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When friends recommend: online purchasing behavior of Russian and Dutch people when prompted by recommendations from Facebook friends

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ABSTRACT
This study investigates the relationship between product recommendations in a Facebook advertisement and the behavioral intentions of consumers, and to what extent this relationship is influenced by cultural differences in the tendency to avoid uncertain situations. In an online experiment 142 Dutch and 92 Russian people (average age 24 years) were presented with two advertisements of a GoPro camera in a Facebook context. The product recommendations in the advertisements differed in tie strength, that is, the amount and type of recommendations by close Facebook friends (strong ties) and other Facebook friends (weak ties). The results showed that the Dutch group had higher purchase intentions than the Russian group. Both groups are more influenced by strong tie online friends, than by weak tie online friends. The tie strength effect was stronger for the Dutch group. Meanwhile, compared to the Dutch group, the Russian group had a higher level of uncertainty avoidance, and also reported that they valued less the recommendations of other people, than those from their online friends. In addition, they were more willing to give the GoPro camera as a present to their close Facebook friends, than to other Facebook friends.

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Consumer behavior; electronic word-of-mouth; social network sites; persuasion marketing; cross-cultural

Introduction
Electronic word-of-mouth (eWOM) is associated with the online interactions among consumers about brands, products and services in the form of online consumer reviews (Muntinga, Moorman, & Smit, 2011). Relevant and specific information is directly derived from consumers who have purchased and used the desired product. Therefore, online consumer reviews are widely used for searching and finding product information. This information is being seen as more persuasive and trustworthy compared to information that is created by the seller (Gupta & Harris, 2010; Hu, Liu, & Zhang, 2008). Meta-analytic investigations by King, Racherla, and Bush (2014), Knoll (2016), Purnawirawan, Eisend, De Pelsmacker, and Dens (2015), Babić Rosario, Sotgiu, De Valck, and Bijmolt (2016) indeed showed that online reviews highly affect the consumers’ decision-making process and behavioral intentions.
Online reviews are mostly provided by individuals who exchange product information voluntarily, and with a weak, anonymous relationship with the consumer (Brown & Reingen, 1987). eWOM information obtained from a personalized source clearly has more impact on consumer engagement and purchase intention than information from a non-personalized source (Chu & Kim, 2011; See-To & Ho, 2014). Some web shops, for example, offer the possibility to connect a Facebook account so that users can read the reviews of their own Facebook friends. This plays an important role in the raise of product sales (Park & Kim, 2008; Park, Lee, & Han, 2007). Surprisingly, in the global world of e-commerce, little work has been done on cultural differences in online consumer behavior (see Schoefer, Wäppling, Heirati, & Blut, 2019 for some examples). The aim of the present study is to investigate the influence of personalized Facebook reviews on (online) behavioral intentions of consumers differentiated by cultural background, that is, consumers from Russia and the Netherlands.

Theoretical framework and hypotheses forming

**Tie strength**

Effects of online reviews depend on the closeness of the relationship between the decision maker (the consumer) and the recommendation source (the reviewer). The strength of a relationship is defined strong if the source is someone who knows the decision maker personally, and weak if the source is merely an acquaintance or one who does not know the decision maker at all (Brown & Reingen, 1987). Weak tie recommendations contribute to the flow of information. The ties tend to exist between people that are dissimilar and draw a wider set of contacts (Granovetter, 1973). With the advantage of not being tied to the social circle of the decision maker, weak tie sources offer access to new (diffuse) information and, are more likely to have a greater expertise. Consumers rely on weak ties when the number of choices increases, but rather rely on strong ties when they find it difficult to make a choice (Duhan, Johnson, Wilcox, & Gilbert, 1997; Wang & Chang, 2013). Strong tie recommendations are conducive for the flow of influence, due to the personal relationship with the decision maker. When consumers feel a need for reassurance regarding their decision, they are more likely to seek out strong tie sources for that kind of information (Brown & Reingen, 1987). Recommendations of friends, family and peers are influential because they are based on trust (Bitter & Grabner-Kräuter, 2016; Knoll & Schramm, 2015). This reduces uncertainty and plays a major role in achieving a shared understanding. Information can match the decision maker’s preference, as the decision maker and product alternatives simultaneously evaluate. The following hypothesis is derived:

**Hypothesis 1:** Product recommendations that differ in tie strength (strong ties vs. weak ties) have a different influence on behavioral intentions of consumers.

**Cultural differences**

Online consumer behavior is also affected by cultural differences. Hofstede (2001) has specified an analytical framework when it comes to understanding the way culture relates to social psychological phenomena. Although his cultural dimensions (i.e. the collective mental programming that distinguishes one group from another, which implies
cultural specific solutions for universal problems: have faced several criticisms (e.g. excessively polarization of cultural differences, assuming national uniformity, overlooking the possibility of individual differences (Hofstede, 2002; McSweeney, 2002), it is still widely accepted and applied in cross-cultural studies. The distinction individualism/collectivism is one of the most used cultural dimensions (Minkov, 2018; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Individualism is described as a culture that reflects ‘I’ autonomy, individual level of achievement or decisions are encouraged, and individuals have a relatively weak relationship bond. On the other hand, individuals in collectivist cultures reflect upon a ‘we’ consciousness, prefer to behave as members of groups rather than individuals. Another important dimension in which cultures differ is the degree of uncertainty avoidance. Collectivist cultures reflect a higher level of uncertainty avoidance embody stability, the avoidance of risk, predictability, the resistance to change, strict rules and the discomfort with the unknown. Members of high uncertainty avoidance cultures have low trust in people and organizations, and feelings of trust dominate decision-making. It can be assumed that members with a high level of uncertainty avoidance tend to rely more on their strong tie relationships, because they want credible information to reduce risks. On the contrary, individualist, low uncertainty avoidance cultures are more risk-taking, open-minded about innovations and new ideas, have the willingness to change and are comfortable with the unknown in the future. Members of low uncertainty avoidance cultures are seeking for opinions, but also search for more informational and impersonal sources to base their decisions, which relates to the tendency to rely more on weak tie relationships. The avoidance of uncertain situations and perceived risk are closely related. This implies that cultures scoring high on the level of uncertainty avoidance try to avoid situations that can be risky. This perceived risk and the higher level of uncertainty avoidance is associated with negative consequences (Campbell & Goodstein, 2001; Karahanna, Polites, Williams, Liu, & Seligman, 2013). Also, the amount and experience in online purchasing seems to be negatively associated with perceived risk (Ahmed & Ghouri, 2016; Al Kailani & Kumar, 2011).

The present study will focus on people from the Netherlands and Russia. Their cultures are chosen because of the substantial differences within Hofstede’s framework: degree of individualism (score 39 for Russia and 80 for the Netherlands, on a 0–100 scale), and degree of uncertainty avoidance (score 95 for Russia and 53 for the Netherlands). E-commerce in Russia is still not as developed as in Western Europe (Firsova, 2013; Starostin & Chernova, 2016; Mayilyan, 2017). Main obstacles for Russian online customers are uncertainty in the reliability of the seller and the quality of services for the delivery of goods (Malchenko, 2012; Utkina & Yemshanova, 2016). Hence, the following hypotheses are derived:

Hypothesis 2: Russian people tend to show a lower willingness to buy products online, than Dutch people.

Hypothesis 3: Russian people are more influenced by strong ties.

Hypothesis 4: Dutch people are more influenced by weak ties.

Methodology

The study had a two (tie strength: weak vs strong) by two (culture: Dutch vs Russian) between-subjects design. The dependent variables were the following behavioral intentions: product purchase, product usage, talk about the product and, give the product as
a present. Participants were randomly assigned to one of two conditions with one Facebook advertisement of a GoPro camera. Differences in product recommendations were expressed by varying the amount likes by Facebook friends and the amount of likes by other Facebook users.

**Sample**

In November/December 2015, 309 respondents joined the online survey. They were approached online via multiple online platforms, such as Facebook, VKontakte groups, and InterNations Moscow. Posts with the promotional link were in Dutch or in Russian. The cultural background of the respondents was checked through the following four indicators: (1) Birth-country (What country are you born in?), (2) Country-of-living (In what country do you live at the moment?), (3) Home language (Which language do you mainly speak at home?) and, (4) self-identification (To what ethnic group do you belong?). With these indicators, a total of 232 respondents were selected: 140 Dutch people and 92 Russian people, 157 females and 75 males, the mean age was 24 yrs. (age range 18–40 yrs.).

**Recommended product**

An image of a GoPro camera was presented in a Facebook advertisement with a number of small profile-pictures: friends and others that would like to recommend the GoPro camera.

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**Figure 1.** GoPro camera in the strong tie strength condition.
This expressed the tie strength that, online consumers could feel with the recommenders.

In the strong tie condition, the GoPro camera was recommended by a numerous amount of Facebook friends, and a few ‘other people’. Those Facebook friends were displayed besides the product in the advertisement with their profile picture, to intensify the social bond (see Figure 1).

In the weak tie condition, the GoPro camera in the advertisement was recommended by a numerous amount of ‘other people’ and a few Facebook friends (see Figure 2).

**Questionnaire**

The respondents of the online questionnaire were asked to imagine that you are planning to go on a long-planned vacation. You would like to capture every moment of it. Then they were shown one of the two GoPro advertisements.

Purchase intention was measured with one question (Would you like to buy the product in the advertisement? yes/no). Next, there were three behavioral statements (I would like to use this product, I would like to talk with friends about this product and, I would like to give this product as a present). Answers were given on a 5-point-scale completely (dis)agree.

Uncertainty avoidance for buying online was measured with two subscales: buying effort online and, buying risk online (six statements, with a 5-point-scale completely
(dis)agree). The buying effort subscale (e.g. Buying products on the Internet is easy to do), had a mean of $M = 3.91$ ($SD = 0.74$), with a good internal consistency (Cronbach’s $\alpha = 0.73$, mean inter-item correlation = 0.48 with values ranging from 0.46 to 0.53). The buying risk subscale (e.g. Buying products on the Internet is risky), had a mean of $M = 2.99$ ($SD = 0.71$), with a good internal consistency (Cronbach’s $\alpha = 0.74$, mean inter-item correlation = 0.48 with values ranging from 0.42 to 0.59).

The extent to which one was susceptible to tie strength was measured with two subscales: tie strength with online friends and, tie strength with others (strangers) (six statements, with a 5-point-scale completely (dis)agree). The subscale online friend influencers (e.g. I have a strong relationship with my online friends), had a mean of $M = 3.15$ ($SD = 0.80$), with a good internal consistency (Cronbach’s $\alpha = 0.69$, mean inter-item correlation = 0.43 with values ranging from 0.34 to 0.57). The subscale other influencers (e.g. I attach much value to the opinion of others), had a mean of $M = 3.14$ ($SD = 0.70$), with a relatively low internal consistency (Cronbach’s $\alpha = .50$, mean inter-item correlation = 0.26 with values ranging from 0.11 to 0.54).

The questionnaire ended with some questions about the respondents’ social media use. How much time they spend on varying social media web sites and in what activities they mainly participate on those web sites.

**Results**

**Social media usage**

The Dutch and Russian people in this study frequently used social media in their daily life. An overview for the most commonly used ones is given in Table 1.

The social network activity profiles of the Dutch group and the Russian group were sufficiently similar for the present study. Facebook and Instagram were used most often by both groups. VKontakte, very popular in Russia, was hardly used by the Dutch respondents. The (multiple) daily activities on the social network sites were reading post (83% of the Russian group, 85% of the Dutch group) and using the Facebook like-button (46% of the Russian group, 60% of the Dutch group).

**Behavioral intentions**

Figure 3 shows the percentage of participants that would like to buy the GoPro camera in the advertisement per condition per cultural group.

In the weak tie condition as well as in the strong tie condition relatively more Dutch people than Russian people intend to purchase the product. This is in accordance with hypothesis 1. Moreover, for both groups it can be noted that the number of purchase

<table>
<thead>
<tr>
<th>Social medium</th>
<th>Dutch group ($N = 140$)</th>
<th>Russian group ($N = 92$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>91%</td>
<td>66%</td>
</tr>
<tr>
<td>Instagram</td>
<td>68%</td>
<td>65%</td>
</tr>
<tr>
<td>Pinterest</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>VKontakte</td>
<td>3%</td>
<td>71%</td>
</tr>
</tbody>
</table>
intentions is higher with strong tie recommendations than with weak tie recommendations. The three-way loglinear analysis produced a final model that retained all effects. The likelihood ratio of this model was $\chi^2(0) = 0, p = 1$. This indicated that two-way interactions were significant, $\chi^2(3) = 15.30, p = 0.002$. To break down these effects, separate chi-square tests on the tie strength and purchase intention variables were performed, separately per cultural group. In the Dutch group, there was a significant association between the type of tie strength and the intention to purchase the product, $\chi^2(1) = 8.22, p = 0.004$. In the Russian group, there was an approached to be significant association, $\chi^2(1) = 5.65, p = 0.056$. The odds ratio showed that the odds of purchase intention were 2.74 times higher with strong tie strength reviews than with weak tie strength reviews in the Dutch group, and 2.25 in the Russian group. The analysis seems to reveal a difference between the two types of tie strength: with strong tie recommendations the intention to purchase the product is higher than with weak tie strength recommendations. These findings are in accordance with hypothesis 3 (for the Russian group), and do not support hypothesis 4 (for the Dutch group).

**Figure 3.** Purchase intention with weak/strong tie strength recommendations per culture.

**Figure 4.** Relationship between tie strength and behavioral intentions of the Dutch group.
To examine further whether cultural difference interacts with ties strength in predicting the behavioral intentions of the respondents, moderation analyses were conducted with Hayes’ (2018) PROCESS procedures. Tie strength was the independent variable, the three type of behavioral intentions were the dependent variables and, culture was entered as the moderator. The average behavioral intentions per tie strength condition are plotted in Figure 4 for the Dutch group and, in Figure 5 for the Russian group.

The regression analyses showed no significant interaction effects, indicating that the relationships between tie strength and the behavioral intentions were not moderated by culture. There was no main effect of culture on the intention to use the product and, to talk with friends about the product. In contrast, there was a main effect of culture on the intention to give the product as a present ($R^2 = 0.04$, $F(1, 228) = 3.24$, $p = 0.023$). This implied, that compared to the Dutch respondents, the Russian respondents were more willing to give the GoPro camera as a present. As can been seen in Figure 5, this intention was higher with strong tie recommendations ($M = 3.37$, $SD = 1.17$) than with weak tie recommendations ($M = 2.86$, $SD = 1.25$). The difference, 0.51, BCa 95% CI $[0.007, 1.007]$, was significant, ($t(90) = 2.014$, $p = 0.047$). This supports hypothesis 3.

**Uncertainty avoidance**

The degree in uncertainty avoidance is reflected in the efforts and risks for buying online is given in Table 2.

On average, the buying effort online of the Dutch people ($M = 3.97$, $SD = 0.74$) did not differ from the Russian people ($M = 3.84$, $SD = 0.74$). The difference, 0.13, BCa 95% CI $[-0.07, 0.32]$, was not significant, ($t(230) = 1.25$, $p = 0.213$). However, for the buying risk online, on average the Dutch people ($M = 2.90$, $SD = 0.70$) were less uncertainty avoidant than the Russian people ($M = 3.13$, $SD = 0.72$). This was a significant difference, 0.23, BCa 95% CI $[-0.42, -0.04]$, as the bootstrapped confidence intervals did not cross zero, ($t(230) = -2.38$, $p = 0.18$), and represented an effect of $d = 0.32$. More specifically, compared to the Dutch respondents, the Russian respondents perceived buying products on Internet as riskier, and with many uncertainties.

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**Figure 5.** Relationship between tie strength and behavioral intentions of the Russian group.
It was hypothesized that Russian people are more influenced by strong ties friends, whereas Dutch people are more influenced by weak ties friends. An overview for the two groups is given in Table 3.

For the influence on online friends, an independent t-test showed on average no significant difference between the Dutch group ($M = 3.13, SD = 0.79$) and the Russian group ($M = 3.20, SD = 0.82$): ($t(230) = −0.649, p = 0.517$), BCA 95% CI $[-0.28, 0.14]$.

For the influence of others, the two cultural groups differed. An independent t-test, showed that on average the Dutch group ($M = 3.27, SD = 0.68$) were more influenced by other people (strangers) than the Russian group ($M = 2.96, SD = 0.70$). This difference, 0.31, was significant: ($t(230) = 3.367, p = 0.001$), BCA 95% CI $[0.13, 0.49]$ and represented a medium effect of Cohen’s $d = 0.44$. These findings are in accordance with hypothesis 4, that is, Dutch people are more influenced by weak ties.

**Conclusions**

The main aim of this study was to explore the influence of cultural differences in tie-strength recommendations and uncertainty avoidance, on consumer behavior. The results can be summarized and generalized as followed.

Consumers are more willing to buy a product in an online Facebook advertisement when they are exposed to strong tie recommendations. They are less willing to buy the product in a Facebook advertisement when they are exposed to weak tie recommendations. In this study, this effect of differences in tie strength on purchase intention was
stronger among the Dutch group, compared to the Russian group. Cultural differences could also be found for the intentions to give the product as a present. Compared to the Dutch group, the Russian group was more willing to give the GoPro camera as a present. In addition, this intention was higher with strong tie recommendations than with weak tie recommendations. There was no cultural moderation of the relationship between tie strength and the behavioral intentions to use the product, and to talk with friends about the product. It is useful to differentiate the cultural background of consumers by differences in uncertainty avoidance. In this study, as expected, for buying risk online the Russian group reported a higher level of uncertainty than the Dutch group. However, for perceived buying effort no cultural differences between these two groups could be evidenced. Cultural differences are also reflected in the influence that online friends vs. other people have on purchase intentions online, through product recommendations. In this study, the Dutch people reported to be more influenced by opinions of others and, their decisions about an online purchase are also based on their weak tie recommendations. On the other hand, the Russian people reported to be less influenced by others, and they relied more on their strong tie recommendations by online friends when making an online purchase decision.

This study might provide some valuable insights regarding the need for localized (culturally specific) adaptations of advertisements. Consumers differentiated by cultural background do not feel and behave the same towards an advertisement. Personalized marketing communications should take these differences into account. In this respect so-called social endorsement platforms can be beneficial for buying online. These platforms allow users to share related messages with their social peers (and others). Both strong tie interactions and random weak tie relationships can help consumers when making purchase decisions. As strong tie can have an impact on the individual and small group level within a personal network, weak ties facilitate their influence by extending consumers’ networks to external organizations or groups, due to the asynchronous and connective characteristics of social networking sites.

Limitations

Although this study contributes to investigations on social media marketing, and provides marketers with a framework on how recommendations on social media can be used, there are some limitations to this study as well, that have to be taken into account when interpreting the results and subsequent implications.

A first limitation of this study is that the questionnaire was drafted in English, which is not the native language for both the Dutch and Russian participants. This is an important point of attention in cross-cultural investigations. In this respect, Harzing’ (2005) cross-country study showed the language impact on response patterns related to cultural values of, for example, relationship hierarchy and individualism. Their empirical comparison of 24 countries confirmed earlier research that differences between countries are smaller for English-language questionnaires than for native-language questionnaires.

A second limitation relates to the type of product that was recommended in the Facebook advertisement in this study. Electronics, such as the GoPro camera, are search goods. The utilitarian evaluation of the product characteristics can be done easily and objectively
(without online friends). In contrast, for experience goods, such as an Airbnb accommodation, the subjective hedonic evaluation depends much more on intangible characteristics (such as self-disclosure, Broeder & Crijns, 2019). The meta-analyse of Purnawirawan et al. (2015), confirmed that user evaluations have a larger effect for experience than for search goods. Consumers of the experience products are more uncertain, perceive more risks and, more like check recommendations by social network friends (with more or less tie strength friends).

A third limitation refers to the social network. This study assumed that all Facebook connections automatically belong to the online friends of the participants, while the rapidly growing number of social media accounts can also ensure that not all connections are personal contacts or real friends as well. Furthermore, the small profile-pictures that were used in the stimuli are not distracted from each of the respondents’ own Facebook account, which can cause a less strong feeling about the relationship with the online friends. A deeper understanding is needed of various cultural group related bonds, such as exclusivity and the need to be unique (Broeder & Derksen, 2018), or perceive threats to social identity (Kim, Park, Lee, & Park, 2018).

To the best of our knowledge, this is the first study comparing Dutch and Russian consumers. In particular, the empirical observations provide some valuable insights regarding the local/global adaptation of social media advertising. This information may be of interest to marketers. They can create an online environment, which is designed to avoid possible uncertain situations. This makes consumers more confident about their online behavior, which can result in enhanced performance. In addition, marketers can respond to the needs of the consumer with their social media activities. Personalization in the diversity of global e-commerce is focussing on the social relations of the consumer in some cultures, while it is desirable to come into contact with a wider network in other cultures.

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**Disclosure statement**

No potential conflict of interest was reported by the authors.

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