

Create Your Own Travel Map: Online Persuasion in Different Contexts

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ABSTRACT

The persuasive technology is a newly risen concept applied in the area of human-human or human-computer interaction to change attitudes or behaviors of users. To date, most researches focused on improving computational technologies, falling short in considering the sociological perspective. As a complement to previous works, this paper introduces the concept of context to the domain of persuasive technology by conducting a survey (N=45) about the effect of persuasion in different contexts. The result shows that context does have influence on the persuasion and thus should be taken into account when designing the persuasive technologies.

Keywords

Persuasion, persuasive technology, captology, context, Facebook application, Tripadvisor, travel

1. INTRODUCTION

During any interaction between people, persuasion plays an important role. People use the power of persuasion to make others accept their points of view in order to achieve certain objectives. For example, companies persuade customers to buy a certain product through placing an advertisement or environmental conservation institute persuade people to use shopping bags in supermarkets. Regarding interpersonal relations, the head of alumni association needs to persuade as many as alumni as possible into joining the reunion each year. As a result, a lot of persuasive strategies have been proposed, such as authority, flattery [7] or social norms [4], to enhance the effectiveness and efficiency of persuasion.

In recent years, the computing system has started influencing the domain of persuasion, in which persuasive technology is an emerging concept, first defined by Dr. B.J. Fogg as: “a computing system, device, or application intentionally designed to change a person’s attitude or behavior in a predetermined way. [5]” He also introduced the term “Captology”, which is the acronym for “Computer As Persuasive Technologies”, to illustrate this area of study.

So far, persuasive technologies have been applied successfully in the domain of health promotion. A notable example is a product named Baby Think It Over, a computerized doll designed by a U.S. company (www.btio.com), which gives teenagers possibilities to be a caregiver of a simulated infant in order to reduce the teen pregnancy rates. Other examples are wellness interventions on online health communities or social media attempting to help the users lose weight, smoke less or reach other goals involving their health [8, 9, 11].

On the other hand, since persuasion involves people, in the academic area, it’s essential to not only take technical

viewpoints into account, but also bring sociological perspectives to researches. For instance, the reason why a person could be easily persuaded online might not only hinge on the online persuasive techniques, but also on the person’s context, namely, the momentary surroundings of the users, including his/her impression (age, occupation, lifestyle), what s/he is doing (Is s/he busy), where s/he is, or other contextual aspects, such as how much s/he is interested in the target behavior [10]. All the reasons above could be an influence for the success of persuasion.

It’s necessary to clarify that the term “context” used in this paper was based on the phenomenological position [1], which could be regarded as “the environment of the human-product interaction” [10], which considers contexts dynamic and relative to the content, including the users’ social and cultural factors. As such, the meaning of the “context” here might be different from various meanings of contexts appearing in the newspaper, magazines or publications.

This paper aims at linking persuasive techniques with sociological knowledge by introducing the concept of context to the domain of persuasive technology, in which four hypotheses have been tested through an online questionnaire in order to gain insight in online persuasion in different contexts.

2. METHOD

The difference between this study and previous studies about persuasive technologies, which largely focused on the technical points of views, (e.g. how to improve programs persuasive techniques or how to implement online persuasive strategies), is that this study was conducted from users’ perspectives.

The following four hypotheses were put forward according to personal intuition and past experience:

- (i) How often people think they travel is in direct proportion to the willingness to use a digital application relating to travel.
- (ii) How often people travel in reality is in direct proportion to the willingness to use a digital application relating to travel.
- (iii) How many places people have been to is in direct proportion to the willingness to use a digital application relating to travel.
- (iv) People now staying outside of hometown are more willing to use a digital application relating to travel.

The above four hypotheses are based on one common assumption: in different contexts, the effect of persuasion is different. In other words, the success rate of persuasion might lie in the user's context, rather than the persuasive techniques used.

The hypotheses were tested by an online questionnaire, designed to gather users' information and subjective opinions toward their past travel experience. In the end of the questionnaire, one Facebook application called Tripadvisor, was introduced to the respondents. The application allows users to create an interactive travel map to pin the countries, cities, towns, and suburbs they've visited. In addition, users can post the map on their wall, personal blog or website, or share with friends on Facebook. Meanwhile, they can also take a look at their friends' travel maps to see which of their friends has travelled the most (see Figure 1).



Figure 1: The main interface of Tripadvisor application.

The reasons why to choose this Facebook application as an example to support the study are as follows: First of all, Facebook is, so to speak, the most successful example of persuasive technology up to the present, with more than 800 million active users, of which 50% of them log on to Facebook in any given day [13]. Secondly, since Tripadvisor is popular on Facebook, which attracts 10000 daily active users and 220000 monthly active users [12], the participants had already been very exposed to this application through the networks on Facebook. Thirdly, this application has a clear attempt: persuade people to create their online travel map and share travel information. This leads to a boost in the possibility for users to use the service on Tripadvisor website, such as booking hotels or flights (www.tripadvisor.com). This is important because without an attempt, i.e., a planned effect, it is not persuasion but only a side effect of technology [6]

2.1 Participants

In total, 45 participants, who are all Facebook users, responded to the questionnaire, of which 16 are male and 29 people are female. The majority of them (42 out of 45) are at the age of 20~30.

2.2 Procedure

To test hypothesis (i), the respondents were asked to mark 1~7 points (disagree to agree) about their subjective opinion toward their past travel experience. The questions were "do you agree that you travel in your country very often?" and "do you agree that you travel abroad very often?"

To test hypothesis (ii), (iii) and (iv), the objective information about the respondents' past travel experience was gathered, which included "your current city and why are you there?", "how many countries (exclude your country) have you traveled to?", "how often do you travel in your current city?" and "how often do you travel abroad?". Apart from the first question, all the questions were matched with 5 items to represent different frequencies.

2.3 Measure

The effect of persuasion is measured by the linear dependence between four hypotheses and the willingness of the respondents to use the application. This is represented by the correlation coefficient calculated from the data gathered in the questionnaire.

3. FINDINGS

In Table 1, the results of the correlation coefficients(r) between different travel experience and the willingness to use the application has been calculated:

Table 1: The correlation between different travel experiences and the willingness to use the Tripadvisor application

	S/he has used the Tripadvisor application in the past	S/he hasn't used the Tripadvisor application but considers to start using it
Agree that travel in your country very often	0.2464	0.0131
Agree that travel abroad very often	0.5055	-0.0517
Frequency to travel in the current city	0.1193	-0.0019
Frequency to travel abroad	0.3029	0.2106
How many countries have they been to	0.2425	-0.0504
Current place (Outside of the country/hometown)	0.4029	-0.0615

Hypothesis (i): How often people think they travel is in direct proportion to the willingness to use a digital application relating to travel.

There's no significant correlation between the respondents' subjective perception of the frequency of traveling in the country and their willingness to use Tripadvisor application ($-0.3 < r=0.2464 < 0.3$). However, there's a weak positive correlation between the subjective perception of the frequency of traveling abroad and the willingness to use Tripadvisor application ($0.3 < r=0.5055 < 0.7$).

Hypothesis (ii): How often people travel in reality is in direct proportion to the willingness to use a digital application relating to travel.

There's no significant correlation between the frequency of traveling in current city and the willingness to use Tripadvisor application ($-0.3 < r=0.1193 < 0.3$). However, there's a weak positive correlation between the frequency of traveling abroad and the willingness to use Tripadvisor application ($0.3 < r=0.3029 < 0.7$).

Hypothesis (iii): How many places people have been to is in direct proportion to the willingness to use a digital application relating to travel.

There's no significant correlation between the number of countries people have been to and the willingness to use Tripadvisor application ($-0.3 < r=0.2425 < 0.3$).

Hypothesis (iv): People now staying outside of hometown are more willing to use a digital application relating to travel.

There is a weak positive correlation ($0.3 < r=0.4029 < 0.7$) between people stayed outside of the hometown and the willingness to use Tripadvisor application.

In addition, the numbers in the very right column in Table 1 suggests that if the respondents have never use Tripadvisor application, there's no perceivable correlation between different travel experiences and the willingness to use the application ($-0.3 < r < 0.3$).

In a nutshell, the result shows that Hypothesis (i), (ii) and (iv) are partly considered probable. Specifically, the willingness to use Tripadvisor application has something to do with the respondents' personal overseas experience. There are three main reasons why respondents are more willing to use the application. When they think they travel abroad a lot, when they actually travel abroad frequently and when they are currently staying outside of hometown. Furthermore, it's worth mentioning that the respondents' subjective perception outweighs the facts. In other words, the respondents are more willing to use the application when they think that they travel abroad frequently than when they travel abroad often in reality.

4. PERSUASION AND CONTEXT

Fogg's Behavior Model (See Figure 2) illustrates the reasons why a person could be persuaded into performing the target behavior, which could be divided into three categories, in which each category could be further broken into several subcomponents: (1) Sufficient motivation (pleasure/pain, hope/fear, acceptance/rejection); (2) Sufficient ability (time, money, physical effort, brain cycles, social deviance, non-routine); (3) Effective trigger (spark, facilitator, signal) [3].

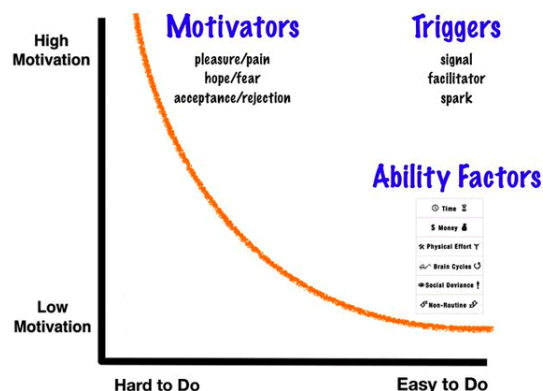


Figure 2: The Fogg Behavior Model [2].

In general, the model contains lots of psychological insights and could serve as a guideline for designers intending to change others' behavior. However, the concept of context is missing in this model, which leads to the ineffectiveness when applying this model in practice.

Take Tripadvisor application for example, it is likely that a prospective user has enough ability and has been sufficiently motivated and triggered, but s/he still couldn't be persuaded to use the application since s/he has limited overseas experience, which is the user's context that wasn't covered by Fogg's Behavior Model.

For Tripadvisor, in order to increase the number of users, the company should not necessarily focus on improving the function or interface of the application, but also take user's momentary surroundings into consideration, namely, the users' current location (if s/he is currently outside of hometown), if the users perceived themselves an active overseas traveler, and if the users travel abroad frequently. As mentioned before, these three factors were proved to have positive association with users' willingness to use the application.

Since context is outside of the process of persuasion and its scope ranges from the user to the place, time, social setting or culture [10], it contains a lot of uncertainties and is impossible to take every factor into account when designing. Nevertheless, it's very risky not to consider them at all. Therefore, before starting to examine what factors in the model are missing, it is advisable for designers to first learn the situations of the target group, the context, through some certain techniques, e.g. contextmapping.

5. CONCLUSION

The concept of context is indispensable when it comes to persuasive designs. This study shows that apart from the persuasive techniques of the product, the users' context sometimes could positively influence the effect of persuasion.

Although intuitive and understandable, the concept of context contains a wide scope and is easily neglected, especially in ostensibly technical projects. It's impractical for designers to consider all the aspects when designing, but the concept of

context should be kept in mind all the time to avoid fixation and preconception.

This study is just a beginning to introduce context to the domain of persuasive technologies. Needless to say, more future works are needed to measure the effect of persuasion in more complex context. Moreover, the research method shouldn't be limited in the traditional methods (i.e., observation, interview, questionnaire), but should apply new tools (i.e., the make tools) to acquire the explicit knowledge and users' latent needs [2].

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