATTRACT CUSTOMERS BASED ON THEIR INTENTION

Behaviour of consumer	Colours to attract
Impulsive	Red, Orange, Yellow, Black
Budgeted	Navy blue, Teal
Traditional	Pink, Green, Purple, Sky Blue

Source: (Churchill, n.d.)

There are prior studies that have already shown that white is correlated with clarity, purity and peace (Fraser, 2004), (Mahnke, 1996), (Wright, 1988). Similarly, yellows elicit elements of sincerity, but blends happiness and optimism(Clarke, 2007). Pink is associated with emotions like sincerity and softness, including emotions of nurturing and warmth(Fraser, 2004).

The colours with longer wavelengths like red, orange and deep yellow all have the same result of eliciting emotions of excitement, extraversion, and energy.Ifthe need is to elicit excitement and energy, red is the go-to colour. Orange works when one wants neither sobriety or excitement. Yellow is on the other end brings about a mellow energy that neither red nor orange can elicit. Brown on the other hand, shows competence. It relays emotions such as reliability and seriousness(Fraser, 2004)(Clarke, 2007).

4.2 Usability

“*Usability is part of the widely used term “user experience” and refers to the ease of access and/or use of a product or website. A design is not usable or unusable as such; its features, together with what the user wants to do with it and the user’s environment, determine its level of usability*”(Interaction Design Foundation). Usability and web design are highly tied-in and usability is linked to the consumer’s ability to determine where he or she is and what he or she can do in every step of the navigation process in a website(Flavian, Gurrea, & Orús, 2007). High levels of usability influence the affective states of users and therefore, along with aesthetics and appeal, a website needs to be usable most importantly(Desmet & Hekkert, 2007). (Palmer,

2002)suggested and corroborated measures of websites' usability and design, determining aspects related to the response time, navigation, information and website content. The research also diagnosed that interactivity of a website and the ability to customise the appearance and contents were factors for success of a website.

It is necessary that managers focus on the simplicity of the website as it contributes largely to the usability of a website (Gehrke & Turban, 1999), and also that it allows users a certain level of freedom (Lorenzo, Carlota, Gomez-Borja, Angel, & Descals, 2007). The connection between website design and ease of use is to make it simpler for clients to navigate through the site, enabling them to control their tasks and giving them a feeling of freedom during the navigation. The importance of website atmospherics is said to attract users' attention to the website, to build upon users' knowledge about the organisation and to encourage users' buying intentions (Flavian, Gurrea, & Orús, 2007).

There is no unique and optimal design structure that will lead to success, it is safe to say that simplicity and freedom of navigation allows for tasks to be performed seamlessly and calls for users' attention. Despite the fact that there is no uncertainty that these tools influence customers to an incredible degree, it is necessary to adhere to the essential principles of design, that is, have a reliable appearance and experience, and make the website simple to utilize and navigate (Zhang & Myers, 2005).

4.3 Aesthetics

Aesthetics is apparently said to have something to do with the joy and harmony that people experience (Lindgaard G., 2007). Auser clarifies, intensifies, and interprets events in a visual environment through a cognitive process involving aesthetics (Xu S. C., 2011). Research proposes that the overall appeal of visual stimuli is firmly identified with both user fulfilment and perceived ease of use. It likewise proposes that decisions of visual appeal and satisfaction depend vigorously on the first impression of these stimuli and on the emotions and feelings they bring out in the user that lays everything out for the whole interactive

user experience (Lindgaard G., 2007). In an online setting, (Bloch, 1986) displayed that users generally search for more products in the presence of pleasurable stimuli and a pleasurable website atmosphere. It is (Donovan, 1982) proposed that if the first impression atmospherics are complex with oodles of information, consumers are likely to spend less time looking for products.

It was found that there is no consistency discovered between one second exposure and the long exposure quality perceptions in websites while trying to establish first impression statistics (Lorenzo-Romero, Constantinides, & Alarcón-del-Amo, 2013), which was contrary to 50 milliseconds being enough to form the first perception (Lindgaard G., 2006). As this inconsistency is relevant, designers must not focus on making first impressions in a short exposure environment and instead focus on lasting long exposure impressions (Lorenzo-Romero, Constantinides, & Alarcón-del-Amo, 2013).

To create customer goodwill and increasing conversion rate, websites must have a balanced design with equal importance to classical, expressive and design aesthetics (Lorenzo-Romero, Constantinides, & Alarcón-del-Amo, 2013). 'Classical' aesthetics refers to aesthetic notions that are age old and antique. Classical aesthetics elicits pleasant emotional responses and includes concepts like clean and symmetrical. 'Expressive' aesthetics displays the impression of the designers' creativity and originality (Lindgaard G., 2006). Studies also suggest that the impression of visual appeal is closely related to concepts pertaining to the complete impressions of layout and colour (Lindgaard G., 2006). There is not enough conclusive data to establish the importance of aesthetics alone without the other variables. Design aesthetics have significant impact on 'perceived ease of use' (the degree to which a user believes that using a particular system would be free of effort) which signifies that a well-presented website increases its users' perceptions about user-friendly interaction which could be instrumental to meet customer requirements (Sreeram, Kesharwani, & Desai, 2017):

Table 5 Studies and Dependent Variables

The dependent variables in this study are, namely; colour, usability and aesthetics.

STUDIES	COLOUR	USABILITY	AESTHETICS
Shun Cai & Yunjie Xu (2011)			✓
Ganguly, B., Dash, S.B., Cyr, D. and Head, M. (2006)		✓	✓
Kumar, J. (2017)	✓		
Chai-Lee Goi (2012)	✓		
Wang, J., Hong, Y. &, Soonkwan, & Lou, H. (2010)		✓	✓
Lindgaard, G. G. (2006)		✓	✓
Lorenzo, Carlota & Gomez-Borja, Miguel Angel & Descals, Alejandro. (2007)			✓
Sangwon, L., & J. Koubek, R. (2010)		✓	✓
Alsudani, F., & Casey, M. (2009)			✓
Monsuwé, P. T., Dellaert, C. G., & Ruyter, K. (2004)		✓	
Baek, T. H., & Yoo, C. Y. (2018)		✓	
N. Tractinsky, A.S. Katz, D. Ikar (2000)	✓	✓	✓

4.4 User experience

The construct of User Experience is defined as “*private events that occur due to encountering, undergoing or living through the interaction with the system*”(Hassenzahl & Tractinsky, 2006). Design is regarding user experience instead of regarding the creation of product (Buxton, 2005). Web expertise will have an effect on the user perception of amusement and operation procedure towards the net, and therefore affecting the satisfaction and purchase intention. Compared with the information system quality, service quality of the web incorporates a major impact on purchase intention (Hsu, Chang, & Chen, 2012). Researchers believe that the UX is neither merely a client perception, nor a technical support, and it cannot be separated from 2 of them in study. UX is influenced by several factors, it has to mix a range of helpful points and analyse it comprehensively, therefore, promoting the e-commerce business in a very a lot of stable setting, and each customer and businessperson will have real financial gain (Pan Y. W., 2017). Web experience encompasses a lot of factors such as usability, aesthetics, emotional arousal, feedback and more. (Pan Y. W., 2017).

(Hassenzahl M. , 2008) speaks of a base for a widespread evaluation of user experience that gives an overall view of an information system considering both utilitarian and hedonic qualities of a system and suggested using User

Experience as a measure of evaluation of a system instead of User Satisfaction.

Therefore, UX would focus on creating incredible quality experiences than just preventing usability issues in the world of positive HCI (Hassenzahl & Tractinsky, 2006).

4.5 Consumer Behaviour

“*Consumer buying behaviour is the purchasing behaviour of the final consumer which can be individuals or households that buy goods and services for their own consumption, The decisions of consumers are influenced by a number of individual characteristics that are linked to the consumer’s specific needs*”(Kotler & Armstrong, 1991). Many factors affect consumer behaviour online ; namely, cultural characteristics, social characteristics, personal characteristics, and psychological characteristics. Studies suggest that customers have significantly higher loyalty towards online shopping than conventional shopping and stores (Zhou, Dai, & Zhang, 2007).

(Monsuwé, Dellaert, & Ruyter, 2004) analysed the consumer characteristics online and deduced that income plays a key role in online buying behaviour. It was concluded that the factors trust, convenience and price are influential factors on the online consumer buying behaviour (Hasslinger, Hodzic, & Opazo, 2008). Invasion of customer privacy, misuse of their personal

information or violation of their trust negatively influences the customers' attitude towards online shopping (Monswé, Dellaert, & Ruyter, 2004). Hedonic factors like "enjoyment" are significant in influencing consumers' attitude towards online shopping along with the utilitarian aspects. Therefore, marketers and designers should focus on the enjoyable side of shopping on the Internet as well as, in their promotions. Enjoyment can refer to visual aesthetics and appeal. It can be said that,

"enjoyment" reflects customers' perceptions about the probable entertainment of shopping on the Internet (Monswé, Dellaert, & Ruyter, 2004).

It can be said that the layout of a website influences a consumer through their attitude directed at the website, whereas atmosphere influences their behaviour through emotional arousal (Wu, Lee, Fu, & Wang, 2013)

STUDIES	USER EXPERIENCE	CONSUMER BEHAVIOUR
Shun Cai & Yunjie Xu (2011)	✓	
Ganguly, B., Dash, S.B., Cyr, D. and Head, M. (2006)		✓
Kumar, J. (2017)	✓	✓
Chai-Lee Goi (2012)	✓	
Wang, J., Hong, Y. &, Soonkwan, & Lou, H. (2010)	✓	✓
Lindgaard, G. G. (2006)	✓	
Lorenzo, Carlota & Gomez-Borja, Miguel Angel & Descals, Alejandro. (2007)	✓	
Sangwon, L., & J. Koubek, R. (2010)	✓	
Alsudani, F., & Casey, M. (2009)	✓	✓
Monswé, P. T., Dellaert, C. G., & Ruyter, K. (2004)		✓
Hassenzahl, M., & Tractinsky, N. (2006)	✓	✓
N. Tractinsky, A.S. Katz, D. Ikar (2000)	✓	✓
Leung, & Rosanna, C. M. (2011)	✓	

5. Discussion

5.1. Limitations

There are a few limitations to this review of literature. Research was limited to peer-reviewed business, psychology and computer science journals to understand the influence of user experience on the consumer behaviour. The review is largely focused only on web-based media and has not included mobile-based media. Further research reports which would have met the admittance criteria may have been found in other non-related journals.

5.2. Summary of key findings

The purpose of the review was to understand the influence of user experience on consumer behaviour in an online setting. Nearly, 100 manuscripts were reviewed, of which 30 are referenced in this paper. The review highlighted the constructs; colour, usability,

aesthetics, user experience and consumer behaviour. The syntheses of 30 studies of consequences of user experience on consumer behaviour provide consistent findings.

It can be said that there is no universal colour scheme, but designers and marketers can adopt colour theory accordingly to affect the consumer's perception and induce buying. Depending on the emotion the marketer intends on eliciting in the consumer, he/she can refer to colour theory and use a constant colour palette throughout the website. Studies also suggest that the impression of visual appeal is closely related to concepts pertaining to the complete impressions of layout and colour (LINDGAARD G. G., 2006). It is important to give equal representation to several factors that influence a customer online. Web experience encompasses aesthetics, information flow, usability, colour, navigation, and overall design. Designers need not focus on the time limit that consumers take to make their first

impression as there is no limit as such. Research has shown that initial impression can last over several minutes as a consumer navigates through the website. Usability is a key factor in the success of the website. It is necessary for designers to keep the website easy to use and clean. The website must be characterised by simplicity and freedom of navigation. Although it is hard to determine which construct outweighs the other, it can be said that a clean and simple website design that is visually appealing will lead to positive consumer behaviour.

5.3. Recommendations for future research

It is suggested that scope of user experience-based research be widened to include various other media such as mobile and augmented reality. It is necessary to focus on factors such as usability and aesthetics individually to see which construct holds more importance while designing a website or a mobile application. Further research is required to provide designers and marketers with a better understanding of the influences of each construct on consumer behaviour. Finally, it is necessary to understand to what extent customers rely on the visual appeal of the website to make a positive purchase decision.

5.4. Conclusion

As the use of Internet only increases day-by-day, it is necessary to identify what factors positively influence a customer in an online setting. User Experience enables marketers and designers to assess the success of factors such as design, aesthetics, usability, etc on the consumer's behaviour. It can be said there is no universal design structure that yields a similar response. User Experience is dependent on several factors such as Usability, Aesthetics, Colour, and more. By varying these factors, one can then achieve an optimal solution that is unique to their problem. There are universal guidelines to usability and colour theory, but they must be adjusted accordingly for the marketer to elicit a positive consumer response

REFERENCES

1. Hemphill, M. (1996). A note on adults' color-emotion associations. *The Journal of genetic psychology*, 275-280.
2. D., F. M. (2015). Seeing, adapting to, and reproducing the appearance of nature. *Appl. Opt.* .
3. I. Humar, M. G. (2008). The impact of color combinations on the legibility of a Web page text presented on CRT displays. *International Journal of Industrial Ergonomics*, 885-889.
4. Churchill, N. (n.d.). Retrieved from Koozai: <https://www.koozai.com/blog/content-marketing-seo/psychology-colour-marketing/>
5. Fraser, T. &. (2004). *The complete guide to color theory and application*. San Francisco: Chronicle Books.
6. Mahnke, F. H. (1996). *Color, environment, and human response*. New York: reinhold.
7. Wright, A. (1988). *The beginner's guide to colour psychology*. London: Colour Affects Ltd.
8. Clarke, T. &. (2007). The emotional connotations of color: a qualitative investigation. *Color Research and Application*, 406-410.
9. Lindgaard, G. (2007). Aesthetics, Visual Appeal, Usability and User Satisfaction: What Do the User's Eyes Tell the User's Brain? *Australian Journal of Emerging Technologies and Society*.
10. Buxton, B. (2005). Experience design vs. interface design. *Rotman Magazine*, 47-49.
11. Xu, S. C. (2011). Designing Not Just for Pleasure: Effects of Web Site Aesthetics on Consumer Shopping Value. *International Journal of Electronic Commerce*, 159-188.
12. Pan, Y. W. (2017). Research on the Influence of Web Experience on Consumers' Purchasing Intention. *Journal of Business Administration Research*.
13. Bloch, P. S. (1986). Consumer search: an extended framework. *Journal of Consumer Research* , 119-126.
14. Donovan, R. a. (1982). Store atmosphere: an environmental psychology approach. *J Retailing* 58, 34-57.
15. Lindgaard, G. G. (2006). Attention web design- ers: You have 50 milliseconds to make a good first impression. *Business & Information Technology*, 115-126.
16. Kotler, P., & Armstrong, G. (1991). *Principles of marketing*. Englewood Cliffs, N.J: Prentice Hall.
17. Brengman, M., Geuenes, M., Weijters, B., Smith, M. S., & W., S. R. (2005). Segmenting Internet shoppers based in their Web-usage-related lifestyle: across cultural validation. *Journal of Business Research*, 79-88.
18. Monsuwé, P. T., Dellaert, C. G., & Ruyter, K. (2004). What drives consumers to shop online? A literature review. *International Journal of Service Industry Management* , 102-121.
19. Palmer, J. (2002). Web site usability, design, and performance metrics. *Information Systems Research*, 141-67.
20. Desmet, P., & Hekkert, P. (2007). Framework of product experience. *International Journal of Design*, 57-66.

21. Flavian, C., Gurrea, R., & Orús, C. (2007). Web design: A key factor for the website success. *Journal of Systems and Information Technology*, 164-184.
22. Zhang, X., & Myers, M. (2005). Web design and e-commerce. *Gao Y. (Ed.)*, 205-21.
23. Hassenzahl, M. (2008). Proceedings of the 20th International Conference of the Association Francophone d'Interaction Homme-Machine on - IHM '08.
24. Hassenzahl, M., & Tractinsky, N. (2006). User experience- a research agenda. *Behaviour & Information Technology*, 91-97.
25. Interaction Design Foundation. (n.d.). Retrieved from interaction-design.org: <https://www.interaction-design.org/literature/topics/usability>
26. Constantinides, E. (2004). Influencing the online consumers behavior : The Web experience. *Internet Research*, 111-126.
27. Pan, Y., Wang, M., Chen, C., & Qu, H. (2017). Research on the Influence of Web Experience on Consumers' Purchasing Intention. *Journal of Business Administration Research*.
28. Abrar, K., Zaman, S., & Satti, Z. W. (2017). Impact of Online Store Atmosphere, Customized Information and Customer Satisfaction on Online Repurchase Intention. *Global Management Journal for Academic & Corporate Studies*, 22-34.
29. Wang, J., Hong, Y. &, Soonkwan, & Lou, H. (2010). Beautiful beyond useful? The role of web aesthetics. *Journal of Computer Information Systems*, 121-129.
30. Leung, & Rosanna, C. M. (2011). Human factors in website usability and aesthetics : theory and applications to hotels in Hong Kong.
31. Cyr, D., Kindra, G. S., & Dash, S. (2008). Web site design, trust, satisfaction and e-loyalty: The Indian experience. . *Online Information Review*, 773-790.
32. Alsudani, F., & Casey, M. (2009). The effect of aesthetics on web credibility. *People and Computers XXIII Celebrating People and Technology - Proceedings of HCI 2009*, (pp. 512-519).
33. International Organization for Standardization . (n.d.). ISO 9241-11.
34. Lorenzo, Carlota, Gomez-Borja, Angel, M., & Descals, A. (2007). Website design and e-consumer: Effects and responses. *International Journal of Internet Marketing and Advertising*.
35. Gehrke, D., & Turban, E. (1999). Determinants of successful Website design: relative importance and recommendations for effectiveness. *Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences*.
36. Ganguly, B., Dash, S., Cyr, D., & Milena, H. (2010). The effects of website design on purchase intention in online shopping: the mediating role of trust and the moderating role of culture. *Int. J. Electronic Business*, 302-330.
37. Kumar, J. (2017). The Psychology of Colour Influences Consumers' Buying Behaviour – A Diagnostic Study. *Ushus - Journal of Business Management*.
38. Goi, C.-L. (2012). The Impact of Colours on Online Marketing Communications.
39. Sangwon, L., & J. Koubek, R. (2010). Understanding user preferences based on usability and aesthetics before and after actual use. *Interacting with Computers*, 530-543.
40. Hunter, R., Schwarz, G., && Mukerji, B. (2011). The Role of Atmospherics in Influencing Consumer Behaviour in the Online Environment.
41. Sreeram, A., Kesharwani, A., & Desai, S. (2017). Factors affecting satisfaction and loyalty in online grocery shopping: an integrated model. *Journal of Indian Business Research*, 107-132.
42. Wang, M., & Li, X. (2016). Effects of the aesthetic design of icons on app downloads: Evidence from an android market. . *Electronic Commerce Research*, 83-102.
43. Mishra, A., Ganiyu, A. A., Elijah, J., & Gana, U. M. (2017). The Importance of Usability of a Website. *The IUP Journal of Information Technology*, 27-35.
44. Hsu, C.-L., Chang, K.-C., & Chen, M.-C. (2012). The impact of website quality on customer satisfaction and purchase intention: perceived playfulness and perceived flow as mediators. *Information Systems and e-Business Management*, 549-570.
45. Cyr, D., Head, M., & Larios, H. (2010). Colour appeal in website design within and across cultures: A multi-method evaluation. *International Journal of Human-Computer Studies*, 1-21.
46. Wu, W., Lee, C., Fu, C., & Wang, H. (2013). How can online store layout design and atmosphere influence consumer shopping intention on a website? *International Journal of Retail & Distribution Management*, 4-24.
47. Sreeram, A. A. (2017). Factors affecting satisfaction and loyalty in online grocery shopping: an integrated model. *Journal of Indian Business Research*, 107-132.
48. Lorenzo-Romero, C., Constantinides, E., & Alarcón-del-Amo, M.-d.-C. (2013). Web Aesthetics Effects on User Decisions: Impact of Exposure Length on Website Quality Perceptions and Buying Intentions. *Journal of Internet Commerce*, 76-105.
49. Xu, X. (2017). The effects of website quality on customer satisfaction, use intention, and purchase intention: A comparison among three types of

- booking channels. *Graduate Theses and Dissertations*.
50. Park, H. C. (2005). Examining Consumer Pre-purchase Deliberation Process in an Online Marketplace. *PhD diss., University of Tennessee*.
 51. Zhou, L., Dai, L., & Zhang, D. (2007). Online Shopping Acceptance Model: A Critical Survey of Consumer Factors in Online Shopping. *Journal of Electronic Commerce Research*, 41-63.
 52. Baek, T. H., & Yoo, C. Y. (2018). Branded App Usability: Conceptualization, Measurement, and Prediction of Consumer Loyalty. *Journal of Advertising*, 70-82.
 53. Khalid, H., Shihab, E., Nagappan, M., & Hassan, A. E. (2015). What Do Mobile App Users Complain About? *IEEE Software*, 70-77.
 54. Kim, E., Eom, S., & Uoo, S. (2001). Effective User Interface Design for Online Stores in the Asia Pacific Region: A Survey Study. *AMCIS 2001 Proceedings*.
 55. Hasslinger, A., Hodzic, S., & Opazo, C. (2008). Consumer Behaviour in Online Shopping.
 56. Tractinsky, N., Katz, A., & Ikar, D. (2000). What is beautiful is usable. *Interacting With Computers*, 127-145.
 57. (n.d.). Retrieved from coschedule: <https://coschedule.com/blog/color-psychology-marketing/#gender>