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Colour Preference of Online Consumers: a Cross-Cultural Perspective

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ABSTRACT This study focuses on the influence of colour on the online purchasing intention of consumers. The literature review about colour associations showed that several factors could play a mediating role in the relationship between colour and purchasing intention. Two of these factors are emotion and trust, which have been shown in previous studies to have a relationship both with certain colours and with online purchasing intention. The aim of the study was to investigate the relationship between colour and online purchasing intention, taking into account the influence of emotion, trust and cultural differences between Western and Asian cultures. The method used to investigate these relationships was an online survey, which has been conducted amongst 522 participants from seven countries that can be separated in Western (The Netherlands, Germany and United Kingdom) and Asian (China, Singapore, Malaysia and Indonesia) cultures. The survey asked the participants about their cultural background, attitudes towards the product and message, emotions, level of trust, colour influences and experience. When filling in the survey, an image was presented to the participants that showed an online shopping background, a coloured context and a simple digital photo camera. Only the coloured context of this image varied amongst the participants; every participant answered the questions being exposed to one colour: red, yellow or blue. The results of the study showed that the direct relationship between colour and online purchasing intention was supported only for the colour yellow and that emotion indeed played a mediating role between colour and online purchasing intention, although no clear relationships could be defined between colours on the one hand and emotion and trust on the other hand. Concerning the cultural differences, results on emotion were found for both Western and Asian cultures, but trust was shown to influence the relationship between colour and online purchasing intention only for Asian consumers. The results partly confirmed the findings of previous studies, but also highlighted areas that need to be studied in more detail or by using another method. Overall, the study showed that colour does influence online purchasing intention, so companies should consider this when persuading consumers to buy their products.

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Online shopping; Marketing; Culture; Online information

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1. Introduction

Colours influence the way we feel, think and behave. In a web shop, the online atmospheric cues, such as colours, provide information about the online retailer and influence the affective and cognitive internal states that influence the purchase behaviour of the online shopper (Eroğlu et al., 2003). The globalisation of the internet yields infinite cultural implications for online marketers. Therefore, this research intends to examine how consumers from different cultures behave with respect to different colours. In particularly trust and emotion are important factors in online shopping, because consumers are more vulnerable online than in offline shopping environments.

Accordingly, this study focusses for these colour association on differences between consumers from Asian and Western cultures.

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2. Theoretical framework

Cultural differences may have an effect on consumers' behaviour in e-commerce environments (Hermeking, 2005). Thus, for being successful, an e-commerce platform should consider the cultural habits of consumers and existing communication practices. There are different classifications of culture, starting from single dimension models, such as high-context vs. low-context (Hall, 1976) to models with six dimensions (Hofstede, 2017). The concept of high/low-context cultures goes in line with Hofstede's (2017) description of individualistic/collectivistic cultures. Asian cultures more commonly can be characterised are high-context and collectivistic cultures: personal touch is very important, relationships are closer and little needs to be said, in order to be understood. The preferred communication style is more informal, indirect and often based on symbols or pictures. High-context cultures make more use of implicit information (Hofstede, 2011). On the contrary, people from Western cultures (low-context and individualistic) prefer explicit information. This means that they wish to know the specific contents of what one is saying and rely heavily on written word.

In e-commerce, the environmental online context provides 'high task relevant' cues and 'low task relevant' cues (Eroğlu et al., 2001). High task relevant cues are the words and pictures that enable the online consumer to reach the shopping goal. The colour of the website, whether it is the background colour or text colour, is part of the low task relevant cues. These cues are not essential to reach the shopping goal, but are used to establish the store image or provide a context for the online shopping experience. Eroğlu et al. (2003) found that low task relevant cues, positively affect arousal, which in indirectly influences online purchasing intention. A few studies, Würtz (2005) and Davis et al. (2008) for example, pinpointed at cultural differences in the persuasive effect of different types of cues in the online environment. Asian, high-context cultures will experience a greater influence from low task relevant cues than Western, low context cultures. Surprisingly little work has been done to explore colours in online, Internet-based environments, in particular the effects of colours in online web shops (Cyr et al., 2010).

In general, one of the most common distinctions between colour associations is the distinction between warm colours, such as red and orange, and cool colours, such as blue and green. The effect of colours on people, and customers in particular, has been shown in several studies. Cimbalo et al. (1978) reported that amongst children, yellow, orange, green and blue were evaluated as happy colours, while red, brown and black were sad colours. College students showed the same evaluation results, with the exception of blue. Middlestadt (1990) also found that the women evaluated blue more positively than the red. Lastly, Geboy (1996) confirmed a similar relationship, namely that warm colours, like red, are more stimulating and exciting and that more soothing colours, like blue, are perceived as cool.

Bellizzi and Hite (1992) showed that warm colours (red and orange) are better to physically attract consumers to enter a store and are particularly suitable for store windows, entrances and point-of-purchase displays, but these warm colours are viewed as disruptive when consumers are making a decision inside the store. On the contrary, cool colours (blue and green) will stimulate consumers to make a tough purchase decision (Bellizzi and Hite, 1992). Crowley (1993) investigated colour associations for retail store environments. The more extreme wavelength colours (red and blue) were perceived as more active environments. More activated consumers are more likely to make impulsive purchases. This implies that if a retailer wants to stimulate impulse buying, he should use, for instance, the colours red and blue instead of green. Also in e-commerce, a retailer should think about the preferred consumer action and adapt the colours in the online retail environment accordingly. A strategic design decision should be made based on the relations between (specific type of) colours and online arousal of trust and emotion in the process of online purchase intentions.

Related to, the influence of colour, in this study the following research questions are investigated:

1. What is the role of emotion and trust in the influence of colour on the online purchasing intention of consumers?
2. What are the differences between Western and Asian cultures in the influence of colour on online purchase intention?

The proposed research model is given in Figure 1. In addition to exploring the between group cultural differences, this study tries to unravel to what extend culture moderates the direct relationship between colour associations and purchase intention, and the (indirect) mediating role of trust and emotion.

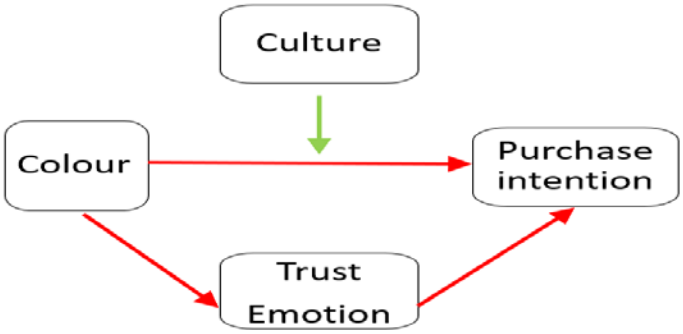

Figure 1. Research model

3. Hypothesis development

3.1. Emotion

Already in the 1950s, a large number of studies looked at colour associations in more detail. Wexner (1954) found that for certain mood-tones, there was a clear relationship with a colour, for example exiting-stimulating was significantly more often associated with red. Murray and Deabler (1957) continued on Wexner's study and pointed at differences between socio-economic groups. They concluded that colour associations are uniform from one person to the next and that it was likely that the mood-tone associations were learned, rather than inborn. Wilson (1966) did an early study that suggested a possible relationship between arousal of emotion effects and a colours' wavelength. The visible spectrum is a continuum, with colours viewed as wavelengths of visible light, ordered from long to short wavelengths. The order is from red, orange, yellow, green, blue, to violet. Colours with extreme wavelengths (such as red and violet) are more physiologically and psychologically activating than other colours. While colours in the middle of the continuum (such as yellow and blue) are less activating. This is confirmed in several empirical studies for different purchase domains (Wilson, 1966; Bellizzi and Hite, 1992; Crowley, 1993; Geboy, 1996; Grossman and Wisenblit, 1999; Menon and Kahn, 2002; Cyr et al., 2010). Hence, the following hypothesis is composed:

H1. Emotion mediates in the influence of colour on online purchasing intention of consumers.

3.2. Trust

The colour layout has been proven to be important in enhancing the trustworthiness online. Kim and Moon (1998) investigated cyber-banking systems (Korean participants) and found that a bright background colour and asymmetrical use of colours lead to a feeling of untrustworthiness. A cyber-banking system that used mainly pastel colours and a coloured background was the most trustworthy. Yang et al. (2005) used these results in their study (Chinese participants). They found that moderate pastel colours with low brightness were not a significant feature to induce trust online. They conclude that people with different ages, different gender or different backgrounds may have various tastes of colour and that the features of cyber-bank websites cannot apply to all e-commerce websites. Overall, for trust associations cool colours are preferred over warm colours (Simon, 2001; Wang and Emurian, 2005; Cyr et al., 2010). Therefore, a second hypothesis is built:

H2. Trust mediates the influence of colour on online purchasing intention of consumers.

3.3. Culture

Several studies dealt with cross-cultural differences and colour associations. A classic study is Adams and Osgood (1973) for the affective meaning of eight different colours in 20 different countries. The culturally diverse group rated colour constructs for the following factors: evaluation, potency, activity, familiarity and cultural instability. On the factor evaluation, the colour blue scored the highest (that is, most cultures preferred this colour). The most potent colours were black and red; the most active colour was red; black was the most consistently agreed upon colour; and blue was ranked as the most familiar colour. More recently, Madden et al., (2000) compared the colour preferences in eight diverse cultures, i.e. Austria, Brazil, Canada, Columbia, Hong Kong, China, Taiwan and United States. A (culturally) consistent pattern of colour clusters emerged. The first cluster consisted of the colours blue, green and white. In a second cluster were the colours black and brown.

Overall, studies on colour associations show that people of different cultures have a large variety of types of associations (Aslam, 2006). There are some commonalities between cultures, but also many differences or even contradictions. In this study, the widely used cultural model of Hofstede (2017) is used. A difference between individualistic and collectivistic cultures is the extent to which people are showing their emotions. Since collectivistic cultures are less likely to show their emotions, and Asian cultures tend to be more collectivistic than Western cultures, the cultural emotion related hypothesis is formulated as follows:

H3. Emotion will play a bigger role in the influence of colour on online purchasing intention of consumers from Western cultures than from Asian cultures.

Another dimension for tracing cultural differences is short/long-term orientation (Hofstede, 2017). This refers to the way people take decisions in the present. Asian, long term oriented cultures take the future more into account, which could indicate that they want to establish a more trustworthy relationship before making a decision. Western, short term oriented cultures take the past more into account and focus more on achieving their short-term goals quickly. It can be anticipated, that trust seems to play a bigger role in long term oriented cultures. Therefore, the cultural trust related hypothesis is as follows:

H4. Trust will play a bigger role in the influence of colour on online purchasing intention of consumers from Asian cultures than from Western cultures.

4. Methodology

The aim of this study was to examine differences between Western and Asian consumers concerning the influence of colour when shopping online. The study used a 3 (colour: blue, yellow, red) x 2 (culture: Western, Asian) between-subject design. The constructs were gender, age, level of education, culture, purchase intention, emotion and trust, and shopping motivation.

4.1. Population

A total of 543 respondents completed an online survey: 278 females and 265 males, mean age was 22.38 years (age range 18-37 years.). 21 participants come from countries that are not in the scope of this study. From the remaining 522 participants, 277 participants are from Western, Hofstede's individualistic (IDV), cultures (Netherlands, n = 137, IDV = 80; United Kingdom n = 36, IDV = 89; Germany n = 104, IDV = 67), and 245 participants were from Asian, Hofstede's collectivistic, cultures (China n = 46, IDV = 20; Singapore n = 65, IDV = 20; Malaysia n = 73, IDV = 26; Indonesia n = 61, IDV =14).

4.2. Advertisement

The respondents were presented with an image of a camera in a web shop. There were three colour variations of the background (see Figure 2).

Figure 2. The web shop images with the product in a blue, yellow and red background

The chosen product was a compact, not expensive digital camera for everyday use since it was a fairly neutral, non-gender specific product, not associated with stereotypes. All brand and product information were removed from the images of the camera to avoid the possible effect of factors other than those that were deliberatively manipulated. Silver was chosen as it is a neutral and gender unspecific colour. In the web shop background, elements such as price, social media buttons etc. were removed so that the focus would be only on the context information and the product. The RGB-colour code for the web shop backgrounds were as follows: blue = 0000FF, yellow = FFFF00 and, red = FF0000.

The design had three conditions. The web shop images were exactly the same in each condition. Only the background colour was different. Participants were randomly assigned to the blue, yellow or red conditions.

4.3. Questionnaire

The respondents of the online questionnaire were asked to *imagine that you want to buy a simple photo camera online.* Then they were shown an image of a web shop and asked some questions about the product in the web shop, the message of the image and the general web shop environment.

Purchase intention. The scale that addressed the purchase intention of the product consisted of the following three statements (5-points; strongly (dis)agree):

- *I would like to buy this product for myself*
- *I would like to use this product*
- *The buying chance for this product is low*

Plus, one colour specific statement (5-points; not at all / to a great extent):

- *The colours on this website make me want to buy the product*

Emotion. To examine the associated colour emotion, the respondents were asked to indicate their personal reaction to the message of the image through seven items: angry, bored, sad, unaffected, amused, happy. and smiling (5-points; not at all / to a great extent). Plus, one colour specific statement (5-points; not at all / to a great extent):

- *The colours on this website are emotionally appealing*

Trust. This scale consisted of four statements based on Chen and Barnes (2007) (5-points: completely (dis)agree):

- *It is easy for me to trust a person*
- *I tend to trust a person, even though I have little knowledge about him/her*
- *This website is trustworthy and honest*
- *I trust this website enough to buy this product*

Plus, one colour specific statement (5-points; not at all / to a great extent):

- *The colours on this website are trustworthy*

Two questions addressed the online shopping habits of the participants: (1) *How often do you buy products via the internet?* (6 points; almost every day / at intervals of six months or more) and (2) *When did you last buy a product via the internet?* (6-point:1 week ago or less /more than six months ago).

For each scale, the internal consistency was checked with Cronbach's *α.* For purchase intention α = 0.74, for emotion α = 0.70 (after deleting the item *angry*), for trust α = 0.78, and for shopping

experience $\alpha = 0.77$. All were acceptable with Cronbach's α higher than 0.70.

5. Results

Figure 3 presents for the Western as well as the Asian cultures, the mean scores for the colour effects on purchase intention, emotion, and trust. The first impression is that for consumers of both cultures, the colour yellow seemed to be most evocative. For the two other colours, a more diverse picture emerged. Worth noting in Figure 3 are also the relatively higher trust associations of the Western consumers, and the relatively higher emotion associations for the Asian consumers.

Figure 3. Purchase intention, emotion and trust with the product in a blue, yellow and red background (Mean scores on a 5-points scale; Min. = 1, Max. = 5)

First, a multivariate analyse of variance was performed to check the influence of shopping experience on the relationship between colour and purchasing intention and, the mediating role of emotion and trust in that relationship. All three tests did not show a significant effect for the influence of shopping experience. Also for gender no significant effect on the relationship between colour and purchase intention could be found.

5.1. The relationship between colour and shopping intention

A one-way ANOVA did show a significant relationship between colour and purchasing intention ($F(2, 422) = 3.02$, $p < 0.05$). Post-hoc comparisons using the Tukey HSD indicated that the mean score on purchase intention in the yellow condition ($M = 2.68$, $SD = 0.82$) was significantly higher ($p < 0.05$, two-tailed) than in the red condition ($M = 2.45$, $SD = 0.77$). There were no statistically significant differences on purchase intention between the red and blue conditions and, between the yellow and blue conditions ($M = 2.56$, $SD = 0.76$).

Another one-way ANOVA investigated in more detail the relationship between colour and the specific items of purchasing intention. There was a significant relationship between colour and the purchase intention item *I would like to use this product* ($F(2, 465) = 3.42$, $p < 0.05$). Post-hoc comparisons using the Tukey HSD indicated that the mean score on this specific purchase intention item in the yellow condition ($M = 3.03$, $SD = 0.11$, $p < 0.05$) than in the red condition ($M = 2.72$, $SD = 1.13$). There were also no statistically significant differences between the red and blue conditions, and between the yellow and blue conditions.

The ANOVA test also revealed a significant relationship between colour condition and the specific purchase intention item *The colours on this website make me want to buy the product* ($F(2, 423) = 3.42$, $p < 0.05$). Again, a Tukey post-hoc test revealed that the purchasing intention of

participants were statistically significantly higher in the yellow condition (M = 2.44, SD = 0.99, p < 0.05) than the red condition (M = 2.17, SD = 0.94). There were no statistically differences for this item, between the red vs. blue conditions, and between the yellow vs. blue conditions.

5.2. The mediating role of emotion

Hypothesis 1 focuses on the mediating role of emotion in the relationship between colour and online purchasing intention. In the MANOVA two independent variables were used: colour and emotion. The dependent variable was purchasing intention. There was a significant result for emotion (F(22, 419) = 5.67, p < 0.001). The yellow associated emotion was highest (M = 2.74, SD = 0.69). The blue emotion (M = 2.61, SD = 0.61) and the red emotion were lower (M = 2.57, SD = 0.69). There was no significant result for colour (F(2, 419) = 2.69, p = 0.07), and no significant result for the (colour x emotion) interaction with purchasing intention (F(36, 419) = 0.55, p < 0.98).

A simple linear regression was used to test if emotion significantly predicted participants' purchase intention. The results of the regression indicated the predictor explained a significant proportion of the variance in purchasing intention (R^2 = 0.26, F(1, 417) = 143.31, p < 0.001). It was found that emotion significantly predicted purchase intention (B = 0.59, t(225) = 11.97, p < 0.001). Table 1 shows more precisely the (non-)significant relationships between the combination of the six individual emotion items and purchase intention.

Table 1. Regression analysis for the six emotion items and purchase intention

Emotion item	B	SE B	β
Bored	0.12	0.03	0 .19**
Sad	0.11	0.04	0.14**
Unaffected	0.06	0.03	0.09*
Amused	0.06	0.05	0.07
Happy	0.26	0.06	0.35**
Smiling	- 0.02	0.06	-0.03
R^2	0.28		
F for change in R^2	26.15**		

*p < 0.05. **p < 0.01, *** p < 0.001

First a general one-way ANOVA did not show a significant difference between the three colours on the emotion variable (F(2, 424) = 2.46, p = 0.09). Then, another one-way ANOVA was conducted to explore the relationship specific emotions associated with the three colours. There was a significant difference between the means for the emotion *happy* (F(2, 427) = 4.41, p < 0.01). Post-hoc comparisons using the Tukey HSD revealed that participants scored significantly higher on the emotion *happy* in the yellow condition (M = 2.42, SD = 1.03, p < 0.01) than the red condition (M = 2.08, SD = 1.05). There were no significant differences between the red vs. blue conditions, and yellow vs. blue conditions.

The ANOVA test also showed a significant difference between the means for the emotion *smiling* (F(2, 426) = 3.72, p < 0.05). Post-hoc comparisons using the Tukey HSD revealed again that participants scored significantly higher on the emotion *smiling* in the yellow condition (M = 2.29, SD = 1.05, p < 0.05) than the red condition (M = 1.97, SD = 1.10). There were again no significant differences between the red vs. blue conditions and, between the yellow vs. blue conditions.

5.3. The mediating role of trust

Hypothesis 2 assumes a mediating role of trust in the relationship between colour and online purchasing intention. In the MANOVA two independent variables were used: colour and trust. The dependent variable was purchasing intention. There was a significant result for trust (F(16, 422) = 3.36, p < 0.001): the means for yellow trust (M = 2.99, SD = 0.75) and blue trust (M = 2.99, SD =

0.79) were the same. The mean for red trust was somewhat lower (M = 2.82, SD = 0.78). The analyses revealed no significant result for colour (F(2, 422) = 1.29, p = 0.28), and a significant result for the (colour x trust) interaction with purchasing intention (F(27, 422) = 1.52, $p < 0.05$).

A simple linear regression was used to test if trust significantly predicted participants' purchase intention. The results of the regression indicated the predictor explained a significant proportion of the variance in purchasing intention (R^2 = 0.08, F(1, 410) = 37.65, $p < 0.001$). It was found that trust significantly predicted purchase intention (B = 0.29, t(420) = 6.41, $p < 0.001$.). Table 2 shows more precisely the (non-)significant relationships between the combination of the six individual emotion items and purchase intention.

Table 2. Regression analysis for the five trust items and purchase intention

Trust item	B	SE B	β
It is easy for me to trust a person	-0.05	0.04	-0.07
I tend to trust a person, even though I have little knowledge about him/her	0.03	0.05	0.04
This website is trustworthy and honest	0.11	0.06	0.12
I trust this website enough to buy this product	0.13	0.05	0.17*
The colours on this website are trustworthy	0.18	0.04	0.22**
R^2	0.19		
F for change in R^2	18.77**		

*$p < 0.05$. **$p < 0.01$. *** $p < 0.001$

A one-way ANOVA revealed no significant difference in trust between the three colours (F(2, 421) = 2.07, p = 0.13). Also, there were no significant relationships between specific trust items and the three colours.

5.4. Cultural differences

First a MANOVA test was used with colour and culture as independent variables and emotion as dependent variable. There were no significant results for colour, culture, and the interaction Next, the role of culture in the relationship between emotion and purchasing intention was investigated. Now, the MANOVA test (independent: culture and emotion; dependent: purchasing intention) shows significant results for culture (F(1, 359) = 4.74, $p < 0.05$) and emotion (F(22, 359) = 7.72, $p < 0.001$), but not for the interaction.

Also, the role of culture in the relationship between colour and trust can be analysed in more detail, followed by an analysis of the relationship between trust and purchasing intention. A MANOVA test (independent: colour and culture; dependent: trust) showed a significant result for culture (F(1, 400) = 46.90, $p < 0.001$). For colour, and the interaction colour x culture, no significant results were found. Next, the role of culture in the relationship between trust and purchasing intention was investigated through a MANOVA test with culture and trust as independent variables and purchasing intention as dependent variable. There were significant results for trust (F(16, 375) = 2.91, $p < 0.001$), but no significant results for culture and the interaction.

6. Conclusions

This study investigated the influence of colour on online purchasing intention, while taking the role of emotion, trust and cultural differences between Western and Asian countries into account. Various direct and indirect (mediating) relationships in the proposed research model (Figure 3) are supported. Broadly speaking, the study has yielded the following results:

First, the findings of this study showed that colour does influence the online purchasing intention of consumers. The colour yellow showed a stronger effect on purchasing intention than the colours red and blue. This does not match with the general assumption in marketing and advertising studies,

that cooler colours (blue) are perceived as more active environments than warmer ones (Crowley 1993). Further, in this study the relationship between colour and purchase intention was not moderated by culture. However, there did seem to be a relationship between specific colours and purchasing intention for Western consumers. The colour yellow made the Western consumers score higher on purchase intention than the colour red. A similar more or less evocative effect of a specific colour could not be found for Asian consumers. This is remarkable, since outcomes of several other studies showed that yellow is experienced as more evocative by Asian cultures than by Western cultures (Russo and Boor 1993; Hupka et al., 1997; Mortimer 2004; Aslam, 2006). In this respect, it is worth noting that Cyr et al. (2007) found that in the evaluation of web sites all three of the cultures investigated - Canadian, German and Japanese - tended to dislike yellow web sites. Blue and grey colour schemes were preferred over yellow colour schemes across cultures.

Second, in this study emotion did not have a mediating effect in the relationship between colour and purchasing intention. However, for emotion a strong direct relationship with purchasing intention emerged. This indicates that if consumers experience more emotions their purchasing intention will either increase or decrease. The degree in which, (predictably) depends on the specific emotion. If consumers feel *bored*, *sad* or *unaffected*, their purchasing intention will decrease; if they feel happy, the purchasing intention will increase. As for differences with regard to cultural background, it turned out that Asian cultures had higher emotional associations with each colour than Western cultures. The results also included a relationship between specific colours and emotions. The colour yellow, for instance, generated responses like *happy* and *smiling* more strongly than did colour red. These results match the observations made by Cimbalo et al. (1978) - amongst children, yellow was evaluated as a happy colour and red was not. Several other studies have provided evidence for the emotional associations of specific colours. Spectral long-wave colours (red and yellow) are considered to have more negative arousal effects than short-wavelength ones (Wilson, 1966; Crowley, 1993), which is no doubt linked to the fact found in most studies that red is experienced as the most stimulating, exciting and arousing colour (Crowley 1993; Geboy 1996; Randi and Wisenblit, 1999). In this study, really specific emotions could only be found for the colour yellow. For the colours red and blue, no significant relationship with any particular emotion emerged.

Finally, the mediating role of trust in the relationship between colour and purchasing intention was confirmed by this study. Trust was found to have a strong direct influence on purchase intention. No relationships emerged between specific colours and trust. No influence of culture on the mediating role of trust was found. Culture did influence trust, but not the relationship between colour and trust, or the relationship between trust and purchasing intention. For the scores on trust, there appeared to be a clear distinction between Western and Asian countries. Overall, Western cultures scored higher on trust than Asian cultures. However, trust seemed to be more important for Asian cultures, which could result in a less trusting attitude towards online shopping. From the variables in our research model (Figure 1), trust had the strongest (in)direct effect on purchasing intention. This coincides with the study by Pavlou and Chai (2002), who also found that trust is a universal driver of online purchasing and e-commerce. In addition, also Lynch and Beck (2001) found that Western consumers (North Americans) reported more trust when shopping online than Asian consumers did. It is intriguing that in this study, trust association could not be linked to the colour blue. The distinguished, chic colour blue generally associated with “wealth, trust and security” (Lichtle 2007). The universal association of trust with the colour blue is confirmed by many studies (Russo and Boor, 1993; Kim and Moon, 1998; Mortimer, 2004; Aslam 2006). In the cross-cultural study of web sites for electronics by Cyr et al. (2010), Western culture (German) participants turned out to trust the site with the blue colour scheme more than did the Asian (Japanese) culture participants.

7. Research limitations and future research

One of the major limitations of the study is that all constructs use self-reported scores in the survey. This could influence the results on emotion, trust, and online purchasing intention. Although online surveys are used quite often, it is questionable whether participants do or can really have a conscious and clear idea of their level of trust, their emotions, or their intention to purchase a product, or if they do whether they would be able to more or less accurately score the level of intensity on a scale. However, an online survey was chosen as a method for this study because this exposed the

participants in a way that is most similar to the stimulus as intended. The stimulus was presented on a website, which is also the natural environment for online purchasing.

The study has provided support for various relationships in the proposed research model. Trust seems to play a mediating role in the relationship between colour and online purchasing intention, although it was not possible to define the exact role of (specific) colours. This does not imply that the colours of a website can safely be chosen randomly; the decision for using a specific colour on a website should be taken with care, depending on the desired level of trust. Emotion does not have a mediating effect on the relationship between colour and purchasing intention, but it does show a strong relationship with purchasing intention. Differences between Western and Asian cultures emerged, especially in regard to purchasing intention. Where emotion is concerned, culture turned out to play a role, but the differences between Western and Asian cultures could not be defined. Asian cultures score higher on emotion than Western ones, while the latter scored higher on trust. This indicates that culture should be taken into account, both on emotional response and on the level of trust, because it indicates that web sites should be adapted accordingly to get the best possible fit with a certain target group or culture. The colour yellow unexpectedly showed the strongest relationship with online purchasing intention and emotion.

Future research would seem necessary for specifying the practical implications for marketers with regard to persuasive online communications. For the moment, this paper concludes with the following three colour premises for online marketing communications:

- Premise 1: Yellow is the most evocative colour where persuasion is concerned
- Premise 2: Red is the most evocative colour where emotion is concerned
- Premise 3: Blue is the colour that engenders the most trust

The first premise is supported and culturally fine-tuned by the findings of the present study. More empirical studies are needed to corroborate the other two premises.

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