The effect of Cialdini's principles on given advice and corresponding sales rate.

Bachelor's Project Thesis

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Abstract: Cialdini's principles are commonly used strategies in webshops to persuade customers of the product offered to them. These principles are summarized into six terms: Reciprocity, social-proof, consistency, scarcity, authority, and liking. It was found that these principles are effective in this field, and therefore we are using a selected few of them in this study. The experiment designed in this study aims to confirm whether the selected principles would affect the sales rates in the advisory route within the Belsimpel app, a known webshop to buy cellphones and sim-cards subscriptions in The Netherlands. The participants of this experiment are a part of the app's customers, where they were divided into two groups. One group was given advice that included the applied Cialdini's principles, while the other was advised without these principles. The behaviour of the participants that includes adding products to the shopping cart or purchasing products was detected through Google's Firebase analytics platform. The results could not significantly confirm the relation between the conversion rate and the applied principles. Therefore it was not confirmed that Cialdini principles could affect sales rates in the advisory route in the app. However, further research was suggested to understand better how to positively affect the sales rates in the advisory route in the app.

1 Introduction

Looking at the past decade, web-shops and e-commerce platforms have become an essential part of the economy and our lives globally (Terzi, 2011). Anything we want can be found online: Authentic, used, cheap, expensive, and even practical uncommon goods can be found in web-shops no matter where these are located in the world. The emergence of webshops and the increment in their essentiality in the business world required new marketing tools (Eid and Trueman, 2002), and these tools differed between offline and online. One of the differences that can be seen directly in the marketing strategies is attracting clients to the products. While actual shops require the customer's presence to show their marketing messages, e-shops can reach all customers anywhere with multiple marketing strategies, for example, online advertisements (Choshin and Ghaffari, 2017). Another critical point is persuading the customer from a distance to buy the product. Like marketing, some strategies/principles can be followed and applied in order to increase the persuasiveness of a webshop. One of these strategies and principles, which are widely and commonly used, are the principles of Cialdini (Cialdini, 2016).

Persuading the customers through these principles is indirectly done by influencing the customers unconsciously in a particular context. The customers do not detect the persuasion techniques since they are designed to use procedures that people usually use or recognize, aiming to get them to act upon them unconsciously (Schank and Abelson, 2013).

Cialdini's principles are summarized in these six terms:

- *Reciprocity*: Giving more to customers, even in the means of kindness, would pay off.

- *Social-proof*: Customers rely on peers to think and act when they believe that they are similar.

- *Consistency*: Voluntarily commitment to word; When the customers say that they will do something, they will likely follow through.

- *Scarcity*: This principle relies on the supply and demand idea; more scarce goods are more valuable and wanted.

- *Authority*: The usage of the credibility of authority and expertise to deliver a good decision that customers might take a long time or might not be able to come up with it themselves.

- *Liking*: The finding of common ground with the customers gives the acquaintanceship feeling that would lead to better persuasion.

In this study, the intent is to use a selected combination of these principles to find the answer to the following research question:
Would Cialdini's principles in the advisory route affect the sales rates?
This experiment is conducted within the Belsimpel application, a known mobile and sim-cards subscriptions webshop in The Netherlands, which, in addition to the primary purpose, provides various services to customers that make Cialdini's principles appropriate to be applied within the application.

2 Method

The Belsimpel app, the mediator in this experiment, contains a *Mobile APK* section, which mainly means a check-up for the cellphone. In this section, the user can find a piece of advice for a new phone and sim-card subscription based on current subscription details, current phone details, internet data usage and storage usage; this section's scheme can be seen in Appendix 1.
For the purpose of this experiment, the route of this advice was altered to use the selected combination of Cialdini's principles. It targeted two groups of a part of the app users. The first group (Variant A) consisted of 5016 users presented with the applied principles in the *Mobiel APK*. In contrast, the other group (Baseline) consisted of 5142 users presented with simple advice without applying the principles. The total number of users was 10158 users across the Netherlands. The experiment targeted Android users only because of the variety of options for the users and the ease of implementing the method in the Android app. The duration was 45 days until the altered route reached a proper amount of users,

and sufficient results were collected. Targeting and controlling both groups was accomplished using the A/B testing method from Google's Firebase platform. This platform contains various tools to help developers build applications faster, enhance users experiences, monitor the applications, and analyze tracked events within applications. One of these tools is the A/B testing tool that allows developers to run a randomized experiment with two or more versions of the same variable and detect the participants' responses to each of them to come about the more effective variant.
For the Baseline group, the advice is given similar to the one given for the Variant A group but solely without applying any of Cialdini's principles, as shown in Figure B.2 and Figure B.3 in Appendix B.
However, for the Variant A group and regarding the selected applied principles, the first principle applied was *the consistency* principle, which was achieved by presenting a question to the user once they enter the *Mobile APK* section. The presented question is based on the "foot in the door" idea (Grassini, Pascual, and Guéguen, 2013)), which is a technique that gives the user more compliance and the feeling of commitment to their answer. The question, as can be seen in Figure B.1 in Appendix B, was "If your phone is not secure and fast anymore, would you buy a new phone?". The user can then answer it and choose one of the two answers possible," Yes" or" No", and either one starts the process of finding the successor phone that is better for the user based on the current phone's details mentioned earlier. Two suitable subscriptions are provided with the successor phone, including a retention offer if possible (An offer where users renew their subscription with the sim-card provider they already use). After collecting this information, the user moves to the *Mobile APK* view that can be seen in Figure B.2 and Figure B.4 in Appendix B, where the advice is provided.
In this view, another three principles are applied: *authority, reciprocity, and social-proof* principles. First, since Belsimpel is already a pioneer company, in its field, in The Netherlands, it gives the company the credibility needed for *the authority* principle. Therefore, it is applied by telling the users how the expert team at the company gave the advice presented to them. Second, the company already provides multiple free services to customers when

they make purchases, but that was not mentioned earlier, particularly in this view. Therefore, *the reciprocity* principle is applied by mentioning three free services that are considered beneficial, starting with granting the lowest price, free overstepping service to other providers, and then up to three months of free insurance on the new phone. Finally, the collected reviews about the advised product from customers who already owned this device can be presented in order to apply *the social-proof* principle. By this, all of the selected principles are applied, and the data can be collected.

In order to catch the users' behaviours, Firebase events would be sufficient, where the events are added to catch every click of the user and eventually the ordering action itself when finished. The order is considered finished when the user makes a purchase within one week after the advice has been presented to them. It is not limited to the advised phone only because users tend to switch the brands usually due to the technologies provided by different brands (Sharma, Kapse, and Sonwalkar, 2016)). Therefore, even if the user purchased a different cellphone, a sim-only subscription, or an accessory like a micro SD card to expand their storage space, it would be counted as a valid purchase. From this design and for each tracked event, we can hypothesize that the null hypothesis would be that the applied principles and conversion rates are not related, while the alternative hypothesis would be that there is a relation between the applied principles and the conversion rates.

3 Results

The main expectation about this experiment is that there would be an increment in the sales rates in the advisory route. Therefore, the expectation was that the applied principles and the conversion rates are related. This expectation is based on previous researches on a few principles, such as a study that showed the effect of the social-proof principle where the purchases rates increased when customers were exposed to it in webshops (Jeong and Kwon, 2012). Another research showed how the authority principle could affect customers indicating that they tend to believe experts and authorities in a field where they have a lack of knowledge in it (O'Shaughnessy, 2012).

During the experiment period, and as shown in Figure 3.1, there were 136 users from the Baseline group added products to the shopping cart within one week of giving the advice, while 90 users from the Variant A group triggered this event. This means that the rate of users who triggered the event of adding a product to the shopping cart in the Baseline group was 2.64% of total users in the group. In comparison, 1.79% of users triggered the event in the Variant A group.
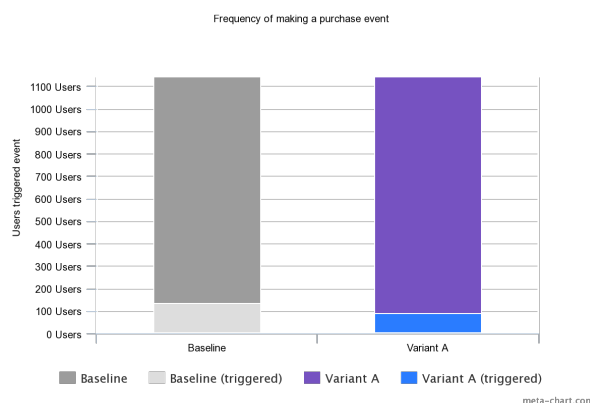

Figure 3.1: The frequency of adding to shopping cart event per group.

Therefore, the conversion rate of Variant A group was 32.16% lower than the conversion rate in Baseline group, and after applying the two-sided t-test we get a *p-value* of 0.9982. For this event, the probability of Variant A group to beat the Baseline group was merely 0.2%.

Figure 3.2: The modelled rate of adding a product to shopping cart within a week of seeing the advice.

In addition to that, and as shown in Figure 3.3, in the Baseline group, 59 users made a purchase within one week after seeing the advice, while for

the Variant A group, only 38 users made a purchase. This means that there were 1.14% out of total users in the Baseline group who triggered the purchase event, while only 0.75% out of total users in the Variant A group made a purchase.
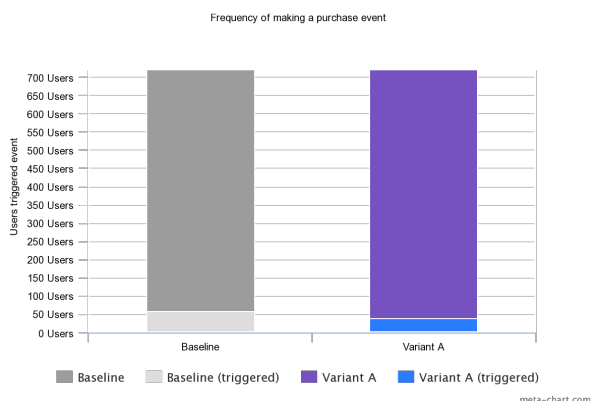

Figure 3.3: The frequency of making a purchase event per group.

From these data, the conversion rate of Variant A group was 34% lower than the conversion rate in Baseline group, and after applying the two-sided t-test we get a *p-value* of 0.9786. The probability from this event to allow Variant A group to beat the Baseline group was 2%.
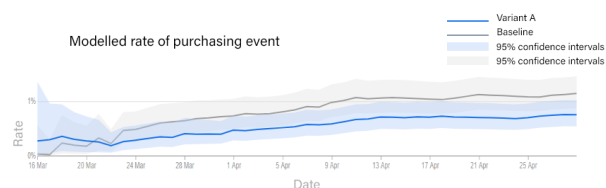
Figure 3.4: The modelled rate of making a purchase within a week of seeing the advice.

4   Conclusion

In this study, a selected combination of Cialdini's principles were used to test the principles' power in affecting the sales rate into the *Mobiel APK* section in the Belsimpel app. The results show that the Variant A group is not going to perform better than the Baseline group over the two main events

of adding to the shopping cart (probability to beat baseline of 0.2%) and purchasing action (probability to beat baseline of 2%). Moreover, the negative difference in the Variant A group from the Baseline group also indicates a decrement in users triggering either event. Taking the *p-values* from the two-sided t-tests, and for the first event (adding to the shopping cart), the *p-value* was 0.9982, which is greater than the 0.05 significance value. This value is not statistically significant, and therefore, there is strong evidence for the null hypothesis. However, still, it cannot be accepted based on these results. The same situation applies to the two-sided t-test for the second event (making a purchase), where the *p-value* was 0.9786, which is also greater than the 0.05 significance value, and therefore, it is also not statistically significant. There is strong evidence for the null hypothesis here as well, but we also cannot accept the null hypothesis based on these findings. Therefore, the results cannot answer our research question conclusively, but we can retain the null hypothesis, reject the alternative hypothesis, and lean towards the Baseline group's method to roll out to users.

5   Discussion

Cialdini's principles are not narrowly used; instead, they are widespread in online businesses, affecting many online stores positively (Gamez (2018)). However, in our experiment, the selected *consistency, authority, reciprocity, and social-proof* principles did not serve the expected purpose of significantly increasing the sales rates in the advisory route in the Belsimpel app. Therefore, different principles might serve the purpose better, which can be experimented furtherly. However, Cialdini's principles can be experimented even further to be applied on the primary purchasing route in the app instead of the *Mobiel APK* section, which might not be of significant interest to many users. The primary purchasing route includes the views containing the catalogue of all available phones and sim-cards subscriptions and all possible filters. Additionally, the language might affect the principles because, within this experiment, the sentence of *the consistency* principle was provided in Dutch. Thus, Cialdini's principles can be experimented with in English in the international app of Belsimpel, the

Gomibo app, which would also allow us to examine whether there is a relation between cultures and the effects of Cialdini's principles.

As an additional experiment, each of Cialdini's principles can be applied individually in a different variant presented to users to determine which principle affects the users more, and even each principle with different texts provided by business content writers. This way would reveal more which principle and which communicating method appeal more to users.

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A Appendix 1

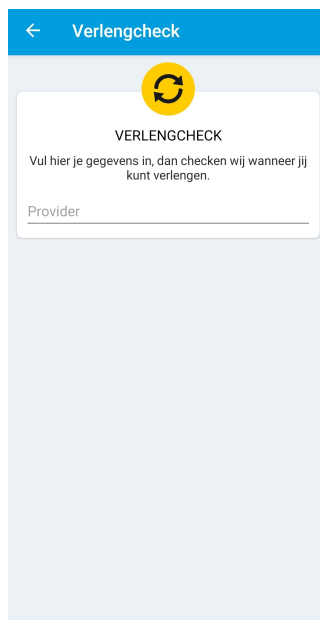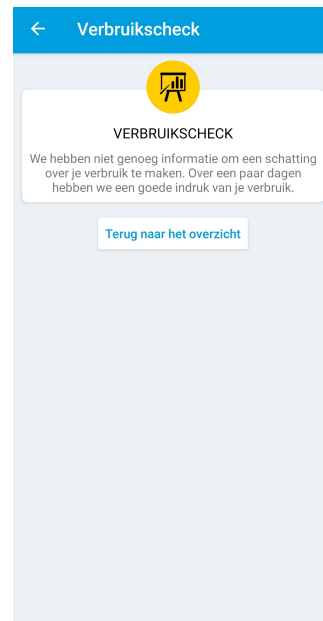Figure A.1: The main view of the *Mobiele APK* section.

Figure A.3: The usage anticipation view which changes based on the user's usage after at least 3 days of usage.

Figure A.2: The subscription retention check view which is a part of the *Mobiele APK* advice.

Figure A.4: The device check, which gives the introduction date and model of the current device to base the advice on it.

Figure A.5: The storage check, which is also part of the advice to give a greater storage in the adviced phone.
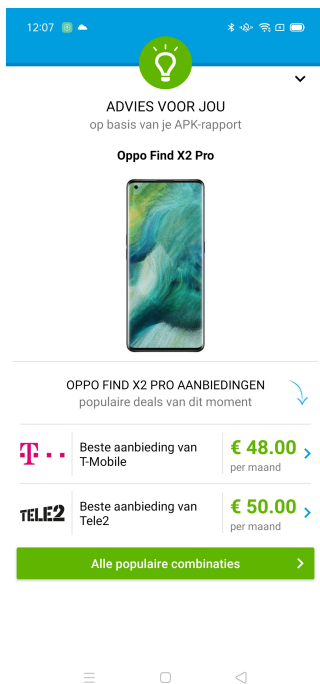
Figure A.6: The current advice view, which always shows a successor device with two possible subscriptions.
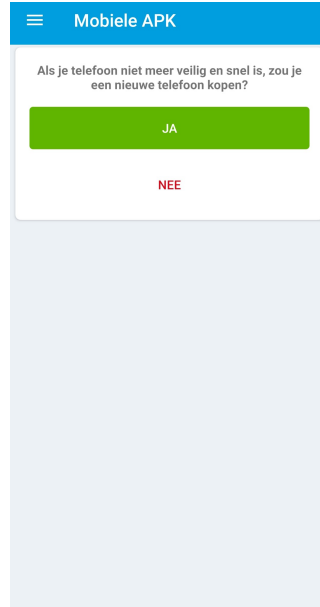
B   Appendix 2

Figure B.1: The consistency principle, where the user is presented a question about their action of knowing the information about the current phone.
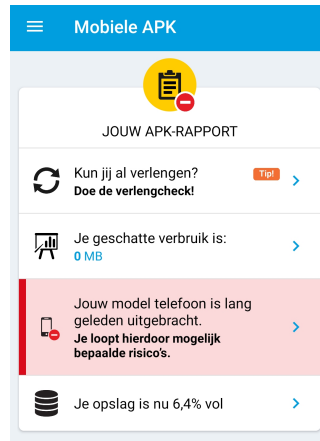

Figure B.2: The details that user sees about the current phone (similar to what was provided before applying the Cialdini's principles).
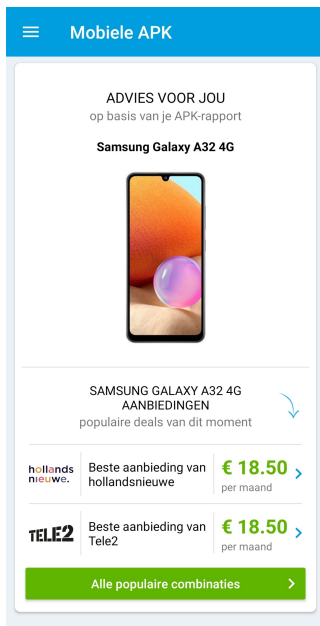
Figure B.3: The advice given to the user without applying any of Cialdini's principles.

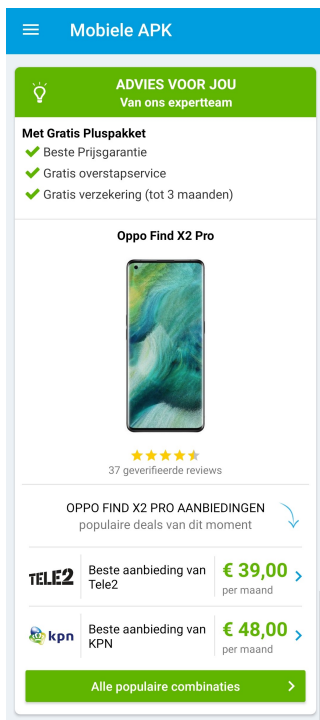**Figure B.4:** The advice given to the user with the reciprocity, social-proof, and authority principles applied.