An Explorative Study on the Impact of Antecedent Mood States on Consumers' Evaluation of Hotels Online

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Abstract – **Many travelers plan their trip using online booking platforms. These often have recommendations for things to do and explore in the target destination. The suggestions could have either positive or negative connotations. This study aimed to investigate if such recommendations can trigger certain mood states that impact consumers' evaluation of hotels online. Web-based mood induction procedures were used to see whether moods as antecedent states had any impact on consumers' evaluations of hotel bookings. The results of the conjoint analysis demonstrate that the impact of location and hotel reviews can change based on consumers' mood. The impact of mood can help online managers in developing more effective hotel marketing and advertising strategies.**

Keywords - **online hotel booking, antecedent state, moods, tourism, priming**

I. INTRODUCTION

The marketing of tourism and hospitality products has become increasingly complex, being associated not only with conveying an image of a place, but with attempts to sell an experience of a place by relating it to the lifestyle constructs of consumers [1]. Online booking platforms also include results for different experiential activities whenever consumers search for hotels in a particular destination [2]. Some of these suggestions can evoke positive or negative connotations. An example of a common suggestion is museums based around significant negative historical events like wars and battles. Conversely, nature-based activities are generally associated with positive experiences. It is well known that humans unconsciously and automatically evaluate their environment in term of pleasant or unpleasant in a consistent manner [3, 4]. Such initial assessments or primes can influence subsequent evaluations, judgment, and actions [5]. Moods as a form of prime have an indirect influence on the formative judgments [6]. The current exploratory research examines how moods can influence consumers' evaluation of hotel bookings.

In consumer research, moods can be conceptualized as antecedent states [7]. More specifically, moods are defined as feeling states that are subjectively perceived by individuals [8]. Moods have been shown to affect consumer behavior in different ways [6] , and can change in response to various events [9]. The generally accepted theory is that when people feel good or bad, they perceive such reactions as relevant information when making an evaluative judgment [6]. Understanding how moods influence consumer behavior is important because consumers bring a variety of moods into decision making, and the shopping experience itself can also influence different moods [10]. Tourism activities, as experiential forms of consumption, can easily be influenced by consumers' moods [11]. A fair amount of research has shown that mood can influence tourism product evaluations [12-14]. More and more online booking sites include suggestions of "things to do" and "places to visit". Based on the logic presented above, such suggestions can be positively or negatively evaluated and have an influence on consumer moods. Thus, the purpose of this study was to examine if moods could be induced by such suggestions and whether they had an impact on the evaluation of hotels when booking online.

II. METHODOLOGY

1) *Participants*: One hundred and seventy-three participants agreed to take part in a conjoint experiment arranged for the purpose of this study. The participants consisted of 84 men and 89 women between the ages of 23 to 45 years. These participants were randomly assigned to the three experimental conditions (negative mood priming, positive mood priming, and a control condition) and responded to the mood questions taken from Peterson and Sauber [15]. Out of these, 39 (n=39), were strongly affected by the valence mood priming, 22 participants were positively mood primed, and 17 participants were negatively mood primed (scored three or higher on the five-point mood scale). The data from these two sub-samples was analyzed to examine the influence of moods on hotel evaluations. In the beginning of the experiment, the participants were informed that the survey would take approximately three to five minutes to fill out, and that the collected data would be anonymized. The participants voluntarily chose to register their telephone number at the end of the experiment to enroll in the competition to win 150 NOK.

2) *Apparatus*: Thirteen stimulus cards were created and edited by using Microsoft PowerPoint™. Permitted images (depicting a standard hotel room) from a local Norwegian hotel were used in the design of the stimulus cards. The online survey tool Qualtrics™ was used to make the questionnaires with the stimuli cards. The order of the stimulus cards was randomized. The link to the survey was distributed to possible participants by using social media (Facebook), and by using emails. Qualtrics enabled the random allocation of participants to three different groups (negative priming, positive priming and

control) in the study. The negative and positive images were taken from the Geneva affective picture database (GAPED) [16]. The two images for the negative prime consisted of one unearthed cadaver and one cadaver inside a pit. The suggested place to visit was a prison museum and was accompanied by a realistic story about how the prisoners were treated there. For the positive prime, the suggested activity described was a luxury tour, accompanied by two images depicting scenic beaches. The control group was not presented with any suggestions or images before the commencement of the survey. IBM SPSS Statistics™ 25 was used to analyze the survey data from Qualtrics.

3) *Design*: Table 1 gives a summary of the attributes and the levels used in this study. Relevant stimuli, like hotel price per night, location, and hotel reviews, were included and operationalized at three levels (high attractiveness, medium attractiveness, and low attractiveness). These stimuli were included because they are the most visible attributes when searching for hotels on popular booking platforms like Hotels.com and Booking.com. Hotel prices were based on real average prices on Booking.com for a large international city. A low price ought to suggest high attractiveness, while a high price ought to suggest low attractiveness to a consumer. Therefore, the lowest price is of high attractiveness, medium price equates to medium level, and high price is of low attractiveness. For location, in the city center represents a high level of attractiveness, walking distance from the city center is a medium level of attractiveness, and a hotel located a far distance from the city center has only low attractiveness. The rationale for this attribute is that hotels are valued based on their location [17, 18]. The three levels of hotel reviews were based on real reviews left by hotel guests that had used the booking sites Booking.com and Hotels.com. The rationale for including this attribute was that hotel reviews have a strong impact on hotel evaluations [18, 19].

Both the academic and the commercial community have shown interest in conjoint analysis [20]. The modelling of consumers' preferences among multi-attribute alternatives has been a major activity in consumer research for a decade [21]. Marketing researchers have made considerable use of conjoint analysis to help them select different types of product or service features [22]. Conjoint analysis is principally associated with researching ways in which to mathematically represent the behavior of rankings observed as an outcome of systematic, factorial manipulation (known as factorial designs) of independent factors, which are known as attributes [23]. Green and Srinivasan [24] state that conjoint analysis is a decomposition method that estimates the structure of a consumer's preferences (e.g. part-worth, importance weight, ideal points), given his/her overall evaluations a set of alternatives that are pre-specified in levels of different attributes. The methods of conjoint analysis rely on formal proofs about the mathematical representations of rank orderings of orthogonal arrays [23]. Orthogonal arrays allow for orthogonal estimations of all main effects with the smallest number of combinations [25]. A fractional factorial design is used in preparing stimuli combinations that use only a subset of the possible stimuli needed, to estimate the results based on the assumed composition rule [18]. For example, in this study, instead of having 27 scenarios for all possible combinations (full factorial design) for three attributes with three levels each (3x3x3), the fractional factorial design allowed estimation of the main effects with a fewer number of scenarios (stimulus cards). This greatly reduces the timeframe to conduct conjoint experiments and makes data collection less tedious for participants. The orthogonal arrays were made using IBM SPSS Statistics™ 25 program; the factorial design created 13 stimulus cards (see appendix).

TABLE I
ATTRIBUTES AND LEVELS CONSIDERED IN THE STUDY

Attributes	Attribute level
Hotel price per night [a]	High attractiveness: 398 NOK Medium attractiveness: 734 NOK Low attractiveness: 1599 NOK
Location	High attractiveness: In city center Medium attractiveness: Easy walking distance to city center Low attractiveness: No walking distance to city center
Hotel reviews [b]	High attractiveness: "The staff is amazing; they anticipate your needs and deal with any request. Once we came, the place was an oasis of peace and comfort." Medium attractiveness: "The place can be noisy some nights, but it was not a problem at all. Apart from that, the staff were great and helpful." Low attractiveness: "The staff were untrustworthy and not helpful at all. It was very hard to sleep at night because of noise from people in the corridor."

[a] The price categories were based on average price per night on Booking.com.
[b] The hotel reviews were based on examples from both Booking.com and Hotels.com.

III. RESULTS

For the control group (n=57), the correlation between estimated and observed preferences are significant (r =0.998, p=0.000). For this group, hotel reviews were considered the most important, scoring at 42.37%, followed by price at 35.06 %, and location at 22.57%.

For the sub-samples in the primed groups (that were strongly affected by the valence mood priming), the correlation between estimated and observed preferences is significant for the relative impact of negative mood (r = 0.999, p = 0.000), and positive mood (r = 0.996, p = 0.000). Table 2 presents the relative importance of each attribute (price, location, and hotel reviews) for positive mood priming. It is evident that hotel reviews are considered the most important, scoring at 46.06%, followed by price at 31.93%, and location at 22.01%.

TABLE II
RELATIVE IMPORTANCE OF ATTRIBUTES AND LEVELS FOR POSTIVE MOOD PRIMING (n = 22)

Attributes and levels	Impact estimate	Standard error	Importance values
Hotel price per night			31.93%
1. High attractiveness	1.359	0.200	
2. Medium attractiveness	0.071	0.200	
3. Low attractiveness	-1.429	0.200	
Location			22.01%
1. High attractiveness	0.586	0.200	
2. Medium attractiveness	0.268	0.200	
3. Low attractiveness	-0.854	0.200	
Hotel reviews			46.06%
1. High attractiveness	2.086	0.200	
2. Medium attractiveness	-0.035	0.200	
3. Low attractiveness	-2.051	0.200	
(Constant)	4.769	0.142	

Table 3 shows the results from the negative mood priming. Hotel reviews are the most important at 39.9%, followed by price at 32.12%, and with location being the least important at 27.91%.

By comparing the importance values in Tables 2 and 3 we can see that location has a higher value for negative mood priming, while hotel reviews have a higher value for positive mood priming. Price remains about the same for both conditions.

TABLE III
RELATIVE IMPORTANCE OF ATTRIBUTES AND LEVELS FOR NEGATIVE MOOD PRIMING (n = 17)

Attributes and levels	Impact estimate	Standard error	Importance values
Hotel price per night			32.12%
1. High attractiveness	1.138	0.064	
2. Medium attractiveness	0.235	0.064	
3. Low attractiveness	-1.373	0.064	
Location			27.91%
1. High attractiveness	0.725	0.064	
2. Medium attractiveness	0.196	0.064	
3. Low attractiveness	-0.922	0.064	
Hotel reviews			39.97%
1. High attractiveness	1.980	0.064	
2. Medium attractiveness	-0.216	0.064	
3. Low attractiveness	-1.765	0.064	
(Constant)	4.706	0.045	

IV. DISCUSSION

The purpose of this study was to examine if moods could be induced by suggestions of activities on online booking platforms and whether such suggestions had an impact on consumers' evaluation of an online hotel booking situation.

The results indicate that, for participants in the positive mood prime condition, hotel reviews have the greatest impact on consumers' evaluation when compared to hotel price and location. Hotel price has a moderate influence, while hotel location exhibits the smallest effect. In other words, consumers in positive moods are likely to focus more on hotel reviews than on location and price when booking hotel online.

Among the negative mood primed participants, hotel reviews also seem to be the most impactful, but not to be as influential as for the positively primed participants. Interestingly, hotel location showed a greater influence on the negatively primed participants compared to the positively primed participants (even when compared to the control group). In every hotel business, the location of a hotel plays an important role in its success [18]. It could be that people with negative mood are less likely to compromise in terms of location.

From a managerial point of view, this study indicates that hotel managers should be aware that consumers' mood may be impacted by online suggestions of things to do and places to explore at the target destination. Further, a positive or negative consumer mood may lead to different evaluations of hotels on online booking platforms. Therefore, it could be of value for hotel managers to analyze how different online booking platforms present things to do and places to explore at the hotel destination. Especially those hotels with a less attractive location should note that consumers in a negative mood seem to be more conscious of location than consumers with positive mood. Information about transport connections could be included in an attempt to mitigate some of these effects.

Further, this study has shown that online consumer hotel reviews are highly important for consumers' evaluation when compared to hotel price and location. Striving for positive online reviews and rectify negative issues causing negative ones ought to be a highly important marketing strategy for hotel managers so as to generate bookings online [19]. Additionally, hotels can include and highlight relaxing and nature-based activities to associate themselves with positive experiences.

This study is an explorative step in examining how moods elicited by suggestions of activities on hotel booking websites can influence consumers' evaluations. The study looks into this complexity and how it impacts consumers' behavior. This research has partly demonstrated that the experience of booking hotels online itself can influence different moods [10]. The conjoint experiment has provided some initial insights that mood can be induced, albeit mildly, by web-based presentations of positive and negative activities, and evoke some influence on consumers' hotel evaluations online. More research is, however, needed to examine consumers' moods in hospitality and tourism situations. Priming research is primarily concerned with how signals, that reach people's minds in particular situations, can influence people's responses, even when they do not connect these signals to their current thoughts or actions [26]. There is limited literature examining the priming of antecedent mood states in online hotel booking situations.

This study involves some limitations related to the chosen procedures. The images and the text used to

induce specific moods did not seem to be very effective at eliciting the targeted moods. Therefore, the number of participants of the primed sub-sample groups was relatively low in comparison to the total sample. Even though mood primes could be experimentally induced through online methods [27], different mood-induction procedures could be used in future web-based experiments to effectively elicit specific mood states [28]. Thus, in further research, the mood priming and data collection methods could be refined. The study then could be replicated in other countries and hospitality contexts.

Despite the limitations, it should be noted that the random allocation of the participants for the different mood interventions, and the randomized order of the stimuli cards, increased the internal validity of the results. Furthermore, the attributes and images of the hotel, and layout of the page scenario, were based on real world examples, which increased the ecological validity of the results.

V. CONCLUSION

This study indicates that consumers' moods can, to some degree, be positively and negatively induced by hotel booking websites' suggestions for activities at the target destination. Furthermore, this explorative study stipulates that different moods might shift consumer focus from one hotel attribute to another. Location was more impactful for consumers in the negative mood condition when compared to consumers in positive mood. Negative mood also decreased the participants' focus on reviews when compared to a positive mood. The importance of price per night, on the other hand, remained the same regardless of mood. Overall hotel reviews had, regardless of mood, the highest importance score on evaluation compared to location and the price per night. Further studies should consider the discussed limitations of this study and improve upon them.

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APPENDIX

FACTORIAL DESIGN COMBINATINS FOR THE STIMULUS CARDS USED IN THE STUDY

Stimulus card ID	Hotel price per night	Location	Hotel reviews
1	Medium	Good	Medium
2	Medium	Low	Low
3	Low	Good	Low
4	Medium	Medium	Good
5	Low	Medium	Medium
6	Good	Medium	Low
7	Low	Low	Good
8	Good	Good	Good
9	Good	Low	Medium
10	Low	Medium	Good
11	Medium	Good	Good
12	Medium	Good	Low
13	Good	Low	Good

Note: The attributes stimuli and the three levels of the 13 stimulus cards correspond to Table I