Perceived Legibility of Onscreen English Fonts: An Exploration into Readers and Font Types

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ABSTRACT

Onscreen English fonts have a critical role in communicating information. Although there has been research into the legibility of these fonts, no study has yet explored font legibility in the context of ethnicity across font types. The present study attempts to fill this void.

402 Thai and non-Thai participants completed questionnaires that displayed texts using serif, sans serif and script fonts. The analysis revealed that Thai and non-Thai readers’ perception of font legibility are similar. Comparing between the two ethnicities, the differences in perceived legibility of the serif and script fonts are statistically significant however the difference when compared to the sans serif was not significant. In addition, Thai readers perceived significantly different degrees of legibility among the three fonts. Yet, non-Thai readers perceived legibility of the serif and the sans serif fonts to be about the same but significantly different from the script font.

In addition to extending theoretical insights into digital typography across two groups of viewers, practitioners could adopt the findings and use the onscreen English fonts that enhance viewers’ legibility.

Keywords: Perceived legibility; Onscreen English fonts; Thai and Non-Thai readers; Serif; Sans serif; Script

INTRODUCTION

An onscreen English font is a set of English characters on a computer monitor of a certain design. A font is conceptually different from a typeface. In traditional typography, a font refers to a complete character set of a single size and style of a given typeface. For instance, the complete set of all characters for “11-point Helvetica” is one font with the Helvetica typeface (or Helvetica family). However, the technological revolution has made it difficult to differentiate the font from the typeface. As a result, the terms are now used interchangeably (Staples, 2000).

Communication researchers consider a font as an important part of a communication channel (Gupta, et al., 1983; Doyle & Bottomley, 2006; Mackiewics & Moeller, 2004). Gump (2001) claims that various font appearances often lead to different perceptions. Similarly, Shaikh (2007) labeled the perception as font personality and suggested that legibility is one of the personality traits.

In general, font legibility is defined as the font attribute that helps a reader to discern characters and words (Josephson, 2011; Zhang, 2006). The recognition further frames the perception of fonts. Conceptually different from legibility, readability refers to the ease of reading and understanding the material conveyed by fonts (Tinker, 1963).

Font legibility and other ‘personality’ characteristics have received remarkable research attention from two major fields: communication and marketing, in addition to the typical research initiatives regarding computer graphics, in an effort to improve the fonts’ visual presentation. In written
communication, not only can the message convey meaning through its content, but it can convey additional information to readers via its fonts. In the Shaikh et al. (2006) survey, subjects generally perceived (1) the Times New Roman font as most appropriate for use in online business documents, and (2) the Kristen font as most appropriate for use in writing for children. Shaikh et al. (2007) chose three fonts based on their congruency to email use. The fonts were Calibri, Comic and Gigi. They discovered that the first two fonts were perceived as useful for composing email but the subjects’ perception of the third one was significantly less useful that the first two. The Corbel font may be most appropriate for resumes since Shaikh and Fox (2008) found that this font on a resume could enhance the company’s perception of the candidate’s physical appearance.

Regarding legibility, the serif typeface is rendered poorly on a computer CRT screen while the display of the sans serif typeface is relatively smooth, especially when using a bitmap display (Larson, 2007; Josephson, 2011). Geske (1996) found the Helvetica typeface on a computer screen to be reasonably legible. In their experiment, Bernard et al. (2001a, 2001b) verified that (1) the sans serif was more legible than the serif typefaces, and (2) the large font size was more legible than the small one. However, in their later study, Bernard et al. (2002) concluded that Verdana, one of the sans serif fonts, was most preferred because it could be read fast and was perceived as highly legible (Bernard, et al., 2002). In addition, subjects in the study of Bernard et al. (2002) claimed that they could not detect a difference in legibility between the serif and the sans serif typefaces. Undergraduates in Erdogan and Bayram’s (2007) study remarked the sans serif font on a computer screen was more legible than the serif. In addition, gender in their study was also found to have an impact on the font perception.

Dyson (2004) noted the lack of studies to verify differences in legibility of onscreen typefaces using eye-tracking devices. Yet, Josephson (2011) used the eye-tracking technique on six college students and discovered that Verdana was perceived most legible as compared to Arial, Times New Roman, and Georgia fonts. Based on using the eye-tracking application into the Arab context, subjects in Chahine’s (2012) study confirmed the least legible fonts to be the script fonts.

In line with communication research, a fair number of scholars have substantiated the claim that font legibility plays a key role in website design. Blakeman (1999) remarked that legibility should lead to perceived ease of website access. Based on empirical survey projects, Adeloye (2001) and Rahman and Ahmed (2013) confirmed that font design features including the font legibility have influence on website usability. Also, Li et al. (2006) noted that the rating services should gain high satisfaction through careful design of the onscreen font on their website.

In Shaikh’s (2009) work, subjects were asked to report their perceptions of 40 onscreen fonts. Her findings ascertained that there were three groups of perception. First, the potency group reflects the font’s perceived strength or power. Second, the evaluative group indicates its perceived value or importance. Finally, the activity group implies the font’s perceived movement or action. Li and Suen (2010) attempted to correlate typefaces and personality modifiers. Regardless of the background of the samples, most of serif and sans serif typefaces were found to be highly correlated to directness, and script (or handwriting) typefaces were associated with cheerfulness. Based on their series of experiments, Amare and Manning (2012) validated those findings with samples of a non-US background and noticed onscreen font personality to be considered the same as for those with a US background. Moreover, the script typeface could evoke a more emotional response than the serif or sans serif fonts. Amare and Manning’s (2012) work was perhaps the first study examining font personality across subjects with different backgrounds.

In the marketing field, Poffenberger and Frankin (1923) did a survey on perception of fonts in printed documents. According to their findings, typefaces could be classified based on the reader’s
perceived appropriateness of them, which would have serious implications for printed advertisements magazines. Such a finding in the early years of typography research denotes the significant and serious investigation of perception of fonts. Indeed, subsequent research has found that fonts can lead one to develop either a positive or negative perception of a company logo (Brumberger, 2001). Brumberger (2001) suggested that the varying perceptions of a company could be attributable to the interplay between the font and the logo content. Examining company logo on its website, Shaikh (2007) contended that careless selection of onscreen fonts could seriously damage the company’s perceived professionalism. She thus recommended that logo designers use the Calibri font, as it was perceived most legible.

Font legibility has significant value in marketing. Various perceptions triggered by different fonts could lead to a large and varied set of responses. Henderson et al. (2004) examined whether fonts could have a significant impact on the impression a firm makes. They included 210 fonts based on suggestions from professional graphic designers. After a few rounds of surveys, they determined that four dimensions of impression were made by these fonts. The dimensions are ‘pleasing,’ ‘engaging,’ ‘reassuring’ and ‘prominent’. Also, the serif font was found to portray the image of ‘flourishing’ (Henderson & colleagues, 2004). Spiekermann and Ginger (1993) attempted to match specific fonts to product titles. Despite the fact that their findings were limited to certain products and the fonts were not onscreen types, they did call serious attention to examining fonts and their application to business. Considering fonts as a brand’s visual equity, Dole and Bottomley (2006) confirmed that a customer’s perception of a font depends not only on the congruence between the font and the product packaging, but also on the font itself. The major drawback of their findings is that the fonts in their study did not include onscreen fonts. However, their effort confirms the merit of examining people’s perception of onscreen fonts.

OBJECTIVES

Based on the literature reviewed in the previous section, we were able to identify four major gaps. First, most of research on fonts has been mainly from the computer science community (Jung, 2001; Staples, 2000; Snocki, 1986). This is predictable since advances in computer graphics must keep pace with new display devices. There is, however, a relatively small degree of empirical work that has been done examining people’s reaction to the fonts.

Second, findings from user studies are still largely inconclusive. The findings from such projects could have been more valid if the authors had rationalized the grounds on which the fonts in their studies were selected. Indeed, a sizable volume of empirical research has already addressed the serif and sans serif font families (Bernard, et al., 2002; Josephson, 2011). What has been overlooked is thus the other sets of fonts including the script styles.

Third, an examination of fonts from the reader’s perspective should have taken into account their demographics. This is because font legibility could differ in perception among those with different backgrounds (Boyarski, et al., 1998). Based on the literature review, it seems that thus far researchers have provided inadequate discussion on whether there are any differences in font perception among the subjects in their studies based race, as the subjects in these studies were mostly American or European. Moreover, none of them has explored differences in font legibility as perceived by those of different ethnicities.

Finally, most of previous studies have clearly focused on the legibility of printed materials and explored concepts such as readability (Henderson, et al., 2004). Given the advances in digital display
devices and a proliferation of electronic commerce, researchers should extend their efforts to cover onscreen fonts. The current study attempts to fill this void by addressing the following objectives:

1. To analyze Thai and non-Thai readers’ perceived legibility of onscreen English fonts,
2. To examine differences in perceived legibility of onscreen English fonts between Thai and non-Thai readers,
3. To examine differences in perceived legibility of onscreen English fonts across font types in each group of readers

METHODOLOGY

Data relating to the three objectives were obtained from a survey in which online questionnaires were given to samples of different ethnicities. The following sections detailing methodology issues are (1) survey samples, (2) survey instrument and execution, and (3) data analysis framework.

Survey samples

Members of our population were Thai and non-Thai readers who had at least once visited a website and presumably experienced reading onscreen English fonts. We carefully developed questionnaires to measure the sample’s perceived legibility of onscreen English fonts. There was one item in the questionnaire asking a sample’s nationality. The response to this item would help us to divide the sample into either Thai or non-Thai readers. The details of the questionnaire instrument are provided in the next section. Given that the study relates to online reading, we opted to (1) post a call for research participation on a number of web boards which both native and non-native speakers visited frequently, and (2) use an online channel to collect the data. This could ensure the heterogeneity of the samples. Five weeks after we posted the call for participation, we were able to get 402 samples for the study.

Survey instrument and execution

Given the thousands of onscreen English fonts currently available, it is nearly impossible to include all of them in one study. We thus selected the Courier, Times New Roman, and Georgia fonts from the serif family; the Arial, Century Gothic, Trebuchet, and Verdana fonts from the sans serif family, and the Kristen and Monotype Costiva fonts from the script (or handwriting) family. The selections were based on remarks in academic journals and trade magazines in which the chosen fonts have been cited as highly accepted in its family (Josephson, 2011). Note that we do not contend that the selected font could represent all members in its category. Given the exploratory nature of this study; however, this selection is still deemed acceptable.

Once we had selected the font for which we wanted to measure the samples’ perceived legibility, we were ready to draft the questionnaire. Based on previous empirical work measuring font legibility (Bernard, et al., 2001a, 2001b, 2002; Josephson, 2011; Shaikh, 2007), it was determined that there is no consensus on how to best observe the legibility. Furthermore, findings in a few studies are fairly perplexing since they addressed in the same study both readability and legibility (Bernard, et al., 2002). As a result, we measured a sample’s perceived legibility using a one-to-seven semantics differential scale adjusted from the bipolar adjective pairs used in Shaikh (2007) and Li and Suen (2010), where one and seven denotes the smallest and the highest legibility respectively. This could give us an opportunity to relate our finding to the others’.
Prior to asking samples to assess the legibility, we presented to them a paragraph of unreadable texts using each of the nine selected fonts. This was to ensure that the subjects’ perceptive evaluation was directly relevant to the investigated characters. The ‘nonsense’ or unreadable text was chosen because the samples’ perceptive evaluation could have been distorted if the texts had contextual meaning. For example, a paragraph describing a mother whose kids were killed in a war may sadden readers, even if it uses cheerful fonts. The selected texts had 40 words (or 246 characters) using all of the 26 English letters and 10 numbers. The line length was also controlled “so each line of texts had the same number of characters” (Shaikh, 2007, p. 58). We then converted the texts into an image file in order to use them with the questionnaire items (See the appendix for the unreadable paragraph). In addition to questions asking the sample’s demographics, we asked if he or she had Thai or another (i.e., non-Thai) nationality. This is the variable that helped classify the samples into two groups, between which we could explore the difference in font legibility.

Being aware that our samples were of different nationalities, initially we thought of having bi-lingual (Thai and English) survey questionnaires since we had to ask subjects about perceived font legibility. Yet, it is unavoidable to have linguistic discrepancy. As a result, our survey instrument was only in English. To remedy the situation, we made an effort to recruit those Thai readers whose English proficiency was at an acceptable level. This included having the call for research participation in English.

After the questionnaire items were drafted, we pretested the questionnaire with both types of speakers to ensure an acceptable quality. The final draft was later converted into an electronic version using an online survey professional service: Survey Monkey.

Analysis framework

To meet the study’s three objectives, we use descriptive statistics. To explore the differences in perceived legibility between readers of the Thai and non-Thai nationality groups and across the three fonts, we attempted to test nine hypothesis statements. In other words, we tried to verify (1) what the differences were in the legibility of the serif, the sans serif and the script families between Thai and non-Thai readers, and (2) whether those differences across the three fonts in each group of readers were statistically significant.

RESULTS

The five-week data collection yielded 402 usable data records. In Table 1, 62% reported that they were Thai and the rest that they were non-Thai. According to Table 2, profiles of the Thai and non-Thai readers are nearly identical. As such, we described the combined profile as a complete picture. About 4 in 10 samples were male. 72% were between 21-30 years old. The majority (92%) had earned at least a college degree. A slight difference between the two profiles is that 7 in 10 of Thai samples worked in the private sector while the same proportion of non-Thai subjects were still students.

According to Table 3, the average of Thai readers’ perception of legibility of all three font types is 5.241 while that of the non-Thais is slightly higher (5.675). The average of Thai readers’ perceived legibility of the serif, sans serif, and script font types are 5.405, 5.623, and 4.260, respectively. Those of the non-Thais are 5.956, 5.994, and 4.650. Although it seems that the non-Thai readers perceived the legibility of the three fonts at a higher extent than did the Thai counterpart, the hypothesis testing would help confirm whether the differences are statistically different.
Table 1: Proportion of samples according to nationality group

<table>
<thead>
<tr>
<th>Nationality (N=402)</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thai</td>
<td>250</td>
<td>(62)</td>
</tr>
<tr>
<td>Non-Thai</td>
<td>152</td>
<td>(38)</td>
</tr>
</tbody>
</table>

An examination of skewness and kurtosis in Table 3 validated that the perceived legibility of each of the three selected typefaces is not normally distributed since absolute values of the two statistics are mostly greater than one (Mulylle, et al., 2004). As a result, the hypothesis testing had to be through a non-parametric technique. In this case, we used the median test.

Table 2: Sample’s demographics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>All (N=364)</th>
<th>Thai readers (N=222)</th>
<th>Non-Thai readers (N=142)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>364 (100)</td>
<td>222 (100)</td>
<td>142 (100)</td>
</tr>
<tr>
<td>Female</td>
<td>133 (36)</td>
<td>80 (36)</td>
<td>53 (37)</td>
</tr>
<tr>
<td>Age</td>
<td>231 (64)</td>
<td>142 (64)</td>
<td>89 (63)</td>
</tr>
<tr>
<td>&lt;= 20 yrs</td>
<td>366 (100)</td>
<td>224 (100)</td>
<td>142 (100)</td>
</tr>
<tr>
<td>21-30</td>
<td>265 (72)</td>
<td>161 (72)</td>
<td>104 (73)</td>
</tr>
<tr>
<td>31-40</td>
<td>62 (17)</td>
<td>35 (16)</td>
<td>27 (19)</td>
</tr>
<tr>
<td>&gt;= 40 yrs</td>
<td>16 (5)</td>
<td>12 (5)</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Highest education</td>
<td>362 (100)</td>
<td>221 (100)</td>
<td>141 (100)</td>
</tr>
<tr>
<td>Less than a college degree</td>
<td>30 (8)</td>
<td>22 (10)</td>
<td>8 (6)</td>
</tr>
<tr>
<td>College degree</td>
<td>180 (50)</td>
<td>133 (60)</td>
<td>47 (33)</td>
</tr>
<tr>
<td>Graduate level</td>
<td>152 (42)</td>
<td>66 (30)</td>
<td>86 (61)</td>
</tr>
<tr>
<td>Profession</td>
<td>364 (100)</td>
<td>224 (100)</td>
<td>140 (100)</td>
</tr>
<tr>
<td>Private sector</td>
<td>199 (55)</td>
<td>149 (67)</td>
<td>50 (36)</td>
</tr>
<tr>
<td>Student</td>
<td>123 (34)</td>
<td>41 (18)</td>
<td>82 (59)</td>
</tr>
<tr>
<td>Government worker</td>
<td>22 (6)</td>
<td>14 (6)</td>
<td>8 (5)</td>
</tr>
<tr>
<td>Business owner</td>
<td>20 (5)</td>
<td>20 (9)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

Table 3: Descriptive statistics of perceived legibility categorized by three font families

<table>
<thead>
<tr>
<th>Font family</th>
<th>Nationality</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serif</td>
<td>Thai (N=248)</td>
<td>5.405</td>
<td>1.092</td>
<td>-1.318</td>
<td>1.705</td>
<td>.028</td>
</tr>
<tr>
<td></td>
<td>Non-Thai (N=149)</td>
<td>5.956</td>
<td>0.755</td>
<td>-2.568</td>
<td>7.966</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (N=397)</td>
<td>5.611</td>
<td>1.014</td>
<td>-1.640</td>
<td>2.794</td>
<td></td>
</tr>
<tr>
<td>Sans serif</td>
<td>Thai (N=248)</td>
<td>5.623</td>
<td>1.062</td>
<td>-1.108</td>
<td>1.061</td>
<td>.072</td>
</tr>
<tr>
<td></td>
<td>Non-Thai (N=149)</td>
<td>5.994</td>
<td>0.809</td>
<td>-2.830</td>
<td>8.988</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (N=397)</td>
<td>5.766</td>
<td>0.988</td>
<td>-1.562</td>
<td>2.450</td>
<td></td>
</tr>
<tr>
<td>Script</td>
<td>Thai (N=248)</td>
<td>4.260</td>
<td>1.087</td>
<td>-0.475</td>
<td>0.346</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>Non-Thai (N=149)</td>
<td>4.650</td>
<td>0.781</td>
<td>-1.774</td>
<td>4.232</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (N=397)</td>
<td>4.411</td>
<td>0.998</td>
<td>-0.857</td>
<td>0.999</td>
<td></td>
</tr>
</tbody>
</table>

Regarding the difference in perceived legibility of the serif fonts between Thai and non-Thai readers, the median test yields a significance of 0.028. It thus implies that the difference is statistically significant. According to Table 3, the non-Thai readers’ perceived legibility of the serif fonts appears higher than that of the Thai readers. Similarly, the median test statistics to verify the difference in perceived legibility of the script fonts between the two nationality groups has a significance value of...
0.022, and thus implies that the difference is statistically significant. A look at Table 3 shows that the non-Thai readers’ perceived legibility of the script fonts is higher than that of the Thai readers.

However, the median text statistics to substantiate the difference in perceived legibility of the sans serif fonts between Thai and non-Thai readers has a significance value of 0.072, confirming the difference in not significant.

Considering only Thai readers, the differences of perceived legibility of any combination of two fonts among the serif, sans serif, and script fonts are all statistically significant (see Table 4). Among non-Thai readers the differences of perceived legibility between the script and the other two types are both statistically significant; however, the difference between the serif and the sans serif is not significant.

| Table 4: Testing differences in perceived legibility in each group of readers across the three fonts |
|---|---|---|---|
| Pair No. | Fonts | Thai | Non-Thai |
| | Mean | Sig. | Mean | Sig. |
| 1 | Serif 5.405 | .000 | 5.956 | .136 |
| | Sans serif 5.623 | | 5.994 | |
| 2 | Serif 5.405 | .000 | 5.956 | .000 |
| | Script 4.260 | | 4.650 | |
| 3 | Sans serif 5.623 | .000 | 5.994 | .000 |
| | Script 4.260 | | 4.650 | |

CONCLUSIONS AND IMPLICATIONS

Demographic details of the samples

Based on the total number of samples whose nationality was either Thai or non-Thai, their profiles were found to be similar other than for ethnicity. A comparison of profiles between those participating in the present study and those in previous reports (National Electronics and Computer Technology Center, 2012: www.internetwordstats.com, 2013) revealed a large sharing portion, confirming the representativeness of our samples.

Thai and non-Thai readers’ perceived legibility of onscreen English fonts

Based on the three most accepted typefaces (i.e., serif, sans serif, and script), we selected three fonts from the serif family (i.e., Courier, Times New Roman, and Georgia), four fonts from the sans serif family (i.e., Arial, Century Gothic, Trebuchet, and Verdana) and two fonts from the script family (i.e., Kristen and Monotype Costiva). The averages of the Thai readers’ perceived legibility of each of the three families are 5.405, 5.623, and 4.260, while those among non-Thai readers are 5.956, 5.994, and 4.650, with one and seven indicating the lowest and the highest degree of perception respectively.

Although font legibility has been researched before (Bernard, et al., 2001a, 2001b; Shaikh, 2007, 2009; Arditi & Cho, 2005; Chapparo, et al., 2006), virtually no study has addressed it across ethnicities as subjects in previous studies were mostly American. In addition, many of the studies provided no detail on the level of legibility. Only Shaikh (2007) reported the averages of perceived legibility of the serif, sans serif and script font types. Converted to the same unit as in the current study, they are 6.021, 6.079, and 4.098, respectively. Possible conclusions could be (1) the American subjects in Shaikh’s (2007) study perceived higher legibility of the three font types than those Thai and non-Thai samples in our study, or (2) the serif and sans serif fonts are equally legible but are slightly more legible than the script font. These conclusions are in line with findings in previous research. Bernard et al. (2001a) and Arditi and Cho (2005) also discovered a comparable amount of legibility between the serif and sans serif fonts.
Comparison of perceived legibility between Thai and non-Thai readers

Between the Thai and non-Thai samples in the current study, the difference in perceived legibility of the serif and the script fonts are statistically significant but that of the sans serif font is not significant.

Regarding the significance, non-Thai readers perceived the legibility of the serif and the script fonts as being higher than did Thai readers. Given the onscreen English characters, this finding is not a surprise. However, Thai and non-Thai readers perceived at the same level the legibility of the sans serif font. Since the sans serif was used to improve the legibility of onscreen characters (Josephson, 2011), the finding could be evidence of improvement of the legibility among Thai readers. Based on the current study’s exploratory nature, however, the remark must be considered speculative, awaiting empirical examination.

Comparison of Thai and non-Thai readers’ perceived legibility across the three fonts

Among Thai readers, the sans serif font was perceived to have the highest legibility followed by serif and script fonts. The tests of the differences among all three groups of fonts showed statistical difference. As stated earlier, the sans serif was created to enhance an onscreen font’s legibility (Josephson, 2011). As a result, it should not be a surprise that (1) Thai readers perceived it as being the most legible, and (2) it is statistically different than the other two fonts. Because Thai readers are not native English speakers, it is understood that they would see the script font as being the least legible. This is in line with Chahine’s (2012) work in which the Arab readers found the script fonts to be the least legible.

Non-Thai readers perceived the serif and the sans serif fonts’ legibility as about the same but significantly different from the script font’s. A comparable degree of perception is evident in Arditi and Cho’s (2005) work as they examined the perceived legibility of the written serif and sans serif fonts among American readers.

Based on Table 4, it appears that the serif and the sans serif fonts are more legible than the script. The script’s lowest legibility level can be thus another piece of empirical evidence demonstrating that both Thai and non-Thai readers find it difficult to discern the script characters. Nevertheless, the claim that the sans serif font is more legible than the serif font was not manifest among the non-Thai readers in the present study. There can be two speculations regarding this finding. First, the non-Thai readers could consist of both English and non-English native speakers. The combination could perhaps discredit such claim. Second, the higher legibility of the sans serif font as compared to the serif font is apparent only on a classic CRT screen as claimed in Bernard et al. (2001a). Advances in display devices may enhance the legibility of both serif and sans serif fonts to the same level. However, such speculations indicate a need for more in depth empirical research.

Implications and the study’s limitations

The implications of this study are two-fold. First, the study has extended theoretical insight into perceived legibility of the serif, sans serif, and script onscreen fonts across Thai and non-Thai readers. Second, it offers practical value in the form of three recommendations based on the findings for online practitioners.

First, given (1) the significant difference in perceived legibility of the serif and script fonts but (2) the insignificant difference of the sans serif between Thai and non-Thai readers, web content designers should be highly attentive to font selection. If the content is for both Thai and non-Thai audiences, the sans serif should be the designer’s choice.

Second, considering the study’s three selected fonts (i.e., serif, sans serif, and script), web content designers may consider using the sans serif font since its legibility was perceived as the highest among

The use of Thai font in the promotion of tourism in Thailand is an important issue. This study examines the effectiveness of using Thai fonts in promoting tourism in Thailand. The results of the study indicate that the use of Thai fonts can significantly increase the attractiveness of tourism promotions. However, the study also highlights the challenges faced by tourism marketers in using Thai fonts effectively. The authors conclude that further research is needed to better understand the role of Thai font in tourism promotion.

As far as limitations, contributions of the study could have been more useful if it had not had two constraints. First, since we focused on Thai and non-Thai readers’ perception of legibility of three selected fonts, our findings may not be applicable outside this context. This therefore calls for further examination in other critical environments. Second, we investigated perceptions of fonts exclusive of other online contexts. Although useful to some extent, other researchers may want to examine the connection between the perceived legibility and the specific context within which the fonts may contribute to a satisfactory outcome. Such connection may be, for example, the congruence between a specific font’s legibility and certain types of online stores.

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REFERENCES


APPENDIX

Note that the following part of the study’s questionnaire was displayed using Courier New.