

# **A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels**

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# Video related to social norm

<https://www.youtube.com/watch?v=NyDDyT1IDhA>

Q1: Will the subjects still make the same decision if they don't know the answers from others?

(Social norm)

Q2: Will the subjects still make the same decision if the responses are not in person or real-time (e.g. online poll)?

(Provincial norm)



# Overview

Two experiments show that signs with descriptive norms are more effective than the traditional signs that focused solely on environmental protection.

Moreover, the norms are most effective when the group behavior is closely matched with individuals' immediate situational circumstance (e.g. “the majority of guests in this room reuse their towels”), which is referred as “provincial norms”.

## Towel reuse sign in hotel room

Strategically placed card in  
the hotel's washroom.

Whether or not to reuse  
hotel towels during the  
course of one's stay?

Example of towel reuse sign  
from the paper:

### **HELP SAVE THE ENVIRONMENT.**

The environment deserves our respect. You can show  
your respect for nature and help save the environment by  
reusing your towels during your stay.

**If you choose to participate in the program...**  
Please drape used towels over the curtain rod or the towel rack.

# Why people want to participate?

Saving energy

Reducing the amount of detergent-related pollutants released to the environment






# Why hotels want to have these programs?

Besides the inherent benefit to the environment and to the society, it's more about the considerable economic benefits:

1. Savings on costs of labor, water, energy, and detergent
2. Many consumers reward businesses that address environmental concerns through their business practices



# How marketing practitioners choose to encourage hotel guests to participate?

According to this paper:

Over three-quarters of Americans think of themselves as environmentalists

Therefore:

Tacticians overwhelmingly have tend to focus on the protection of the environment



# New approach: Potentially powerful motivator

## Social norms:

Getting information about descriptive norms, which refer to how most people behave in a situation

Informing individuals of what is likely to be effective or adaptive behavior in that situation

Research shows that the behavior of others in the social environment shapes individuals' interpretations of, and responses to, the situation especially in novel, ambiguous, or uncertain situations





## Motivations of experiment 1

According to this paper, with traditional signs, approximately 75% of guests reuse their towel at least once during their stay

Investigate whether descriptive norm would be more effective than the current industry standard appeal



## Motivations of experiment 2

How hotel guests' conformity to a descriptive norm varies as a function of the type of reference group tied to that norm

Examine whether the norm of immediate surroundings (provincial norm) motivate conformity to the norm to a greater extent than the norm of guests' less immediate surroundings (global norms)

Particular room norm VS. Whole hotel norm

Also, explore the counterintuitive notion that individuals might be more likely to follow the norms of a personally unimportant reference group than those of a more important one when personally unimportant reference group is provincial in nature



## Previous studies on social norms and the motivation of this paper

Vast majority comes from highly controlled experiments in which the variables of interest are made especially salient to participants

Real world norms are in a mix of influences that may overpower, dilute, or distract from the factors under examination. Therefore, the impact of social norms may have been exaggerated [9].

Marketing practitioners and consumers might be justifiably skeptical about whether social norms will prove to be potent or salient enough to influence real-world, socially important behavioral choices.



## Previous studies on social norms and the motivation of this paper (continued)

Action that benefit the environment is a severely understudied area of consumer research [10, 11, 12, 13].

Tend to focus on factors that incline individuals toward consumption rather than conservation

Imbalance



## Experiment 1 -- Overview

Created two signs for a well-known national hotel chain:

1. Industry standard approach, focused on the importance of environmental protection
2. Conveyed the descriptive norm, informing guests that the majority of other guests reuse their towels at least once during their stays

Hypothesis: Method 2 would result in greater towel reuse than method 1



## Experiment 1 -- Method

80-day span, 1058 instances of potential towel reuse in 190 rooms in a mid-sized, mid-priced hotel in the Southwest that was part of a national hotel chain

The guests were not aware that they were participants in the study



## Experiment 1 -- Method (continued)

Sign 1 (industry standard):

“HELP SAVE THE ENVIRONMENT. You can show your respect for nature and help save the environment by reusing your towels during your stay.”

Sign 2 (descriptive norm):

“JOIN YOUR FELLOW GUESTS IN HELPING TO SAVE THE ENVIRONMENT. Almost 75% of guests who are asked to participate in our new resource savings program do help by using their towels more than once. You can join your fellow guests in this program to help save the environment by reusing your towels during your stay.”

Everything else on the cards are the same



# Experiment 1 -- Method (continued)

## Training

Trained the room attendants to collect the participation data

Instructions were given a number of times in multiple languages, and attendants were shown pictures detailing what was and was not considered to be participation

## Intervention

Each of the 190 hotel rooms was randomly assigned to one of the two different messages





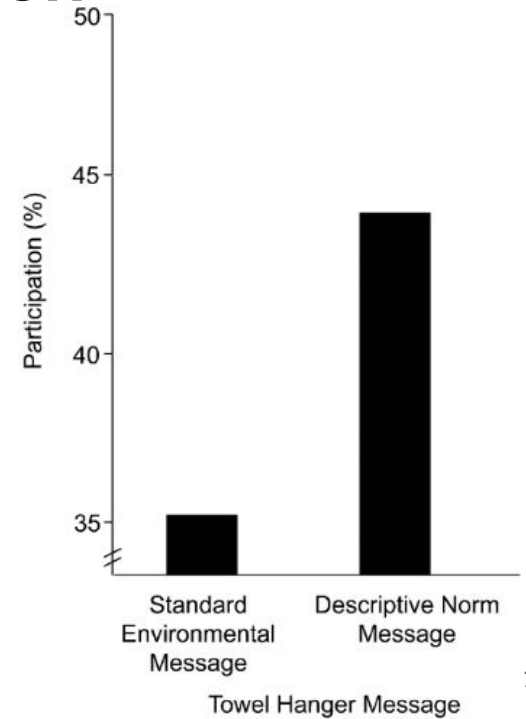
## Experiment 1 -- Result and Discussion

The data were recorded only for guests who stayed a minimum of two nights

Analyzed only the towel reuse data from guests' first eligible day of participation so that no guest would participate in the study more than once

## Experiment 1 -- Result and Discussion (Continued)

A chi-square test revealed that the descriptive norm condition yielded a significantly higher towel reuse rate (44.1%) than the environmental protection condition (35.1%)





## Experiment 1 -- Result and Discussion (Continued)

Shortcoming in the descriptive normative approach:

They informed participant that a large majority (75%) of the hotel's guests participated in the towel reuse program yet the best-performing message yielded only a 44.1% towel reuse rate



# Experiment 1 -- Result and Discussion (Continued)

Two potential reasons:

1. The study only examined towel reuse data for participants' first eligible day, the compliance rate we observed is likely an underestimation of the number of individuals who recycle their towels at least once during their stay
2. The study did not count as a reuse for a towel that was hung on a door hook or doorknob — a very common practice for towel recyclers who misunderstand or do not thoroughly read the instructions — as the authors wanted to eliminate the likelihood of guests complying unintentionally with the request




## Experiment 2 -- Whose Norms do we follow?

A descriptive norm relies on a reference group.

In the first experiment, the social identity of 'citizens' was used as the reference group.

The experiments investigate hotel guests' adherence to a descriptive norm varies as a function of the type of reference group associated with the norm.



## Experiment 2 -- Motivation

Previous work examine how personal similarities between a target individual and a group of people influence the target's adherence to the group's social norms [1,3].

One important variable affecting norm adherence is the level of perceived similarity among reference group and the target individual [2].

Also, individuals follow the norms of a social identity to the extent that they consider the social identity to be important to them [3].

The role of situational similarities in norm adherence has not been investigated.



## Experiment 2 -- Idea

Reference groups can be defined based on situational neighbors of the target individual.

**Provincial norms**—the norms of one’s local setting and circumstances—are more effective than global norm or norms attached to one’s important social groups.

The experiment aims to examine whether the towel reuse norm of hotel guests’ **immediate surroundings with respect to the target context** better motivates the guests to participate in the program than the norm of guests’ less immediate surroundings.



## Experiment 2 -- Method

Five towel reuse signs soliciting the participation of guests at the same hotel that was used in experiment 1.

1. Standard environmental sign from experiment 1.
2. All four of the other messages communicated descriptive norm where the reference group was altered for each message:
  - a. Other hotel guests (global norm)
  - b. Other hotel guests who had stayed in the guests' particular rooms (provincial norm, which is a rationally meaningless group)
  - c. Social groups, gender
  - d. Social groups, citizen





## Experiment 2 -- Method (continued)

- (1) ... “You can show your respect for nature and help save the environment by reusing your towels during your stay. You can show your respect for nature” ...
- (2) ... “In a study conducted in Fall 2003, 75% of the guests participated in our new resource savings program by using their towels more than once. You can join your fellow guests” ...
- (3) ... “In a study conducted in Fall 2003, 75% of the guests who stayed in this room (#xxx) participated in our new resource savings program by using their towels more than once. You can join your fellow guests” ...
- (4) ... “In a study conducted in Fall 2003, 75% of the guests participated in our new resource savings program by using their towels more than once. You can join your fellow citizens” ...
- (5) ... “In a study conducted in Fall 2003, 76% of the women and 74% of the men participated in our new resource savings program by using their towels more than once. You can join the other men and women” ...



## Experiment 2 -- Test of Manipulations

A group of participants were asked two key questions regarding two key aspects of the social categories:

- (1) The extent to which each of the appeals activated the intended social identities.
- (2) The degree to which participants felt that each of these social identities was personally meaningful to them.



## Experiment 2 -- Test of Manipulations (continued)

- (1) There were no significant differences in the extent to which each of the messages made participants think of their social identity as it related to the relevant social category.
- (2) The combined categories of citizen, male or female, and environmentally concerned individual were considered much more important to participants' identities than were the combined categories of hotel guest and hotel guest in a particular room.



## Experiment 2 -- Result

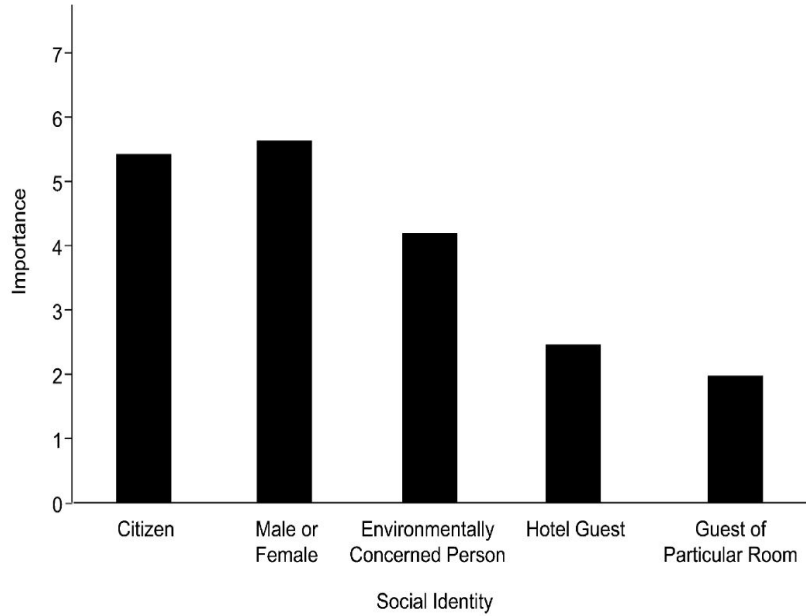
The towel reuse rates for the five conditions were significantly different from one another according to a chi-square test.

All four descriptive norm messages combined fared significantly better than the standard environmental message.

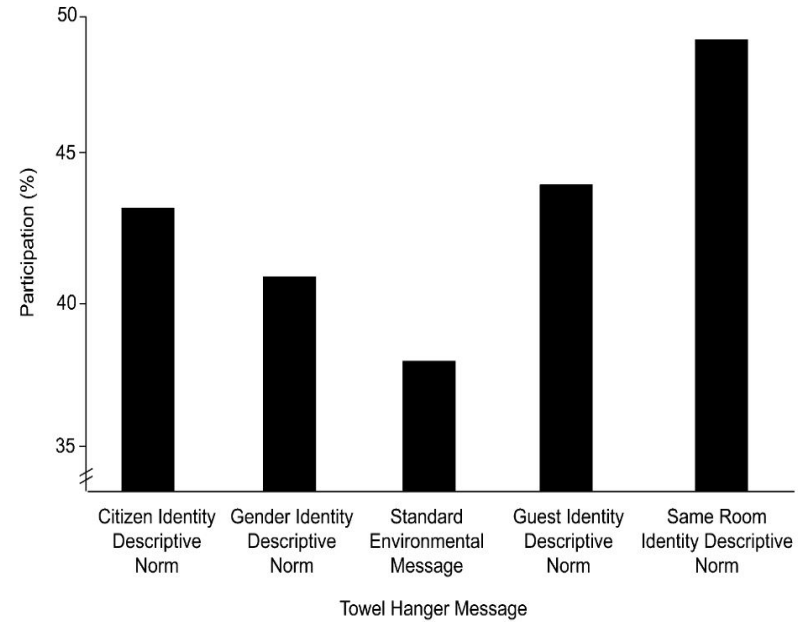
The same room identity descriptive norm condition yielded a significantly higher towel reuse rate (49.3%) than the other three descriptive norm conditions.


The citizen identity descriptive norm (43.5%), the gender identity descriptive norm (40.9%), and the guest identity descriptive norm (44.0%)—did not differ from one another.

IMPORTANCE OF SOCIAL IDENTITIES (EXPERIMENT 2)



TOWEL REUSE RATES AS A FUNCTION OF SIGN IN ROOM (EXPERIMENT 2)





## Experiment 2 -- Discussion

- (1) The social categories highlighted in each of the messages focused the participants on the intended social identity and that the messages did so equally.
- (2) The social categories were considered by participants not to be equally important to their own identities.
- (3) The towel reuse rates of the four descriptive normative message identities are not aligned with the extent to which individuals consider those identities personally meaningful to them.



## Potential Mechanisms Underlying the Effect of Provincial Norms

Individuals follow the norms that most closely match one's immediate situations.

Such behavioral strategies occasionally lead to errors due to the the overgeneralization of the previous experiences/associations [4].

Individuals learn the norms characteristic of their closer neighbors tend to be more accurate than those characteristic of more general. This could lead them to behave in not entirely rational ways.



## Potential Mechanisms Underlying the Effect of Provincial Norms (continued)

According to Heider's (1958) work on interpersonal relations, although socially meaningful similarities can create strong feelings of association between individuals, even minor similarities can create comparable or even stronger unit relationships [5].

People perceive unit relationships with another individual when it becomes salient that they share with that other an uncommon experience [5].

As a result, individuals might be more likely to follow the norms of an unimportant social identity than a meaningful social identity.





# General Discussion

The social identity literature have addressed the issues of **who** as they related to adherence to social norms; however, they have failed to address the issues of **where**.

Group norms are not decided by the extent to which people consider the group identities of the reference groups to be important to them.

**Conclusion:** In addition to the factors of norm salience, and the extent of meaningfulness of the reference group, another important factor is the degree of match between the situations of the target individuals and the reference group.



## Implications for Marketers, Managers, and Policy Makers

The paper highlights the importance of employing social science research and theory rather than greedy methods used in crafting persuasive appeals.

In order to optimize social identity effects:

- (1) It is important to ensure that not only the target social identity is salient but that the norms associated with the identity are known/salient.
- (2) It should be ensured that the norms of the reference group are as situationally similar as possible to the intended audience's situation.



# Strengths and Weaknesses

**Strengths:** The paper for the first time proposes that the notion of context is of great importance in adherence of individuals to a social norm.

**Weaknesses:** The major problem with the discussion of second experiment is that, authors try to justify the results of their experiments based on this assumption that the importance of social characteristics is a fixed concept.

In data mining, the informativeness of features is a task/context dependent concept and varies from one context/task to another.

# DISCUSSION -- Importance of Context in Data Mining

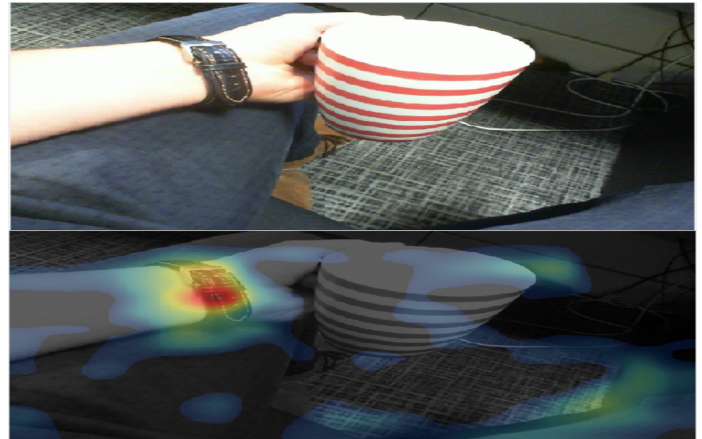
The notion of context has been heavily investigated in developing data mining models [6, 7].

Attention mechanism is a very successful technique that relies on the idea of involving context in data mining.

It has been shown to produce state-of-the-art results in different tasks [6, 7].

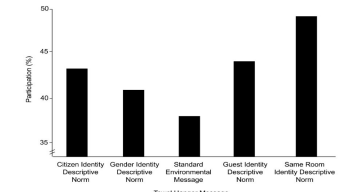
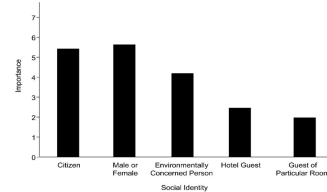
What do you see in the picture?

Context: how many watches do you see in this picture?



IMPORTANCE OF SOCIAL IDENTITIES (EXPERIMENT 2)

TOWEL REUSE RATES AS A FUNCTION OF SIGN IN ROOM (EXPERIMENT 2)





## Discussion -- Social norm VS Diffusion

Diffusion models were originally used in social networks to model the spread of influence in a network where each node is considered as either active or inactive. Iteratively, inactive nodes examine their neighbors and decide to whether become active or not [8].

The Linear Threshold Model is a basic yet popular diffusion model [8].

Given:

- a set of seed users as active users
- a threshold  $\theta$  assigned to each node randomly

At each iteration, a node decides to become active if the sum of the weights of the edges towards active nodes is larger than  $\theta$ .

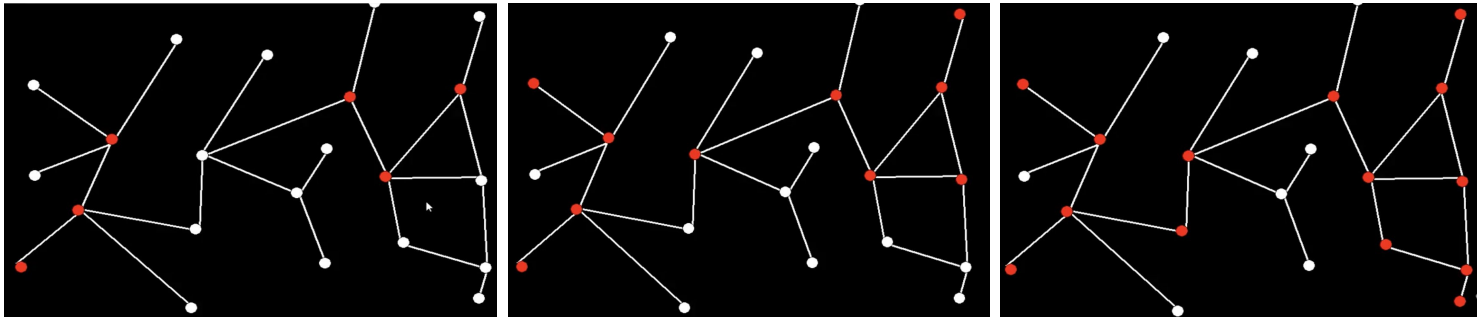


## Discussion -- How Social Norm can be Modeled based on Diffusion Models?

Social norm can be viewed as statistics/reports about the state of other nodes in the network.

- K percentage of nodes have been activated.
- K percentage of nodes in cluster C (associated with attribute c) have been activated.

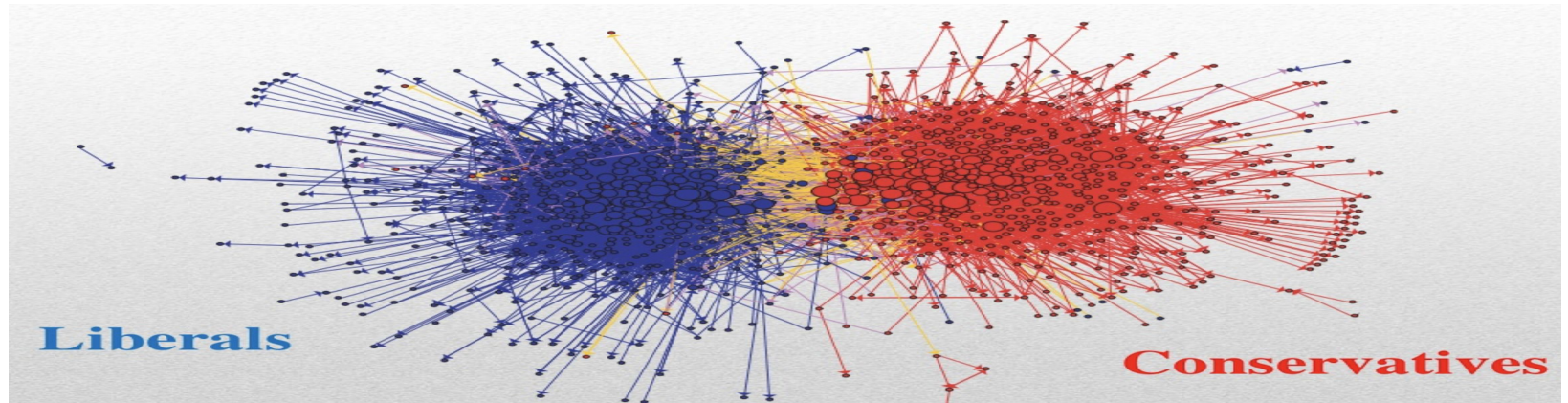
A diffusion model like linear threshold can be extended to capture the notion of social norm.



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# Discussion -- Social Norm in Signed Networks

How social norms can be modeled in a signed network, e.g., in a trust network?





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Thank you!