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The Impact Factors of Weather on Customers Purchase Behavior

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Abstract

Climatic change affects human behavior and economic activities. The extreme weather occurs frequently in recent years, thus the topic of discussing its influence also becomes more and more important. The issues are arising from financial management areas. But in marketing management, it is rare to be regarded. Therefore this study is based on the point of view of consumer behavior to explore the impact of weather changes on the consumers' mood and their impulsive buying behavior. This research conducts the experimental design and provides the subjects to read the tractate with different experimental season manipulation (spring, summer, autumn, winter). After the manipulation, we measure participants' mood and intention toward their impulsive buying behavior. The outcome of experiment will be compared with the data of actual weather and merchandise sales. These results can help us to clarify the relations between the difference of weather and consumer shopping behavior. Also, the results of this research can be applied to retail industry and provide the managers for marketing strategy decision such as inventory management of product and strategy of seasonal sales.

1. Introduction

The Earth's climate is changing. In recent years, the onslaught of extreme climate around the globe. Temperatures rose, the temperatures of sea surface increases every year. All kind of extreme weather disasters emerge in an endless stream. Floods drought and series of natural disasters problem impact of global warming intensified the natural greenhouse effect and cause the global warming and climate changing.

Greenhouse gas emissions cause global average temperature rise, widespread melting of snow and ice and rising average sea level which endanger human life and people's lives. Most affected is developing countries, extreme climate changing will damage of agricultural production, led to the local poverty, hunger and disease, even bring death. Extreme weather brings flood, droughts and severe storms also will impact on the world's major economies damage and loss.

Some studies have shown that the polar ice melting has caused irreversible effect. Some European countries summer weather getting cold, dark and rainy. Extreme weather impact on the global economy have unwittingly.

Abnormal climate change is not only affecting the growth of crops, but also directs or indirects impact of human activities. In the human physiological responses, will produce abnormal reactions in extremely hot climates. Such as heat stroke, heat exhaustion and heat asthenia. In a period of heat wave, much part the cause of death by heart attack. Also in a very cold environment state (such as cold current) will produce anomalies in human physiology. Psychology also the case. Similarly, research exploring the link between weather and a social activity has reported that higher temperatures are correlated with increases in violent assaults and homicides (Cohn, 1990a, 199Db).

Study also found that weather variables will influence people's behavior in the financial like weather may affect stock returns (Saunders, 1993; Trombley, 1997; Hirshleifer and Shum— way, 2003; Goetzmann and Zhu, 2005). Previous studies, the weather will affect the behavior of the people can be found.

Thus this study basic on the point of view of consumer behavior, to explore the impact of weather changes on the consumer mood and impulsive buying behavior. The results of this research can be applying to retail industry and be referred by the managers for marketing strategy decision such as inventory management of product and strategy of seasonal sales.

2. Literature Review

2.1. Weather

Dictionary (1985) explained, phenomenon of all changes in the atmosphere, such as wind, rain, thunder, electricity, etc. it all called “weather”, rapid change or transient phenomenon also known as meteorological. Temperature, humidity, wind speed, and rainfall for the meteorological are called by meteorological elements (Lee, 1970). Climatic factors on the natural biological ecological survival have a crucial impact. So the impact on the organisms can imagine. There are many factors that affect the climate, such as temperature, rainfall, snowfall, humidity, sunshine and wind speed, etc. Two of these factors such as temperature and rainfall are the most direct effect the human. Too much rainfall easily can cause flooding, few can cause drought. In temperature, such as changes in prices too much, and could easily lead to physical discomfort and illness. It does can be seen climate affect people's lives deeply.

Weather conditions not only impact but also affect the selection of human consumption activities, also affect the willingness to purchase, such as raining day. People are more inclined to choose indoor places shopping even a lack of willingness to go out, and sunny day will tend to go out shopping. There are many weather factors that affect human beings to go out shopping behavior, include temperature, rainfall, snowfall, humidity, sunshine and wind speed, etc.

For temperature perception, it contains physiological levels and psychological. Physiological body temperature is basic feeling. That is, the temperature in the surrounding environment. It is generally Fahrenheit or celsius measurement units. Another is the psychological feeling of temperature perception, it called core temperature. Thus, the weather can influence the customer's mood. We propose hypothesis 1:

H1: The weather can significantly influence customer's mood.

2.2. Mood and Emotion

A mood is an emotional state. The meaning of emotion and mood often confuses people. Actually, they are a little

different. Moods differ from emotions in that they are less specific, less intense, and less likely to be triggered by a particular stimulus or event. It becomes necessary to take a close look at its meaning in order to properly understand its role in consumer behavior and all that their effect.

Moods can be defined as relatively low-intensity, diffuse, and enduring affective states that have no salient antecedent cause and therefore little cognitive content (such as feeling good or feeling bad, being in a good or a bad mood). In contrast, distinct emotions are more shortlived, intense phenomena and usually have a highly accessible and salient cause, as well as clear, prototypical cognitive content (e.g., disgust, anger, or fear) (Forgas, 2001). Mood had been shown to influence consumers in a variety way and different explanatory mechanisms for the mood effects have been demonstrated. Moods generally have either a positive or negative valence. Moods are considered to be mild, different from the concept of an emotion. “Moods are most often described by their valence either positive or negative, happy or sad, good or bad or neutral” (Sucala & Tatar, 2010).

The likelihood that a host of behaviors may be performed appear to the enhanced by positive moods (Gardner, 1985). Negative moods' effects on behavior may be more complex than the effects of positive moods (Isen. 1984; Donnerstein, Donnerstein, and Munger. 1975; Cialdini and Kenrick. 1976). For example, helping may be enhanced by some negative mood states such as sadness (Baumann. Cialdini, and Kenrick. 1981) and not by others such as frustration.

Emotion is a “reaction to a specific target-whether an event, a person, or a situation” (Holbrook & O'Shaughnessy, 1984). Emotion means that an individual encounter an event that can draw him a strong feeling and follow a psychological and physiological response. According to Clark and Isen (1982), they discriminated emotion from mood. Moods are generally more “intense, attention-getting, and tied to a specific behavior” as compared to emotions (Clark & Isen, 1982). Mood states are important in consumer behavior, and therefore advertising, marketing fields as well. Changes in the environment, however slight, may drastically affect one' mood (Gardner, 1985). It is because mood can alter quickly and easily- sometimes triggered by something as little as a misunderstood word or frowning. In consumer's research, the terms “emotion” and “mood” are used interchangeably, and in this article, both refer to mood definition.

2.3. Impulsive Buying Behavior and Impulsive Buying Tendency

Stern (1962) defined that impulse buying is the significance of unplanned purchase, consumers have purchased the items that no plan to buy. Induced by external stimuli thus immediate action, strong and impulse to immediately to respond, a kind of do not consequences care or temporary loss of control, sentimental and irrational behaviour and put forward the concept of the impulse mix. Impulse buying is divided into four categories, the first pure impulse buying, the second to reminder purchase, and the third for suggestion

purchase, last purchase planned.

Rook and Hoch (1985) that such acts are five important factors: the first is a sudden and spontaneous desire to act, the second is a state of psychological disequilibrium, the third is a psychological conflict and struggle, the fourth is a reduction in cognitive evaluation, the fifth is a lack of regard for the consequences, that is when the impulse occurs, consumers mental state rapidly becomes excited to buy instead desire, thereby interrupt, out of the original act without careful analysis (or more difficult) to consider the product's attributes, it difficult to make informed buying decisions. Rook (1987) defined the impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict. Also, impulse buying is prone to occur with diminished regard for its consequences. Beatty and Ferrell (1998) defined insures that the shopper did not intend to buy the item before entering the shopping area and that fulfilling a planned task, such as buying a gift for someone, is not an impulse purchase and focus on the act of buying, while see the felt urge to buy impulsively, which is defined below, as a precursor to the act. According to the literature review of mood, we can infer the hypothesis 2 as

H2: The mood of customer's will influence their impulsive buying behavior.

Scholars referred to in the definition of the above. This study defined impulse buying to take to Beatty & Ferrell (1998) the point of view. The definition of impulsive shopping: impulse buying is a sudden and immediate purchase, produced spontaneously and without too much thinking of behavior change, which does not include the reminder of the lack of inventory of items in the above definition.

Mowen & Minor (1998) found that the characteristics of consumer impulse buying, will be have higher proportion of impulse buying behavior. The main qualities of the consequences of impulse buying impulse buying, consumers will feel a sudden, cannot resist the power, prompting consumers eager to own something immediately, such forces would immediately have led consumers to reduce cognitive assessment of product attributes (Weinberg & Gottwald, 1982; Rook, 1987).

Thus, we propose hypothesis 3:

H3: Impulsive buying tendency can moderate between mood and impulsive buying ten behavior.

Verplanken and Herabadi (2001) basis on five people a trait to analysis the personal qualities to discuss the effects of individual differences in impulse shopping tendencies. Found that when the individual personality is a high extraversion, relatively high characteristic on impulse shopping tendencies. By the aforementioned studies can know, impulse shopping tendencies have been classified psychological level of personal shopping traits.

According to a study of Rook (1987), there is almost every product are possible trigger consumer impulse buying behavior, and consumers is one of the main factors of impulse

buying. However, consumers' impulse generation involved in the operation of the psychological process, will vary depending on the consumer's personality or inner psychological state. In these purchase decisions, up to 80% people had negative results because of impulse buying. These results include: financial risk, unnecessary purchase (buy unnecessary things), feeling guilt and others do not support it (Rook, 1987).

Therefore, the present study impulse buying tendency is defined as: buying tendency stimulation may lead to the kinds of personal shopping environment, this tendency because of differences in personal characteristics and level of different.

3. Method

In this study, the literature developed by the aforementioned conceptual framework in Figure 1. This paper conducts experimental method to explore the relations among weather, mood, impulse buying tendency, and impulsive buying behavior for the consumer choice behavior.

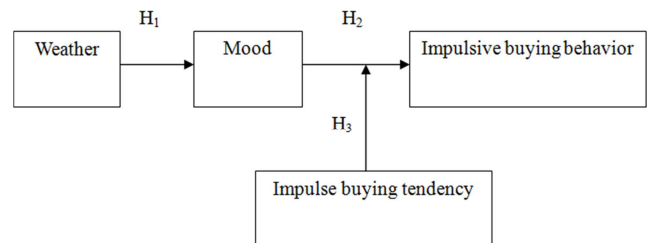


Figure 1. Research framework.

3.1. Design

This paper conducts experimental method to explore the relations among weather, mood, impulsive buying tendency, and impulsive buying behavior for the consumer decision. This research conducts the experimental design, and provide the subjects to read the tractate with different experimental season manipulation (spring, summer, autumn, winter). After the manipulation, we measure participants' mood and intention toward impulsive buying behavior which will be compared with actual weather data and general merchandise retail sales data. There are 400 students from business school assigned randomly to the four manipulation scenarios. There is 100 students in each scenario.

3.2. Measurement

The measurements are conduct by questionnaires included the variables of mood, impulsive buying intention and behavior.

The questionnaires for mood is based on Jang and Namkung (2009), Beatty and Ferrell (1998). It includes positive and negative statements such as excited (positive), happy (positive), satisfies (positive), angry (negative), upset (negative), fretful (negative) and so on. We use Likert five scale from "very agreement" to "very disagreement" to measure the reflection of subjects. Cronbach's α is 0.816.

The questionnaires of impulsive buying intention is used by

Rook and Fisher (1995) and Youn (2000). It includes “For me, buying things is a way for reflecting my frustration “,”I bought something to change my mood” and so on. The Likert five scale from” very agreement” to “very disagreement” is used to measure the subjects. The Cronbach’s α is 0.856.

The questionnaires of impulsive buying behavior is according to Rook and Fisher (1995). A buying task is assigned to the subjects. It includes the possible of buying behavior when asking the subjects which product they will

buy. The Likert five scale from” very agreement” to “very disagreement” is used to measure the subjects. The Cronbach’s α is 0.912.

4. The Results of Analysis

The research uses regression analysis to test the hypotheses of the research framework. The results is shown in table 1 and 2.

Table 1. The impact of weather on mood.

	Independent variable: Mood							
	Spring	VIF	Summer	VIF	Fall	VIF	Winter	VIF
constant	24.042		26.658		20.564		16.731	
temperature	0.033	1.064	-0.113	1.700	0.010	1.024	0.202*	1.447
humidity	-0.168*	1.348	-0.111	1.127	0.061	1.087	0.155	1.192
hermal comfort	0.693***	1.349	0.429*	1.800	0.673***	1.112	0.825***	1.615
R ²	0.602		0.207		0.411		0.454	
F	46.371***		8.421***		21.210***		23.133***	

*is p-value<0.05, *** is p-value<0.001

In table 1, we can find that the weather has significant impact on mood. Thus, H1 is supported. To test the effect of mood to weather in four seasons separately, we can find that in spring, the humidity has negatively impact on customer’s mood ($\beta=-0.168$, $p<.05$) but hermal comfort has positively impact on customer’s mood ($\beta=0.696$, $p<.001$). In summer, fall and winter, only hermal comfort has positively impact on customer’s mood (in summer: $\beta=0.429$, $p<.05$; in fall: $\beta=0.673$, $p<.001$; in winter: $\beta=0.825$, $p<.001$).

Table 2. The mood and moderate effect of impulsive buying intention to impulsive buying behavior in fall.

Independent variable: Impulsive Buying Behavior	Model 1		Model 2	
	Model 1	Model 2	Model 1	Model 2
Constant	3.749	2.964		
mood	-0.208	-0.419***		
impulsive buying intention	--	0.510***		
impulsive buying intention* mood	--	0.525***		
R ²	0.043	0.274		
F	3.883	16.047***		

*** is p-value<0.001

In table 2, The mood and moderate effect of impulsive buying intention to impulsive buying behavior are significant only in fall season. In model 1, there is no significant impact of mood to impulsive buying behavior. Thus H2 is not supported. In Model 2, there is significant of the moderate effect of impulsive buying intention to impulsive buying behaviour ($\beta=0.525$, $p<.001$). Thus, H3 is supported.

5. Conclusions

In this paper, we expect the experiment to show how weather can affect mood, impulsive buying tendency, and impulsive buying behavior. The study supposes that mood may affect people's decision. Consumers in a negative mood state tend to impulsive buying, because they will try to change the conversion behavior.

These results can provide a management application for manufacturers and retailers to reduce the factors. The negative mood will improve impulsive buying of customer and the customer will become more impulse when they shopping in good weather.

This article makes some contributions in consumer decision-making. This study proposes and tests mood, impulsive buying tendency, and impulsive buying behavior. So the results of this research can be applying to retail industry and be referred by the managers for marketing strategy decision such as inventory management of product and strategy of seasonal sales.

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