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THE EFFECTS OF DENTAL ATMOSPHERICS ON PATIENT'S EMOTION AND BEHAVIOURAL INTENTIONS

Abstract: The objective of this study is to examine the influence of dental atmospherics on customer's (patient's) positive emotion and behavioural intentions. We proposed hypotheses to examine relationships between dental atmospherics, customer positive emotion and behavioural intentions. Survey data were collected from 117 dental clinic patients in Jakarta. From the aspect of practical implication, this study provides information on factors that influence and affect consumers' positive emotions that lead to favourable behavioural intentions, specifically for a dental clinic. Research limitations lie in the fact that the paper focuses only on atmospheric factors in a dental clinic. The value of the present paper is that so far little research has been done on understanding the role of atmospheric factors on patients' positive emotions and behaviour in a dental clinic in Indonesia.

Keywords: dental atmospherics, patient's positive emotions, behavioural intentions

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Introduction

The effect of atmospherics on consumer behaviour has attracted the interest of researchers and practitioners in various fields, such as architecture, environmental psychology, retailing, and marketing [7], [23]. This effect was mainly important for service businesses because consumers frequently experience the total service within a service setting and tend to evaluate service quality from tangible cues, i.e. from atmospherics or physical environment [5].

The healthcare industry realizes that servicescapes have an important impact on customers [10].

In today's competitive healthcare market environment, patients are more demanding. Therefore, it is important for healthcare providers to understand what patients experience in their facilities. Patients have many options opened to them. Healthcare industry has experienced changes in service deliveries because of higher service expectations from patients, advancing technology, greater access to health

information through various sources of information such as the Internet and the digital media, and a holistic approach to health and well-being concerns [11].

Limited studies have been done in Indonesia concerning the effect of atmospherics on patient behavioural intentions. Atmospherics is believed to be one of the most influential factor affecting a customer's psychological state and behaviours in hospitality service situation, there is a need to understand how customers' emotional states and behaviour change based on their perception of environmental elements. Thus, the current study tried to fill the research gap by assessing the effect of customer perceptions of dental atmospherics on their positive emotion, which could have an impact on their intended behaviours in dental clinic.

This study is expected to provide information for understanding the important role of atmospherics in creating positive emotion or pleasure feeling and behavioural intentions.

Conceptual Background

Physical environment and customer emotion

Many studies have shown the important role of physical environment in determining customers' evaluation of service. Kotler [14] conceptualized the term as atmospherics, as perceived via customer's five senses. Furthermore, Baker [1] included ambience and design factors and social factors (referring to employees and customers). Edvardsson et al. [8, 9] developed the notion of "experience room" that covers physical and intangible artefacts, technology and various social elements. Based on Edvardsson et al. [9], customers can infer an anticipated service experience from the physical artefacts (e.g. lighting, décor and layout) of a pre-use environment, e.g. website homepage, a showroom, or an information event.

Ambience will be more important for service organizations than for producers of tangible goods [5]. Since services are produced and consumed simultaneously, and this occurs within the physical facilities of the firm, customers will be exposed to the ambience of "production site" [12], and consequently it will be an important determinant for the feeling of pleasure, perceived value and behavioural intention.

Physical environment plays an important role in service delivery because it can foster pleasant emotional reactions, while enhancing customer perception and retention [3], [5], [22]. Physical surroundings are more important in service settings because customers as well as employees often experience the firm's facility [5]. Individuals react to places with two general and opposite formats of behaviour: approach and avoidance [16], [17]. Approach behaviours are all positive behaviours that might be directed at a particular place, such as desire to stay, explore, work, and affiliate, while avoidance indicates the opposite [17].

Previous studies showed that customers respond emotionally to various physical environments [5], [24], included design and ambient factors [2]. Walter and Edvardsson [25] found that physical environment had both functional and

social dimension and it was an important driver of customer service experiences in restaurants. Customers interact with these drivers individually and create their own meanings and value expressed as feelings, thoughts, imagination and behaviour. Previous studies also supported the relationship of physical environment and affect [7], [24].

Previous studies have suggested that various atmospheric factors can influence consumers' positive and/or negative emotions in service settings. For example, the level of warmer and cooler colour could have a different impact on customer's feeling [15], [16]. Warm colours, e.g. red or orange were found to be arousing and sometimes even stressful, whereas cool colours, e.g. blue or green were relaxing and distressful [4]. Music is another atmospheric factor that has received growing attention. Musical tempo, pitch, mode, and genre were found related to consumer's emotions [6]. Furthermore, lighting, scent, temperature, layout, and social cues have all been found to influence consumer emotional states in specific settings [12], [16], [21], [23], [26].

Kim and Moon [13] found that customers' perceptions of the physical servicescape in a theme restaurant positively affect customers' pleasure feeling; another study conducted by [21] found that design factors have an influence on joy.

A study conducted by [21] found that design factors and interaction or social factors had a positive effect on customers' feeling of joy.

The customer oriented or patient oriented concept care is related to service design: to create service encounters that are useful, usable, and desirable from the patient's perspective [18].

In healthcare, environmental factors can affect moods and emotional states of patients, their families, and employees [10]. There have been many efforts to indicate the relationship between physical environmental factors and patient outcomes [20].

Based on a review of the atmospheric literature, the following hypotheses were proposed:

H1: Ambient factors will have a positive effect on patient positive emotion in dental clinic.
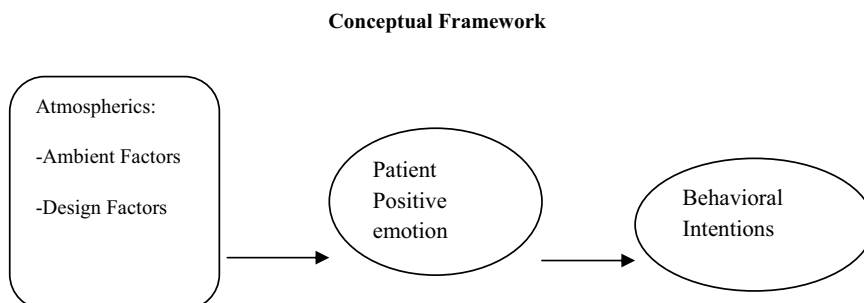
H2: Design factors will have a positive effect on patient positive emotion in dental clinic.

Customer or Patient Emotion and Behavioural Intentions

Based on consumer surveys in three leisure service settings, Wakefield and Baker [24] found that the tangible physical environment plays an important role in generating excitement in leisure settings; excitement, in turn, plays a significant role in determining customers' re-patronage intentions and willingness to recommend. Furthermore, Nyer [19] found that people in positive emotions are willing to engage in positive word of mouth. Thus, we propose:

H3: Patient positive emotion is positively related to behavioural intentions.

Figure 1

Conceptual Framework

Dental clinic patients participated in this study. One hundred and thirty-six (136) responses from convenient sampling were collected; one hundred and seventeen (117) valid responses were used for further analysis.

Measures

All constructs included in the model were measured using multi-item scales.

Atmospherics or Physical environments
Atmospherics consists of two dimensions: ambient and design factors were measured using instruments adapted from [15]. Ambient factors were measured using four items (e.g. "Pleasant air quality"). Design factors were measured using three items (e.g. organized layout).
Customer or patient emotion
Six items were adapted from [16] (e.g. "I felt pleasure during my visit in this dental clinic").
Behavioural intentions
Behavioural intention was measured using two items (e.g. "I would like to say positive things about this dental clinic to friends and relatives") adapted from [27], [28].

Results and Discussion

Following the two-step approach, a measurement model was first estimated using a confirmatory factor analysis (CFA). Each measurement item was loaded on its prior construct. The instrument reliability was assessed using Cronbach's alpha. The alpha values range from 0.70-0.87.

Convergent validity meets the requirements in this study all the items had a relatively high factor loadings on the underlying construct, the values range from 0.57 to 0.89. Overall model fit for CFA was asses using the Chi-square test and

goodness of-fit-indices. Since the Chi-square test is not significant (indicating the model a poor fit ,$\chi=772.22$,$p=0.300$), others indices of fit were assessed i.e. Comparative Fit Index (CFI), the Normed Fit Index (NFI), Root Mean Square Error (RMSEA) indicated the measurement model fit the data well (CFI=0.960), NFI=0.952, RMSEA=0.03).

As the second step, the proposed structural model was assessed producing the following statistics: $\chi^2=389.11$, $\chi^2/df=2.65$, On the basis of CFI=0.98, NFI=0.95, RMSEA=0.06) indicated that the model fit was acceptable.

Table 3

Structural Model Results

Hypothesized relationship	Standardized coefficient	t-value	Results
H1 Ambient factors $\longrightarrow$ Patient emotion	0.58	2.77*	supported
H2 Design factors $\longrightarrow$ Patient emotion	0.53	2.29**	Supported
H3 Patient Emotion $\longrightarrow$ Word of Mouth	0.33	2.73*	Supported

$\rho* < .05$ $\rho** < .01$

All predictor variables were found to be significantly and positively influenced customer's positive emotion, thus Hypothesis 1 was supported. Ambient what had a positive effect on patient emotion ($\beta=0.58$, $t=2.77$). Design factors were also had a significant effect on patient emotion ($\beta=0.53$, $t=2.29$), thus hypothesis 2 as supported. Hypothesis 3 was also supported. Patient positive emotion had an influence on behavioural intentions ($\beta=0.33$ $t=2, 73$).

Conclusions and Implications

The present study validated a model that predicts the effect of atmospherics toward customer emotion and behavioural intentions in dental clinic setting. Atmospherics had positive effect on patient positive emotion that finally influenced behavioural intentions.

This research provides insights for healthcare marketers indicating that atmospherics or physical environment is   important in determining patient positive emotion that lead to positive behaviour. The findings of this study suggest that dental clinic's managers need to consider atmospherics elements to create patient positive emotion.

Limitations and future research

There are several limitations of this study. First, convenience sampling was used to collect the data` therefore the generalization of the findings is limited. Second,

other variables such as patient's demographics and personality were not included in this study. Future research could consider these variables including different service settings.

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