# Effects of atmospheric stimuli on Building merchant website relational loyalty

**Abstract**

**Purpose:** This research paper attempts to provide an idea about the impact of merchant website atmosphere on cyber consumers' relational loyalty.

**Design:** An abductive reasoning is adopted in this research paper whereby we begin with a qualitative approach then a questionnaire is used to test the hypotheses.

**Findings:** Results support the positive impact of the atmosphere of a merchant website through the components of the perceived quality on the emotional states of cybercustomer which in turn had a significant positive influence on purchase intention. The results also showed that cyberconsumer purchase intention influences word of mouth communications and repurchase intention.

**Research limitations:** The merchant website atmosphere stills a new concept in the Tunisian context which restricts our sample; several variables which were excluded from the analysis may be relevant to the study of the influence of the merchant website atmosphere on the cyberconsumer behavior.

**Practical implications:** This paper extends managers knowledge and helps them to shape the most appropriate marketing strategies and to enhance relational loyalty.

**Originality/value:** This research aims to contribute to the advancement of marketing work related to understanding customer behavior on a merchant website. It is a part of the few works that have attempted to examine the relationship between the stimuli of the atmosphere and the customer behavior and integrate a set of variables that have so far been studied separately.

**Keywords:** Merchant web site, atmospheric stimuli, perceived quality, emotional states, relational loyalty.

**Paper type:** Research paper.

To deliver a good and satisfying experience for consumers, it is very important to well understand the determinants of merchant website atmosphere and their impact on customers' behaviour. Many companies call attention to the internet component in their business. The merchant website atmosphere has the potential to attract more online shoppers and encourage customers to adopt a positive behaviour towards the company's products (purchase, repurchase, WOM, revisit the website). Some previous researches focus on the technical aspects of merchant web site atmosphere. In this paper, researchers emphasize the impact of merchant website atmosphere on consumer behaviour.

Previous researches stress the significance of the atmospheric environment which influences consumer behaviour. The term atmosphere was used the first time by Kotler (1973) while other researches focus on the classification of atmospheric environment attributes (Turley and Milliman, 2000, Richard, 2005). In this context, Mehrabian and Russel (1974) developed the S-O-R model: Stimulus-Organism-Response: this model which emanates from the environmental psychology is used to investigate the impact of physical stimuli on emotions and behavioural responses. Due to the technological development, the Mehrabian and Russel's model is deployed in online shopping research (Richard, 2001).

The main objective of this study was to examine the effect of merchant website atmosphere on cyberconsumer's relational loyalty.

In other words, this research paper will examine the effects of merchant website atmospheric stimuli on the emotional states of stimulation that, in turn, influence the purchase intention which plays the role of an antecedent to relational loyalty.

**Literature revue:**
*I.The atmosphere of a merchant website*
*I.1The atmosphere of the Website: Definition and components*
The literature on the atmosphere of a classical point of sale is more abundant than those related to the atmosphere of a merchant website. Thus, many studies tend to transpose the conceptualization of the atmosphere of classic sales proposed by Kotler (1973) to the Internet context. Indeed, Helme-Guizon (2001) described a merchant website in the same way as a classical point of sale and consumer behavior online is similar to that in stores.

Steuer (1992) refers to the concept of design to describe the atmosphere of a commercial site. According to this author, the design includes the graphics, colors, images, animations, videos and also the level of interactivity. But most of the researchers who are interested in the virtual atmosphere (Bressole 2002, Chang et al 2002, Jacob 2002, Dorman 2002) call more attention to the merchant website design and graphics. For Loshe and Spiller (1999), it is the organization of the site and the quality of the interface and graphics that make up the virtual atmosphere.

Ladwein (2001) discusses the concept of ergonomics to describe the atmosphere. This refers to the readability of web pages, the quality of the navigation within the site, the site structure, the ease of use, etc…

Eroglu et al (2000) suggest that the atmosphere of commercial sites is the single greatest impact on the purchasing behavior of consumers during his visit to the site. Degor and Descchodt (2006) emphasize that the atmosphere of a merchant site consists of "environmental factors, design factors and social factors influencing the internal (affective/cognitive) reactions and behavioral responses of the user" Thus, the atmosphere appears as a multidimensional concept.

Table 1: Atmospheric factors of a merchant Website

| Factors of atmosphere | | Examples from physical stores | Examples from Website |
|---|---|---|---|
| Environmental factors | General internal variables | Music | Music |
| | | Lighting | Color, animation |
| | | Odor | Odorama (spread smells) |
| | | Temperature Controller | |
| | Decorative Variables | Products Presentation, | Text, images |
| Design factors | Layout and design factors | Dramatizing supply | Dramatizing supply |
| | | Ease of displacement | Ease of navigation |
| | | Ease of finding the product | Internal search engine, the organization of menus. |
| | | Store layout | Site Architecture |
| Social factors | Human variables | Crowds and congestion | Download time, response time, |
| | | Sales force | Conversational agents |

*Source: S. Degor and Descchodt V. (2006), Baker (1986), Bitner (1992), Berman and Evans (1995).*

Although the physical atmosphere is able to stimulate the five senses of the customer, at the present stage of development of electronic commerce, only the senses of distance (Hezel, 2000) that is to say: sight (colors, animations, images) and hearing (sound, music, and video) are requested by the virtual atmosphere. Thus, the virtual atmosphere is unlike the real atmosphere by the small number of senses (Volle, 2000).

The main challenge of the virtual atmosphere is therefore to maintain the attention of the user and to counterbalance his freedom to leave the site at any time.

*Managerial interest in the atmosphere*

In their marketing strategy, distributors have ensured the reenchantment of their offers and their commercial spaces (Fuat Firat, Venkatesh, 1995).

This strategy has been implemented to websites and particular attention was paid to the atmosphere of the virtual stores.

The focus on the atmosphere of virtual sales can be explained by several reasons:

*The emergence of Web 2.0:* customers visited virtual stores through websites in order to purchase what they need.

Indeed, we are witnessing a process that continues to spread and reached arouses users attention and a powerful echo. Web 2.0 plays the role of viral marketing and it is also called buzz marketing which mainly focuses on the mimetic logic.

It should be noted that the Web 2.0 has two distinct aspects firstly a technical component incorporating a highly sophisticated range of technical tools and secondly a social component providing interactivity between individuals and promoting the exchange and the development of social ties and even the emergence of virtual communities.

Web 2.0 allows the user for a greater accessibility and greater intuitiveness in their search for information and possibilities of expression especially in the blogosphere (The Deuff, 2007).

*The intensification of competition:*

We are currently witnessing an intensification of competition with the proliferation of web sites. According to Netcraft (2002), the number of websites in the world has increased by 200 during the period between Sep. 1995 and September2002. Today the world has more than 40 million websites. Faced with this ultra-competitive virtual environment, online retailers have

understood that the success of their business on the web is no longer based on a simple presentation of the product, but rather on the ability to provide an environment that joins information and pleasure.

Thus, particular attention has been paid to the atmosphere of the website to encourage the user to perform a commercial transaction and develop a lasting relationship with the site. Indeed, the atmosphere can be an effective way to allow the company to maintain a special relationship with the consumer experience and improve its attendance commercial site. More specifically, the action on the atmosphere of a website can be for managers a way to attract new customers and retain old ones.

*Consumer behavior evolution:*

Today, consumers are increasingly demanding, they change from a virtual brand to another without click. It is usually in search of fun, excitement, variety and comfort. Indeed, MadridC (2002) states that "scholars and patricians now agree on the difficulty of identifying consumers who have become disloyal, demanding, complex, and emotional."

Distributors must then convey much effect to keep these "zappers" and induce or encourage purchase behavior at home. To do this, the emphasis was then placed on the care of the atmosphere of the website because many studies associated to sensory marketing variables and their impact on the behavior of users have shown that the atmosphere is a key element for distributors capable of maintaining customers and produce favorable home buying reactions. Thus, we see more and more companies who attach great importance to the virtual atmosphere and make the effort to enhance their virtual atmosphere by focusing on the role of music, colors, animations, graphics…

*Product standardization:*

For twenty years, we are witnessing a standardization of products and services in terms of tangible and functional attributes (Filser, 2003). To cope with this standardization, "on line" stores must resort to more symbolic and emotional attributes to differentiate their offerings. Thus, the focus has been on the virtual atmosphere. The latter has become a useful tool for differentiation used by distributors to showcase their offerings and to forge their positioning (Alba et al, 1997).

Volle (2000) even argues that atmospheric components are considered as an important explanatory factor that determines the strength of the product or service differentiation.

Understanding these new realities will be undoubtedly essential to the future of companies to define their marketing strategies on the web.

*The difference between physical atmosphere and a merchant website:*

The first difference to note is the limited stimulating power of the web atmosphere which does not stimulate all our senses because the web is supposed to be "the largest library in the world. On most of the sites the aim is to explain, to act pedagogy, not to awaken the senses "(Volle 2000). Thus, the web only stimulates the vision through the screen (graphic, animation, etc…) and hearing through loudspeakers (music etc…) and it should be noted that the use of odors is not possible at least for the near future, added to touch and taste. Al Alba (1997) meanwhile noted that computer window view and tighter, distance and time are allowing more consumers to have more control over the information they seek, and sites that they visit.

On the other hand the level of control over the environment of the store and the merchant's site is vastly different to several considerations, as we have already specified in the design of the physical environment, companies take into account four main dimensions (vision, hearing, touch, smell) but it is notable that the manager determines, for example, the color of the walls,

the volume of music background, the store temperature and diffusion of odors. Yet in the context of merchant website these variables are not fully controlled by the designer because it does not control the environment of the place of access as the room temperature, the smells, and the comfort of the customer when navigating to a website (Volle 2000).

*The impact of the merchant website atmospheric stimuli on the emotional state of cyber consumer:*

The atmosphere of a sale point is considered as a significant management variable. However, despite the abundance of research on the atmosphere of traditional shopping, the concept of virtual atmosphere is still new and little discussed, thus, Volle (1999) suggests that a reflection about electronic commerce based on the notions of traditional commerce can enrich our knowledge, although the rules of the two areas are different. On the forgoing, we defined the atmosphere of traditional sale point and then we moved to the virtual one.

In fact, this particular importance given both by marketers and practitioners to virtual atmosphere is due to the fact that it is considered as a strategic course of action to deal with competition which becomes increasingly intense, to differentiate themselves from other virtual retailers and finally to attract new customers and retain old ones.

The literature on the virtual atmosphere is limited; however, to explain the impact of the merchant website atmosphere on the cyberconsumer responses, we need to consider the latter as a traditional consumer engaged in a virtual environment (Ettis, 2005). Several studies on this subject (Eroglu, Machleit and Davis, 2003) agree on the use of the model (stimulus-organism-response) of Mehrabian and Russell (1974) as best describing the interactions between the website atmosphere and online shoppers.

The Stimulus-Organism-Response (S-O-R) model is developed by Mehrabian and Russell (1974) in order to examine the impact of physical stimuli on human emotions and response behaviors.

By the development of Internet and electronic commerce the focus is set on online shopping research. Thus, the S-O-R model has been used widely to study consumers' emotions and responses towards online website stimuli (Richard, 2005). Based on Mehrabian and Russell's S-O-R model (1974), customer behavioural responses are manifested by consumer's intention of approaching or avoiding behaviors. Two kinds of behaviors are presented:

*Approach: feeling comfortable, like to stay and explore the environment, identify and interact on in it. This leads to a good impression about the physical or virtual atmosphere and provokes an intention to revisit a determined environment.

*Avoidance: it is the opposite of approach behaviour, feeling uncomfortable and worried, dissatisfaction, boringness and leaving the environment without intention to return.

Previous studies argue that emotions and feelings are the source of customer behaviour in store atmosphere. Therefore, it is noted that emotions have an impact on customer behavioural responses (Mehrabian and Russel, 1974).

The SOR model states that the environment is a stimulus that can influence the emotional states of the individual, which in turn create responses of approach or avoidance.

From the model of Mehrabian and Russell (1974), researchers have shown that the atmosphere affects the emotional states, particularly the pleasure and stimulation of customers.

This influence determines the behavior of the individual in terms of approaching to the store (store patronage, interaction with employees, etc...), or avoidance (Leave the store, avoid eating with others in the store, etc.).

In the context of cyberconsumer's behaviour, the concept of atmosphere is examined based on the paradigm Stimulus-Organism-Response (S-O-R) of Mehrabian et Russell (1974).

Atmospheric variables play an important role because they cause emotional effects on customers. To examine this issue, Bitner (1992) retains only two of the three dimensions identified by Merhabien and Russell (1974): the pleasure-displeasure dimension and non-stimulation stimulation. According to Lemoine (2003) the different factors related to the atmosphere generate emotional responses among consumers and influencing their behavior.

Indeed, stimuli from the atmosphere primarily affect the emotional state of individuals through the three dimensions of pleasure, stimulation and dominance as presented by Merhabien and Russell (1974 cited by Lemoine, 2002).

However, some researchers retain only the dimensions of pleasure and stimulation and eliminate the third dimension (dominance) for its unreliability (lemoine, 2002). In the same field, Lombart, Filser and Labbé-Pinlon (2006) argue that factors associated to the atmosphere, design and the social environment of a sale point pereceived by a consumer as attractive have a positive influence on emotional reactions experienced by the consumer within the sale point.

Previous researches developed around the atmosphere show its impact on the emotional reactions of consumers. Indeed, it seems that in general the atmosphere and design factors have a significant impact on affective responses.

Daucé (2000) pointed out the impact of pleasant smells on improving customer's mood. Another research on the background music showed that the distribution of background music has an influence on the pleasure felt by the consumer (Sibéril, 1994).

Researches in e-commerce have led to the fact that the background music generates positive affective responses about both the product and the site. These positive responses will favor emotions which could again affect the evaluation of the browsing experience and the image of the company.

Gueguen and Jacob (2003) indicate that music provokes a feeling of customer's wellness. This feelings lead to positive emotional states which in turn impacts customers' responses and behaviors.

Music can stimulate customers' affective states which in turn influence purchase intention (Park et al, 2008). In the virtual context, customers' emotional states induced by the website stimuli generate response behaviors such as purchase intention and satisfaction (Ha and Lennon, 2010).

In this research paper, the main thrust is to propose a model that examines the relationships among 4 key constructs which are merchant website perceived quality, stimulation of emotional states of cyberconsumer, purchase intention and relational loyalty.

The first hypothesis is the following:

$H_1$: The atmospheric stimuli affect positively the stimulation of emotional state of a cyberconsumer.

*The influence of emotional states on the purchase intention of a cyberconsumer*

The works of Mehrabian & Russel (1974) remain the reference in social psychology as well as marketing in this field to explore approach or avoidance behavior. The approach behavior contains all positive behaviors indicating a desire to stay in the environment to explore it, and to interact with others. However, the avoidance behavior contains all the negative behaviors corresponding to desire to leave the environment, to flee, and refrain from any interaction with others. It is in this context that integrative models of consumer behavior, were interested in the approach behavior (Bettman, 1979; Engel, Blackwell & Kollat, 1978 Howard & Seth, 1969).

As in a real environment, the approach behavior in a virtual environment exposes the same events, as has been demonstrated empirically by Eroglu et al (2001), who consider that the

behavior of Internet users are illustrated by an approach or avoidance behavior incorporating all actions: visiting time and exploratory behavior and intentions in all its forms.

*The purchase intention:*

According to Grennwald (1968) and Ostrom (1969**)**, purchase intention is defined as *"a facet of attitude through the conative component. "* , *"The intention may also appear as a variable in its own right, to explain the behavior.* "(Bagozzi, 1981).

Fishbien and Ajzen (1975) define intention as a conative component that lies between attitude and behavior. It evokes notions such as desire, determination to emit a particular behavior. The more the intention is the greater the probability of generating an effective behavior is. It gives rise to ideas like "I should do ....." or "I'm going to ....." or "I will .....".

Coyle and Thorson (2001) emphasize that the wealth of the site has a positive influence on purchase intentions online.

Besides, Ajzen & Fishben (1975) modified the theory of reasoned action by adding a third element which is perceived behavioral control and it is considered as the individual belief that it will be easy or not to adopt a particular behavior. The main idea stems from this new theory is as follows: Individuals are not likely to develop a strong intention to act and behave in a certain way if they believe they do not have the resources or opportunities to do so, even if they have favorable attitudes toward the object or behaviour in question and if also their entourages approve this behavior (subjective norm).

In a pleasant, challenging and enjoyable atmosphere, the cyberconsumer may wish to buy the product or service presentation without having the necessary material resources immediately.

Several researchers noted the positive relationship between the stimulation of emotional state and customer behavior (Donovan and Rossiter, 1982; Sherman, Mathur and Smith, 1997)

The second hypothesis of this research is :

*$H_2$:* The stimulation of emotional state affects positively the purchase intention of cyberconsumer.

*The impact of purchase intention on the loyalty of cyberconsumer:*

*Loyalty: Concept and components*

A rich literature review examining the concept of loyalty (Jacoby and Chestnut, 1978, Dick and Basu, 1994; Uncles and Laurent, 1997; Zeithaml et al, 1996; Oliver, 1999). The majority of research and more specifically contemporary research focus on the relational approach of loyalty. This approach explains the loyalty as a lasting relationship between the consumer and the brand or the company. It evokes the continuous emotional relationship between a consumer and a brand.

In the same context, Mills (1998) focuses on the dynamic nature of loyalty and noted that "*Relational loyalty is a developing process in which the contributions of both partners strengthen their mutual loyalty* "(Dwyer et al, 1987; Evans and Laskin, 1994; Frisou 1998 cited by Boyer and Nefzi, 2009).

The loyalty is not limited to an abstract sense; it must be translated into actions and actual behavior (N'Goala, 2003). Thus, it is manifested by constant attention to the mark in the individual behavioral thoughts.

Taylor and Hunter (2003) state that the web loyalty is generally manifested by the intention to revisit a website and the intention to recommend it to others. Therefore, loyalty can be explained by caring behaviors resulting in a greater willingness to maintain the relationship and the tendency to claim constructive or positive word-of-mouth (Cristou, 2001).

*Word-of-mouth:*

Word of mouth is defined as classical interpersonal communication. It is often informally between individuals. Hennig-Thurau and Alii (2002) define the word-of-mouth as *"the act of communicating formally or informally with other consumers about products and services of*

*the company… It is a communication company that escapes and comes from a quite natural, the external environment and more specifically consumers*".

*Tax et al, (1993)* assert that "*word of mouth is an informal communication, positive or negative about the characteristics of a supplier and / or its products.*"

Thus, there are two forms of word of mouth:

*Intention to repurchase:*

The intention of behavior and especially the repurchase intention is the conative aspect of attitude (Ajzen and Fishbein, 1980). We must make the difference between purchase intention and intention to repurchase. The purchase intention applies to existing consumers. The intention of repurchase applies only to consumers who purchased the brand.

*The impact of purchase intention on relational loyalty*

Managers of merchant websites try to build and enhance customer loyalty. Several researchers have tested this variable: Coyle and Thorson (2001) showed that the media richness of the site affects intentions to return to the site; Similarly, Rosen and Purinton (2004) argue that the design features of websites generate high probability of revisits.

As noted by Gharbi et al. (2002) "*a commercial site is competing with thousands of sites on the network*". Faced to this competitiveness, webmasters must learn how to make the most attractive sites better assessed and improve their performance. We postulate that the site's success depends on its ability to create a good appreciation.

In this regard, Chen and Wells (1999) argue that a positive evaluation of the site helps promoting loyalty of online shoppers; their hypothesis was based on the idea that the atmosphere of the site will generate a positive evaluative response if the user likes the atmospheric variables associated to the merchant website. Similarly, Boulaire and Mathieu (2000) emphasize that a good appreciation of the site leads to emotional involvement of the user and therefore loyalty.

*H₃:* The purchase intention affects positively the relational loyalty of cyberconsumer.

The conceptual model of this study is presented as follow:

*Conceptual model and hypotheses:*
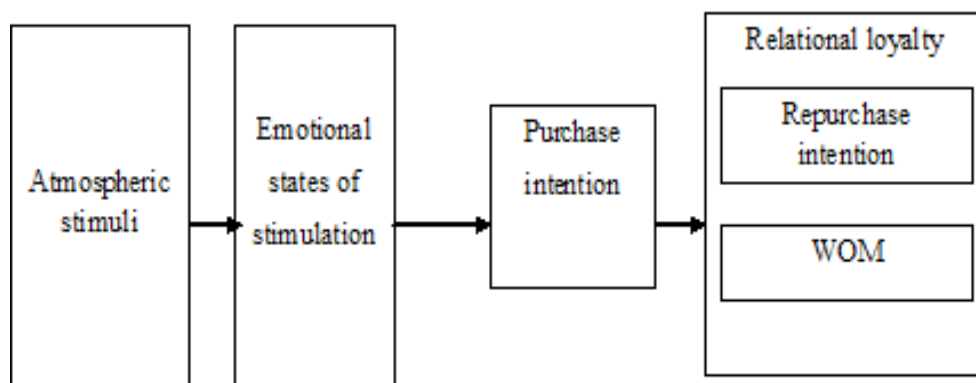


Source: Based on the works of Van Riel (2001); Allagui (2005); Chiou (2004); Mithas (2006) Boyer, Nefzi (2007).

The model ascertains that the relational loyalty is determined by purchase intention and emotional state of stimulation, which in turn depends on merchant website perceived quality.

**Method:**

*Sample and instrument:*

An abductive reasoning is adopted in this research paper whereby we begin with examining known facts and reviewing the literature then we work towards an explanation and a test of the links between the different variables used in the conceptual model (Patakorpi, 2006).

E commerce plays an important role in Tunisia, this sector is developing and companies rely on technology to enhance their competitiveness. In this research paper, the researchers stress the significance of e commerce.

Because of the limited literature in E marketing and more particularly the behavioural aspect of Tunisian internet users, the observation and description are considered as an important step. The qualitative part of this research is very important in order to enrich the measurement scales (Frish, 1999; Wacheu, 1996; Evard et al, 2003). We rely on the responses of experts and practitioners in the field of e-commerce. Interviews involves questions about the attractive factors or elements in a merchant website and respondents are composed of companies on the high technology field, internet users, experts, webmasters, communication agencies, internet providers and some companies that adopt the virtual environment in their activities.

The sampling method relies on the saturation concept where the number of interviews (the size) depends on the collected data.

The qualitative study took 3 months in which we took advantage of professional fairs, meetings and similar congress that call attention to the virtual environment.

The next table summarizes the responses of interviewees (15 interviews).

Table2: Frequency of atmosphere factors of a merchant website.

| Atmospheric factors | Response Rate |
| --- | --- |
| Design | 45% |
| Information | 60% |
| Ease of use | 70% |
| Reliability | 40% |
| Security | 85% |

Based on this table the security stimulus is the most important to respondents. Second in importance is the ease of use. In this research paper, we try to adopt all stimuli/variables that explain the cyberconsumer's behaviour.

Other stimuli are cited such as motivation to navigate, novelty seeking, and high technology knowledge.

Based on a rich literature review and the data collected in the interviews, researchers use the perceived quality of a merchant website which seems the most appropriate scale to measure atmospheric stimuli.

The commercial website used in this study is a merchant website of a company operating in the telecommunication sector. Yoo et al (2001) and Bressolles (2004) defined a commercial website as *"a retail site on which consumers can browse order and purchase a product or service. This is an electronic version of a physical store with the difference that all transactions and activities related take place in a virtual environment. "*

We asked first all participants to visit a merchant website and look for a particular product. Each user should conduct the experiment individually (Garbi et al, 2002). It is requested to navigate in a natural way as if he wanted to actually complete the purchase of a product or a service. Similarly, we stated that the cyberconsumer is not obliged to complete the purchase if he doesn't find the offer that matches to his desires. Then, each participant is asked to answer the questionnaire measuring the variables of our conceptual model.

Before being administered, the questionnaire was tested with thirty persons to test the effectiveness of the text and links and check the level of understanding of the items used. At

the end of this test, some items have been reformulated to build the final version of the questionnaire.

A study of a sample size of 207 Tunisian cyberconsumer, who navigate in the chosen merchant web site, was conducted .The sample of this study was varied based on the gender, socio professional group and age. Women represent 52.94% while men represent 47.06% of the respondents. Respondents whose age is between 18 and 39 years old represent the majority of the sample, followed by 42.65% of respondents whose ages are between 30 and 39 years. The majority of respondents are students (48%), professionals (16.2%), teachers and researchers (15.7%), employees or middle managers (13.2 %). Executives are only (6.9%) of the sample.

The convenience method is supposed to be the most appropriate to this research because it makes easy access to the respondents by asking customers who are present and available. The sample size is 207 individuals. This number is considered sufficient to perform data analysis and to validate our research hypotheses.

The questionnaire remains a fast and convenient collection tool to obtain the necessary information and opinions of respondents (Babin and Attaway, 2000). A questionnaire with four sections was designed, section one comprised 5 questions related to the dimensions of the merchant website perceived quality: information, ease of use, design, reliability and security / privacy, the 18 items were adapted from Yoo and Donthu (2001). Section two comprised items related to the emotional state of stimulation which are adapted from Merhabian and Russell (1974) works. Section three involved two items that measure the purchase intention (Rieunier, 2000). Section four comprised a set of questions which aimed to elicit respondent's relational loyalty toward the merchant website of "Tunsiana" (Boyer and Nefzi, 2009). The questionnaire was administered on the net with online shoppers and Simple linear regression is used to test the hypotheses and the results of this analysis.

**Results:**

*Reliability:*

The Kaiser-Meyer-Olin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity were used, these measurement are appropriate because the KMO is above 0.5 (Min 0.500 and Max 0.873) and Bartlett's test is significant (p=0.000). The variables had acceptable levels of internal consistency with Cronbach alpha coefficients above 0.7. Cronbach alpha values ranging from 0,73 to 0,88 which are acceptable (Andy Field, 2005). See table2 in Appendix.

*Analysis and discussion:*

A closer look at $R^2$ showed that the dimensions: information, ease of use, design, reliability and security, exert higher explanatory power on cyberconsumers emotional states of stimulation toward the merchant website of "Tunisiana". Hair et al (2010) noted that the higher $R^2$ is, the greater the explanatory power of the predictor variable, the security dimension has the highest predictive power of all ($R^2 = 0.726$). These findings support the positive linkage between merchant website stimulus and emotional states of stimulation.

As predicted in hypothesis 2, emotional states of stimulation had a significant positive influence on cyberconsumer purchase intention ($R^2 = 0.880$, $p<0.01$). The results also showed that cyberconsumer purchase intention influences word of mouth communications ($R^2 = 0.771$, $p<0.01$) and repurchase intention ($R^2 = 0.829$, $p<0.01$), thereby confirming $H_3$.

In this research paper, we discuss atmospheric stimulus of a merchant website, we define key dimensions of the virtual atmosphere and study their impact on the emotional states of stimulation and the impact of these emotional states on cyberconsumer behaviour.

Based on the findings of this study, it is noted that the virtual atmosphere plays a crucial role in cybercustomer behaviour. Thus, designing a website that takes into consideration the

quality and quantity of information, the ease of use, the reliability, and security, seems interesting and contributing to the company's success.

We are interested in the impact of the atmosphere of a merchant website through the components of the perceived quality in the cybercustomer. It is in this perspective that we posed the following central question to what extent the stimuli of the virtual atmosphere influences purchase intention and relational loyalty of a cyberconsumer via the stimulation of emotional states while browsing the web merchant sites.

Based on the results of study, we found a positive relationship between the psychological states of cyberconsumer and the merchant website assessment. Through consistency and attraction the components of merchant website perceived quality evoke visitor favorable emotions, then cyberconsumer feels happy, excited and free to act in full action, these feelings led him to spend more time, explore the site and communicate with others through research links and discussion forums ... This approach behavior positively affects the perception of atmospheric elements and overall assessment of the merchant website.

The emotional states of stimulation have a positive impact on the purchase intention. Indeed, Internet users look for creative sites, surprises, and a real experience through an innovative site. In the same way, we found that purchase intention impacts positively the relational loyalty.

**Conclusion**:

This research paper aims to contribute to the understanding of relationships between the atmosphere of merchant web sites and the cyberconsumer behaviour. A conceptual model is developed to explain consumer relational loyalty based on the crucial role of the merchant website perceived quality.

The theoretical significance of this article appears at three levels. First, this research is part of the few works that have attempted to examine the relationship between the stimuli of the virtual atmosphere and the behavior of internet user. On the other hand, this paper is also an opportunity to integrate a set of variables that have so far been studied separately. This research brings together these variables in an integrative model and identifies the relationships between them. It allows the extension of a limited knowledge on the field of virtual atmosphere. In addition, this work provides a fairly comprehensive review in order to compare the previous results with results found in this study and to determine the points of convergence and divergence between the different studies.

For the managerial contribution of this paper, it is interesting that companies and managers, concerned with the effectiveness of their commercial websites, know whether the elements of the merchant website atmosphere through the components of perceived quality can lead to positive responses in terms of emotional states of stimulation, and to what extent these emotional states influence the relational loyalty of cyberconsumer. Web designers should take into consideration the elements of the virtual atmosphere and promote a better assessment of the site and extend users' browsing. This study presented some limitations, in fact, the merchant website atmosphere stills a new concept in the Tunisian context which restricts our sample to people with a certain intellectual level and has a good knowledge of the web. Furthermore, although the research model of this research provides a significant number of research hypotheses and includes a large number of variables, this model has been restricted and several variables were excluded from the analysis. These variables may be relevant to the study of the influence of the merchant website atmosphere on the behavior of cyberconsumer; limitations of this study include also the use of the convenience sampling method which limits the generalizability of the results. In the absence of a specific measurement scale to the merchant website atmosphere, we use the perceived quality, thus it is possible to build a specific scale measuring this construct through the Churchill paradigm which allows us to identify the determinants of the merchant website atmosphere through an exploratory and

confirmatory phase. Moreover, regarding data analysis we used the simple regression analysis. Yet, there are other types of analysis methods such as the structural equations models which allow as enhancing the analysis.

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# Appendix

**Box 1: the qualitative study:**

> The definition of categories was carried out following an iterative process of the emergence of significant topics and generating meaning, respecting the principles of completeness, relevance and exclusivity ( Evard et al , 2003; Bardin , 1977). Once the cut of responses is made and the thematic grid was specified following the first reading and also the coding that we have achieved, we used a second judge from the field of marketing to ensure the reliability of coding. The objectivity of the coding is verified by the Kappa Cohen (William Perreault and Laurence, 1989).

**SPSS results:**

| Index | $H_{11}$ | $H_{12}$ | $H_{13}$ | $H_{14}$ | $H_{15}$ | $H_2$ | $H_{31}$ | $H_{32}$ |
|---|---|---|---|---|---|---|---|---|

| Index | Ease of use | Design | Reliability | information | security | Emotional states | Purchase intention | Repurchase intention | WOM |
|---|---|---|---|---|---|---|---|---|---|
| $R^2$ | | 0.641 | 0.557 | 0.592 | 0.510 | 0.726 | 0.880 | 0.771 | 0.829 |
| P | | 0.001 | 0.000 | 0.000 | 0.002 | 0.011 | 0.000 | 0.000 | 0.000 |
| T | | 3.536 | 15.951 | 3.565 | 3.119 | 2.607 | 4.438 | 26.073 | 31.277 |
| KMO | 0.713 | 0.744 | 0.858 | 0.873 | 0.730 | 0.556 | 0.500 | 0.658 | 0,67 |
| Cronbach | 0,72 | 0,66 | 0,68 | 0,71 | 0,88 | 0,73 | 0,78 | 0,88 | 0,74 |

*Source: SPSS output*