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UNIVERSITÉ DE GRENOBLE

THÈSE

Pour obtenir le grade de

DOCTEUR DE L'UNIVERSITÉ DE GRENOBLE

Spécialité : **Psychologie Sociale et Expérimentale**

Arrêté ministériel : 7 août 2006

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préparée au sein du **Laboratoire Interuniversitaire de Psychologie/Personnalité, Cognition et Changement social (LIP/PC2S)** dans **l'École Doctorale Sciences de l'Homme, du Politique et du Territoire (SHPT)**

The Influence of Specific Emotions on Consumer Judgment and Behavioural Intention with respect to Innovations

Thèse soutenue publiquement le **10 JUIN 2013**,

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SUMMARY

How might specific emotions differentially influence consumer judgments and behavioural intentions with respect to innovations? The purpose of this dissertation is two sided. First, it examines the relationship between emotions and evaluation/behavioural intentions with respect to innovations and second it studies some moderators and mediators influencing this relationship. In contemporary emotion research, cognitive and motivational dimensions of specific emotions are recognized as central in the decision making process (Zeelenberg & Pieters, 2006). Consequently, **the claim of our dissertation is that understanding and investigating the cognitive and motivational dimensions of specific emotions can be useful to predict their influence on judgments and behavioural intentions with respect to innovations**.

Our *Study 1* investigated how specific emotions arise and explored their influence on product's evaluation and usage intention. This study addressed the concept of user experience through bottom-up (product's characteristics) and top-down (affective expectations) processes. Eighty eight (88) participants from various socio professional categories were recruited to participate to this study. Two different version of an e-book (medium quality experience versus low quality experience) were selected. The affective expectations (positive, negative, control) were manipulated through an oral presentation of the product. Our results suggested that the user's emotional experience do not only depend on the product's intrinsic characteristic but also depend on his/her prior expectations. In addition, findings confirmed the role of specific emotions on product's evaluation.

Our *Study 2* sought to explain how specific emotions influence products' desirability. One hundred and eighty nine (189) undergraduates volunteered to participate to this study. Depending on the experimental condition, participants were induced to feel anger, fear or amusement through an autobiographical recall method. Then, they were asked to evaluate either a hedonic product or a less hedonic product. First, results demonstrate that the nature of product moderates the relationship between incidental emotions and desirability. Second, our findings highlight the motivational implication of emotions on product desirability.

Our *Studies 3 & 4* examined the hypothesis that emotion-specific short-term goals (motivational dimension) might explain the impact of specific emotions on product's desirability. We addressed two specific positive emotions – amusement and satisfaction-, and

used two type of product (welfare versus recreational). In *study 3*, ninety seven (97) undergraduate participants were induced to feel either amusement or satisfaction through scenarios. Findings show that amusement enhances the desirability of recreational product and that satisfaction enhances the desirability of welfare product. Consistent with the proposed hypothesis, results demonstrate that emotion specific-goal mediates the influence of specific positive emotions on product desirability. *Study 4*, conducted on one hundred and twelve (112) undergraduates, allows replicating findings of study 3 using different methods to induce emotions- autographical recall-, and to measure emotion-specific goals. Thus, on the one hand, this dissertation reveals that specific emotions come into play prior to use, when the users form expectations. On the other hand, it demonstrates that the study of the motivational functions of emotions can be helpful to predict the influence of specific emotions on consumer judgment. This dissertation offers new contributions in the research of emotion from a theoretical perspective and in product design from an applicative perspective.

RÉSUMÉ

Quels sont les effets des émotions spécifiques sur le jugement et l'intention d'adopter des produits innovants ? L'objectif de cette thèse est double. Dans un premier temps, elle propose d'étudier dans quelle mesure les émotions spécifiques influencent le jugement et les intentions comportementales face à des produits innovants. Dans un deuxième temps, elle propose d'identifier les processus qui sous-tendent l'effet des émotions sur l'évaluation d'objets innovants. En lien avec les théories contemporaines de l'émotion (Zeelenberg & Pieters, 2006), **nous proposons d'étudier les dimensions cognitives et motivationnelles des émotions afin d'expliquer et de prédire l'influence des émotions sur le jugement et l'intention d'adopter des produits innovants.**

Notre *Etude 1* propose d'étudier les conditions de déclenchement des émotions spécifiques ainsi que l'impact de celles-ci sur l'évaluation et l'acceptation d'un objet innovant. Pour cela, le concept d'expérience utilisateur est étudié au travers des processus ascendants (caractéristiques de l'objet) et descendants (attentes affectives). Quatre-vingt-huit (88) participants de catégorie socioprofessionnelle variée ont été recrutés pour l'étude. Nous avons choisi de tester deux versions d'un dispositif de livres électroniques (moyenne qualité d'interaction versus mauvaise qualité d'interaction) et de manipuler leurs descriptions afin de faire varier les attentes affectives (positive, négative, contrôle) des participants. Les résultats suggèrent que l'expérience utilisateur ne dépend pas seulement des qualités intrinsèques de l'objet innovant mais également des attentes initiales de l'usager. Cette étude valide, par ailleurs, l'effet des émotions spécifiques sur l'évaluation de produits innovants.

Les *Etudes 2, 3 et 4* tentent ensuite de mettre évidence une partie des variables modératrices et médiatrices qui influencent le lien émotions spécifiques - évaluation. Pour l'*Etude 2*, cent quatre-vingt-neuf (189) étudiants ont été recrutés sur la base du volontariat. Pour la procédure d'induction émotionnelle, la méthode du rappel autobiographique a été sélectionnée pour induire l'amusement, la peur, la colère ou un état neutre chez les participants. Après l'induction émotionnelle, les participants devaient remplir un court questionnaire afin de donner leur avis sur un objet innovant (hédonique versus moins hédonique).Les résultats mettent, d'une part, en évidence le rôle modérateur de la nature du produit sur la relation entre émotions spécifiques et évaluation, et suggèrent, d'autre part,

l'importance de la composante motivationnelle des émotions dans l'évaluation d'un produit innovant.

Les *Etudes 3 et 4* testent empiriquement l'importance de la composante motivationnelle des émotions dans la relation émotions spécifiques - évaluation. Pour susciter une émotion spécifique d'amusement ou de satisfaction, nous avons choisi la méthode des scénarii (Etude 3) et la méthode du rappel autobiographique (Etude 4). Deux types de produits ont été sélectionnés (catégorie loisirs versus catégorie bien-être). Pour l'*Etude 3*, quatre-vingt-dix-sept (97) étudiants ont été recrutés sur la base du volontariat. Cette étude s'inscrit dans la continuité des travaux de Griskevicius, Shiota, et Nowlis (2010). Les résultats montrent le rôle médiateur des dimensions motivationnelles dans la relation émotion spécifique et évaluation de produit innovant. L'*Etude 4*, réalisée auprès de cent douze (112) étudiants, permet de répliquer les résultats obtenus dans l'Etude 3. Elle s'appuie sur la mesure développée par Fredrickson (2004) afin d'opérationnaliser le construit de dimension motivationnelle. Cette thèse s'attache donc à répondre à deux missions : produire des contributions théoriques sur les émotions et assister designers, concepteurs et ingénieurs dans la conception de produits innovants.

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FOREWORD

I. Industrial Context

We propose to start our dissertation by describing the context in which it evolved. This thesis is funded under a CIFRE agreement (industrial research training convention), hosted by Ixiade Group and supervised by the Inter-university Laboratory of Psychology. The Industrial Agreements for Training through Research (CIFRE) is a programme that aims to develop "public-private research partnerships based on theses jointly financed by firms and by the National Association for Research and Technology (ANRT)"[1].

Description of the Ixiade Group

Ixiade Group is an innovation management consulting firm based in Grenoble (France), composed of thirteen people. From 2005, Ixiade Group helps companies to develop and implement their innovation strategic objectives through a pluridisciplinary approach

[1] http://www.anrt.asso.fr/fr/espace_cifre/accueil.jsp

(including strategy, marketing, communication, ergonomics, product-interface design, psychology and sociology of usages).

Ixiade Group is divided into 4 subsidiary companies presented in Figure 1. Each has a specialty: market research and marketing for *Tell'us*, user-centred study and creativity for *Ad Valor*, design for *Innosens* and innovation management for *Ixiade*. The Ixiade group supports innovative projects of companies of all sizes, from start-ups up to big business companies.

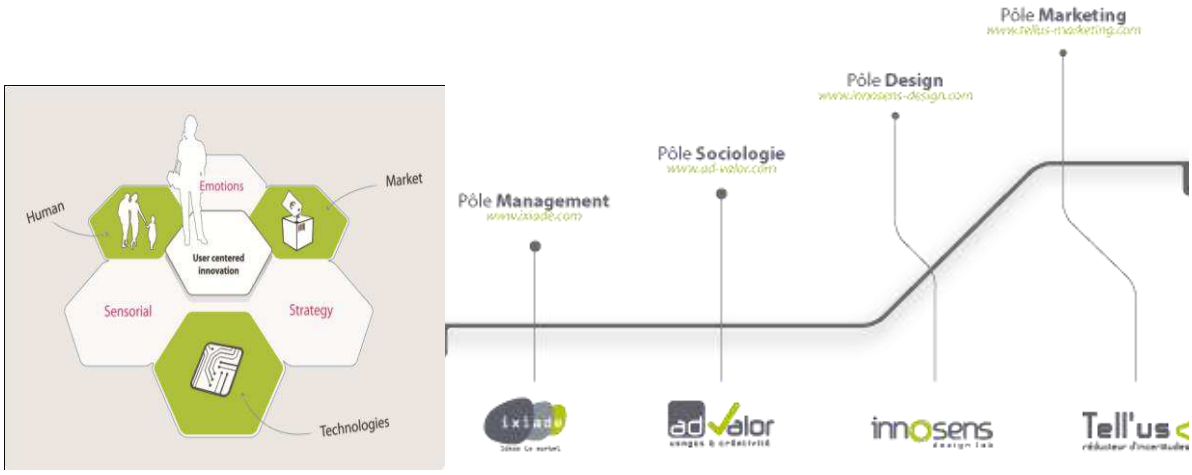

Fig. 1. The Ixiade Group. From ideas to market, support for innovation projects.

Activities of the Ixiade Group

The Ixiade approach is to develop projects that make sense for users, detect opportunities of innovation and anticipate the reactions of future users/customers. The company is structured in three areas: diagnosis, creativity and test of concepts. More specifically, its activities focus on three areas:

- *Establishing a diagnosis* (analyzing the value chain, identifying the possible causes of failures in the past, identifying strengths, pathways for progress and elements which are delaying change, etc.);
- *Stimulating and rationalizing creativity* in order to enrich companies' portfolio of ideas ;
- *Testing new concepts* in order to improve the conceptualization of innovation in the face of market realities (risk auditing, potential for acceptability, market positioning, etc.).

Moreover, Ixiade Group is an active member of two research groups: The “Equipe de Recherche Technologique” (ERT) and UmanLab (Market, Attitude and New Technology Laboratory). Indeed, Ixiade Group is involved in different research activities, focusing on the development of tools and methods of innovation management. For example, the group is currently working on the development of a software platform to promote participatory innovation processes (such as conducting innovative projects) with multi-disciplinary or multi-skills team (Team Web Innovation Games Support). This project is co-labeled by the French business clusters Cap Digital and Imaginove

II. Request of the company

The current global economic environnement reinforces the need for company to innovate in order to remain competitive. Thus, the Ixiade Group issue pertains to the development of methodological and tools for action. As already mentioned, the group is specialized in use analysis, an approach which places users central to every part of the innovative process.

The study of emotion is a field in full expansion and Ixiade Group wants to gain a competitive advantage by developing tools and methods to support business innovation. For example, in recent years, new disciplines have emerged, such as "emotional design" (Norman, 2004) or "affective sciences" as evidenced by *the Swiss Center for Affective Sciences*[2]. Besides, in the field of "affective computing”, we are also witnessing the emergence of emotional robot companions or realistic conversational agents, able to express various emotions. These robots have, among others, the objective to support children in long hospitalization or foster home care for people with loss of autonomy.

In summary, the request is to provide a way of thinking about how to develop methods and tools taking into account the emotional dimension in the test of new concepts, and also opens a reflection on how to integrate this dimension in the early phase of the product design process. The term “product” is here used to cover both goods and services. Concerning the scope of the request, two main questions can be identified: How to measure users’ emotions or users’ experiences? How to develop innovative products with emotional added value?

[2] http://affective-sciences.org/

However, this dissertation constitutes, for Ixiade Group, a first link in a research program on emotion and before developing methods and tools integrating the emotional dimension, it seems essential to gain as a first step a better understanding of emotions and to investigate their effects on consumer judgments and behavioural intentions in respect to innovative products. Indeed, as will be discussed later in this manuscript, the concept of emotions is broad and not characterized by clear boundaries.

GENERAL INTRODUCTION

Emotions are an integral part of our daily lives. Joy, sadness, anger, pride, a wide range of emotions is experienced in our interactions with others and our environment. They give flavour to our life and are crucial in the way of perceiving, building and owning our environment (Guimelli & Rimé, 2009). It is only when one imagines a life without emotions, he/she starts to realize that life would be worthless without the feeling of joy when hugging the beloved person or the feeling of wonder and amazement when exploring new places like the Grand Canyon or the Mont-Blanc. Worse, based on empirical evidence, we can also assume that without the ability to perceive and understand our own feelings and other's feelings we would be incapable to live in harmony with our con-citizens. We would also be less effective at making decisions. The process of decision making is nowadays not only viewed as a rational process but also as an emotional process. Genreally, it is considered throught four central dimensions: *Thoughts* (the cognitive sphere), *feelings* (the affective sphere), *Goals* (the motivational sphere) and *behaviours* (the behavioural sphere).

A growing body of research found that various emotional experiences such as anxiety, satisfaction and pleasure play an inconvertible role in influencing individual's

judgements and decisions. When exposed to an innovation, users might feel excited, proud or happy, leading to an emotional acceptance of the innovation. On the negative side, users can feel annoyed, frustrated or scared, leading to an emotional resistance to innovations (Bagozzi & Lee, 1999).

Furthermore, emotions appear to be involved at each stage of the decision process, suggesting that the decision making itself is an emotional process (Zeelenberg, Nelissen, Breugelmans, & Pieters, 2008). First, before a decision making, users can anticipate the emotional experience offered by a product (i.e., the anticipation of pleasure, the anticipation of regret). Second, engaging in decision making, users can feel a large range of emotions (i.e. anxiety). Third, after a decision making, users can experiment various emotions such as happiness, surprise or regret. In sum, emotions seem involved at every point of the process of decision making: before, during and after the decision making process.

So, it is not surprising that taking into account emotions in the design process became a priority for companies in order to enhance their products desirability. Norman (2004), Desmet and Hekkert (2007) were the first to highlight the importance of integrating emotions. Their approach is to capture user's considerations and emotions vis-à-vis an industrial product, an interface or a service and to translate these emotional factors into concrete characteristics. In the new decades, we have also witnessed the emergence of the Kansei Engineering, a product development methodology based on users' feelings or reactions in order to define the properties of a concept (Schütte, 2002; Lévy, Shiho, & Yamanaka, 2008). Besides, as mentioned by Barcenilla and Bastien (2009, p. 319), design literature nowadays focuses on heteroclite conceptual approaches: amusement or fun (Blythe, Overbecke, Monk, & Wright, 2003), aesthetics (Macdonald, 1998; Bonapace, 2002), pleasure (Jordan, 1999, Green & Jordan, 2002); hedonism (Hassenzahl, 2004), user experience (Hassenzahl & Tractinsky, 2006; Mahlke, 2008) and so on. The message carried by these approaches is simple: to arouse users' desire to move toward a product, designers must develop product that elicit emotional responses such as surprise or delight (Crilly, Moultrie, & Clarkson, 2009), and they must not only develop functional or usable product. For instance, in line with this reasoning, Keiningham and Vavra (2001) have suggested that to create delight, designer must first eliminate users' points of pain, and then listen to their desires (p. 176).

Moreover, the distinction between "classic design" and "emotional design" is not without reminding us of the distinction between "classic psychology" and "positive psychology". Indeed, in the same way that positive psychology seeks to strength the positive aptitudes of each individual, emotional design seeks to improve users' well-being and to elicit

through products a large range of positive emotions (amusement, pride, hope, satisfaction, etc.). Consequently, in our view, implementing an emotion-focused approach requires as a first step to understand the distinction across emotions and in particular across positive emotions.

Finally, according to Loken (2006), the interest for emotion in literature can be organized into two general categories: (i) the role of emotions and attitudes in predicting intentions and behaviour ; (ii) the study of mechanisms by which emotions influence judgments and behaviours. Accordingly, our research will focus on these two categories.

The first category refers to models of determinants of behavioural intentions. In chapter I, we will describe some models allowing explaining and predicting the intention to use an innovation such as the Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). The second category refers to various theories such as the mood-congruent (Isen, Niedenthal, & Cantor, 1992), the affect-as-information (Schwarz & Clore, 1988) or the regulation (Cohen & Andrade, 2004; Pham, 2004) theories. We will have the opportunity to describe them in the chapter 2 of our doctoral dissertation.

In sum, we will explore the role of specific emotions in behavioural intention to use an innovation, and more specifically, we will study the nature of the relationship between emotions and judgment, i.e. the mechanisms or dimensions underlying the effects of emotions on judgments. Within this context, the purpose of this thesis is two-sided:

(1) From a theoretical perspective, the aim is to better understand the mechanisms underlying the effects of emotions on consumer judgment. We propose to study both the cognitive and motivational dimensions of emotions.

(2) From an applicative perspective, the aim is to help designers creating rich interaction experiences with their product (i.e. generating various positive emotions). Hence the concern is to understand the distinctions between emotions and especially positive emotion and also to give interesting insights to designer and engineers to develop product with specific added emotional value.

The manuscript is organized as follow. ***Part I*** of the document covers the theoretical and empirical foundations of our research agenda, through two chapters. *The first chapter* is linked to the role of emotions in user acceptance. After an overview of cognitive models of user acceptance, we present studies that have integrated the affective dimension to predict the behavioural intention to use innovation. Related limitations and discussions are then discussed. *The second chapter* presents more precisely the classical theories and contemporary research on emotion. We firstly discuss definitions of “emotion” and describe

successively appraisal approaches to emotion, relevant research on emotions and judgment or decision making that allow us to address affect-as-information (Schwarz & Clore, 1988) or regulation (Cohen & Andrade, 2004; Pham, 2004) theories to name a few. Then, *the third chapter* introduces the research questions of this dissertation.

Part II presents a series of studies conducted within this thesis. *Chapter 1* investigates the influence of specific emotions on decision to use innovations (Study 1). *Chapter 2* focuses on the influence of three specific emotions (amusement, fear and anger) on product's desirabililty (Study 2). *Chapter 3* focuse on two specific positive emotions – amusement and satisfaction- and explore some mediators influencing the relationship specific emotions – desirability (Studies 3 & 4).

Part III provides a discussion of our results in light of the literature and concludes with implications for practice and further research.

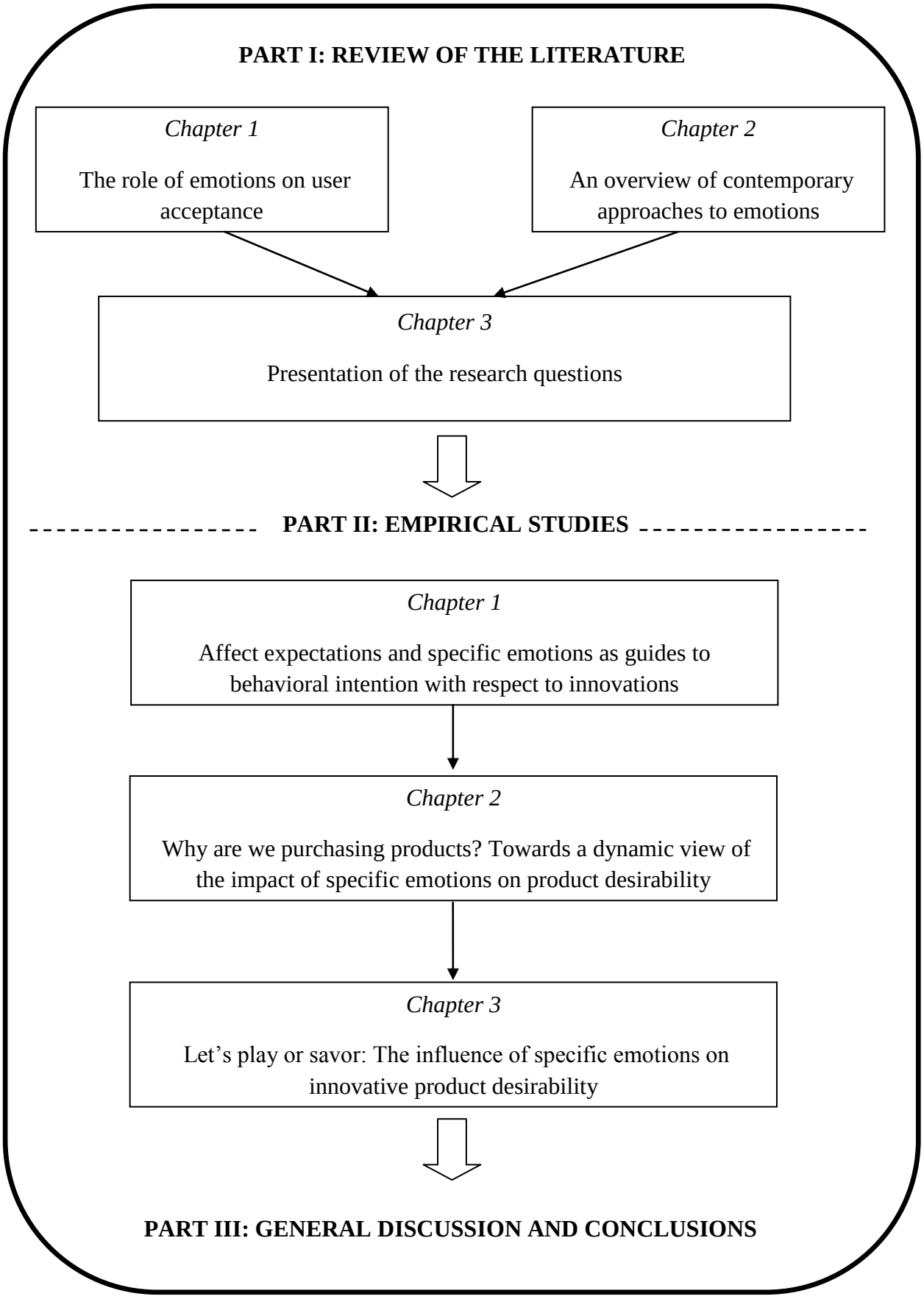

Fig. 2. General structure of the manuscript

PART I:
Review of the literature

In the *first Chapter*, we introduce the scope of our research by defining the term of innovation. We then detail the term of user acceptance and the models most commonly described in the literature. After presenting and pointing the limits of user acceptance model, we review selected literatures on the relationships between user acceptance and emotion. First, we present research based on motivational models and constructs of "enjoyment" and "flow experience", models and constructs that certainly are at the origin of the integration of the emotional dimension. Then we examine five issues referring to the different levels at which emotion has been conceptualized in innovation research: (1) intrinsic motivation, (2) pleasure and arousal, (3) user experience (4) positive and negative emotion, (5) satisfaction and (6) anxiety. That is, we attempt to offer a structured representation of how emotion is conceptualized in user acceptance research and provide propositions for future research. Our goal is to highlight the importance to take into account emotion in innovation process and start a reflexion of how to do so.

In the *second chapter*, we consider several recent findings and theories in the literature of emotions. We define the subject of our investigation and answer the question of what is an emotion. We based our work on the cognitive theory of emotions. The Appraisal-Tendency-Framework (ATF) is then described. This model has been successfully at predicting effects of specific emotions on judgments and decision making. Then, we will see that the ATF has opened the way to the study of various specific emotions, including positive specific emotions. Indeed, current approaches have relied on these theories to explain and predict effects of specific emotions on judgments and decisions.

In the *third chapter*, we present the general research question of our doctoral dissertation. Throughout the two chapters, a series of questions is asked: Questions about the conditions that trigger the emotion, the role of emotion on product evaluation, and the mechanisms behind the effect of emotions on product evaluation. We especially discuss the link between concepts described in the literature in order to explain the influence of specific emotions on consumer judgments.

CHAPTER 1

THE ROLE OF EMOTIONS IN USER ACCEPTANCE

"Emotion, feeling, and biological regulation all play a role in human reason"

(Damasio, 1994; p.8)

I. Innovation

From their first day, humanity is inventing, discovering and attempting to control and understand his environment. Innovation represents the best way found by human beings to deal efficiently with their constraints (Alter, 2010). Historically, the medieval era is the most impressive in terms of innovations, progress and technical advancements in various domains. In this large period of time, number of innovations (e.g. gunpowder, iron hammer) have been developed and are in some way perceived as the origin of "the modern world" (Whitney, 2004).

As such, contemporary common words as innovation, invention, technical progress are all inherited from the Middle-Ages. First, the term "invention" comes from the Latin "*inventio*", meaning "to find and to discover". Its utilization goes back to the end of the Middle Ages (XII century). Second, the word "innovation", little more recent, comes from "*innovation*", meaning "renewal or change". In general, invention is defined as a creation whereas an innovation consists to give sense and efficacy to that creation. That is, innovation represents the social and economical process, bringing the invention to be finally used, or not (Alter, 2002).

In economy, Schumpeter (1934) was the first to introduce the term innovation. His concept of innovation covers five areas: (1) the introduction of a new good (product innovation); (2) the introduction of a new method of production (process innovation); (3) the introduction of a new organization (organizational innovation); (4) the exploitation of new markets; and (5) the introduction of new sources of supply of raw materials. In the framework of this thesis, we will exclusively consider innovations of products. Besides, according to the Organisation for Economic Co-operation and Development (OECD), innovation refers to new or improved goods or services, or methods and opinions which are also marketable. These are far different from organizational innovations that take place in a hierarchical context and lead to organizational structures changes. Products innovations, spread in a market, involve a good or service that is new or significantly improved (OECD definition). Note that numerous innovations do not necessary integrate any technological dimension (50, 98 % according to the OECD).

Generally, we distinguish two types of innovation according to their innovative nature. First, *incremental innovations* are characterized by a product or current process amelioration.

They represent the most common innovation given that they pertain to 90% of all innovations. Second, *rupture innovations* are characterized by the creation of new products or new processes and are based on invention. Nevertheless, an invention or a discovery does not always come into an innovation. To illustrate that point, we can consider the case of the technique of the wheel. Indeed, if the Aztec knew this technique, they never had the idea to utilize it for transport and prefer it for activities relating to games (Alter, 2010). Inversely, an invention can lead to many innovations. It is for example the case of the nylon or the Teflon used in different textiles or materials. In contrast to incremental innovations, rupture innovation are rarer and revolutionize a sector or utilization. For example, in their early days, internet, mobile phones or digital cameras were considered as revolutionary innovations.

Nowadays, technical and social innovations unquestionably contribute to the economic growth. They are key factor allowing companies to avoid price competition by developing specific preferences through innovations offers (Morand & Manceau, 2009). They became very much part of our daily lives, in the private and professional sectors (education, communication, health, leisure, etc.). Indeed, in one century, many innovations have emerged such as the bicycle in 1867, computer in 1969 and the first mobile phone in 1983 in the United States to name few (Fournier, 2010). Unfortunately for innovation companies, not all new products have the same success than those cited above. Indeed, more innovations failed than succeed. According to a high failure rate (about 90% in France), companies have a strong interest in understanding why people accept product innovation. For this purpose, they generally use focus group or individual interviews to ask opinions of a group of people toward a new product in order to understand the conditions that make a product acceptable (or not) by an user before its real use. Next, we elaborate on the question of why would one use a certain innovation and others are reluctant to do so.

II. Presentation and critics of user acceptance theory

II.1 An overview of user acceptance models

Nowadays understanding whether and why users will adopt a new product is a critical issue for innovation companies. User acceptance is considered as a key factor to approach users' decision to use or not the innovation proposed. In general, intentions (see figure 3) are used as measures for acceptance and user behaviour (Jamieson & Bass, 1989; Whitlark, Geurts, & Swenson, 1993).

Different cognitive-based model have been used to explain user innovation acceptance or use such as *the innovation diffusion theory* (Rogers, 2003), *the technology acceptance model* (Davis, 1989; Davis, Bagozzi, & Warshaw, 1992), *the unified theory of acceptance and use of technology* (Venkatesh, Morris, Davis, & Davis, 2003), *the decomposed theory of planned behaviour* (Taylor & Todd, 1995), and t*he social cognitive theory* (Compeau, Higgins, & Huff, 1999).

In general, these models predict innovation use based on perceptions and beliefs about the instrumental nature of innovation such as effort and performance expectancy, perceived compatibility, ease of use, uncertainty, relative advantage and adopter characteristics. They have been used to study the acceptance of Information and Technology Systems, Human-Computer Interaction and other new products.

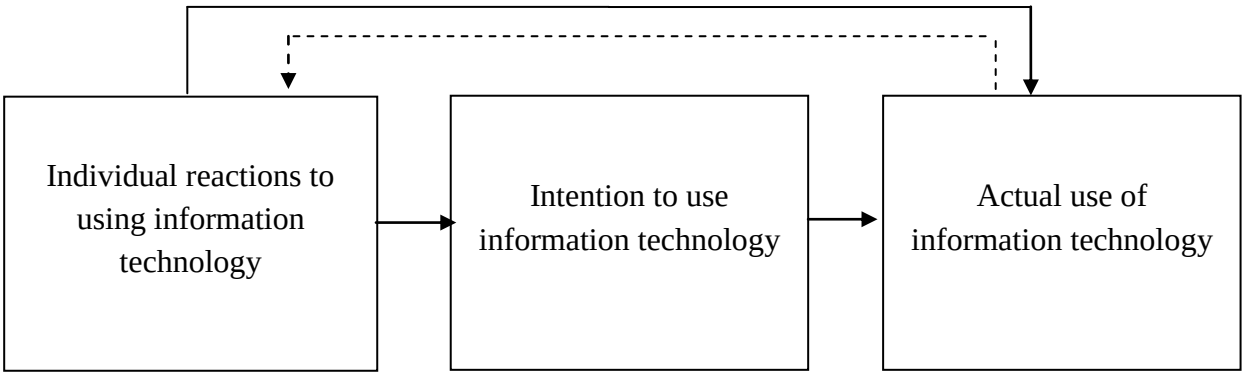

Fig. 3. Basic Concept Underlying User Acceptance Models (Venkatesh et al., 2003).

The Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) is the most widely applied user acceptance model acceptance. It has received support from numerous researches and is considered as a robust framework for predicting user acceptance (Adams, Nelson, & Todd, 1992; Chin & Todd, 1995; Davis, 1993; Taylor & Todd, 1995; Venkatesh & Morris, 2000; Yousafzai, Foxall, & Pallister, 2010). For this reason, we only describe this model in the framework of this thesis. Note that complete reviews cognitive-based model are available in Venkatesh et al. (2003) and Lheureux (2009).

The TAM was adapted from the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). It proposes that *perceived ease of use* and *perceived usefulness* are the two most important factors in explaining innovation use (see figure 4).

- *Perceived ease of use* - the extent to which a person believes using the innovation will enhance his or her performance ;
- *Perceived usefulness* - the degree to which a person believes using a particular innovation will be free of effort.

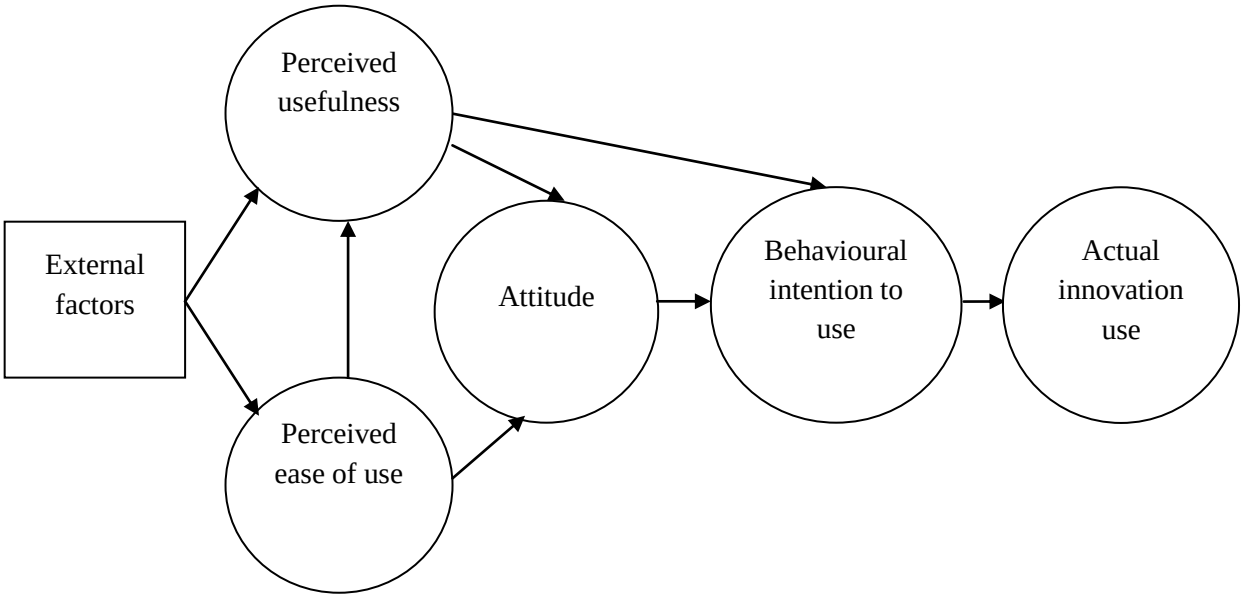

Fig. 4. The Technology Acceptance Model (Davis, 1989; Davis et al., 1989).

II.2 Limits of user acceptance model proposed in the literature

Whether the TAM has brought interesting insights to the study of user acceptance, many researchers have criticized user acceptance models such as the TAM. The most common criticism of user acceptance models is that they focus principally on a person's cognitions regarding an innovation and do not capture all of antecedents of behaviours such as emotional processes (Bagozzi, 2007). Indeed, emotions are widely recognized as a critical predictor of human behaviours and technology can trigger both positive and negative feelings (Mick & Fournier, 1998).

As highlighted in Bagozzi (2007), consumers can, on the positive side, be pleasantly surprised, excited, and confident as they consider the adoption of technology, whereas on the negative side people can be annoyed, worried, or scared. Indeed, individuals are looking for "fun, amusement, fantasy, arousal, sensory stimulation and enjoyment" (Hirschman & Holbrook, 1982, p. 4). It is nowadays commonly admitted that individuals decide to use or not an innovation not only to obtain useful benefits but also to enjoy the experience of using them.

Thus, emotion-based models are needed to complement rational-based approaches. In the next section, we review recent research addressing the influence of emotion on the decision to use innovation. We will see that emotion has been conceptualized in different ways within user acceptance research. Thus in the next section, we use for the sake of clarity the terms referring to emotion as they are originally used in the studies described.

III. Toward an emotional view of user innovation acceptance

Users do not only perform behaviour in order to achieve utilitarian goals (i.e. improve job performance) but also for hedonic reasons because it triggers positive emotions. That is, from now on, researchers are motivated to examine and incorporate emotional experiences in our understanding of user behaviour. By integrating emotion, researchers attempted to explain more variance in users' intention and behaviour (Davis, Bagozzi & Warshaw, 1992). Here, we describe how emotion is conceptualized in innovation research.

III.1 Intrinsic motivation: Perceived enjoyment and flow experience

The extension of user acceptance models to motivational models has probably been a first step towards taking into account the emotional factors. The motivational models introduce two constructs: *extrinsic motivation* and *intrinsic motivation*. The former refers to an individual's personal benefits associated with using an innovation. The latter relates to the desire to perform the behaviour because it is enjoyable (Vallerand, 1997). In this section, we describe two types of intrinsic motivation: perceived enjoyment and flow experience.

Nowadays, it is widely recognized that intrinsic motivation such as enjoyment/fun, playfulness and flow experience are key drivers of individual's intention to perform behaviour (Davis, Bagozzi & Warshaw, 1992; Igbaria, Parasuraman, & Baroudi, 1996).

First of all, the construct of *enjoyment* refers to the extent to which using an innovation is perceived to be enjoyable distinct from any performance results that might be obtained (Venkatesh & Speier, 1999). Empirical findings have shown that enjoyment is sometimes a determinant of behavioural intention (Davis et al., 1992; Ha, Yoon, & Choi, 2007) and other times a determinant of perceived ease of use (Sun & Zhang, 2008; Venkatesh, 2000) or both perceived usefulness and perceived ease of use (Yi & Hwang, 2003). For instance, Koufaris (2002) has shown that enjoyment is positively related to one's intention to return to an online shopping website. Therefore, researchers have extended the TAM by including "perceived enjoyment" or "fun" (Bruner & Kumar, 2005; Davis et al., 1989; Davis et al., 1992; Ha et al., 2007).

Secondly, the concept of enjoyment is considered by Moon and Kim (2001) as one of the dimensions of the concept of playfulness. So, the concepts of enjoyment and fun are directly associated to the concept of playfulness. *Playfulness* refers to three dimensions (i) concentration, (ii) curiosity and (iii) enjoyment (Moon & Kim, 2001). People experiencing playfulness are considered to be more absorbed and interested in their interaction.

At last, most of research on playfulness is based on the concept of *flow experience* (Csikszentmihalyi & Csikszentmihalyi, 1975) which refers to "the holistic experience that people feel when they act with total involvement" (p. 36). In the literature, flow has been treated as multi-dimensional construct with several characteristics such as enjoyment and concernment (Ghani & Deshpande, 1994), control, attention, curiosity and intrinsic interest (Trevino & Webster, 1992). Agarwal and Karahanna (2000) considered cognitive absorption (CA) as a state of flow and they have described five of its dimensions in the context of software – temporal dissociation, focused immersion, enjoyment, control and curiosity. Moreover, some researchers have examined how "flow experience" influence motivation adoption. For example, Hsu and Lu (2004) have revealed that the acceptance of on-line games can be predicted by extended TAM and that flow experience significantly and directly affected intentions to play on-line games.

In general, concepts of enjoyment, playfulness or flow experience seem to be good predictors of intention to use an innovative product or service. However, these concepts seem more appropriate to study the "acceptation" of an innovation rather than the "acceptability" since it involves the use or the manipulation of the innovation before deciding. Indeed, as mentioned by Terrade and collaborators, the intention to use an innovation can be studied before the user have had the opportunity to manipulate the innovation (i.e. acceptability) or when the user have had the possibility to manipulate at least once the innovation (i.e.

acceptation) (Terrade, Pasquier, Reerinck-Boulanger, Guingouain, & Somat, 2009). We will see that a large part of research on intention to use an innovation focuses on "acceptation" rather than on "acceptability".

III.2 Pleasure and arousal

In the innovation literature, researchers have been interested in pleasure and arousal in order to capture the emotional reactions to stimulus. Mehrabian and Russell (1974) categorize the affective state along three dimensions: pleasure, arousal, and dominance (PAD). *Pleasure* refers to the degree to which a user feels good or happy with technology products in the use while *arousal* concerns the degree to which a user feels stimulated or excited from using an innovation (Kim et al., 2004; Lee, Ha & Widdows, 2011). Because *dominance* - defined in terms of control versus lack of control- has been shown to have a trivial effect on behaviour (Russell & Pratt, 1980), authors in general have been only interested in pleasure and arousal dimensions.

For instance, Kulviwat et al. (2007) have merged two models: the TAM and the PAD (the Pleasure, Arousal and Dominance paradigm of affect). They have called this unified theoretical framework, the Consumer Acceptance of Technology (CAT). Results showed a significant improvement in predicting adoption intention compared to TAM and that both pleasure and arousal (but no dominance) are significant predictors of attitude toward adoption. Thereby, being pleased and excited about a new technology positively influences the user's attitude toward adoption.

Moreover, Lee, Ha, and Widdows (2011) have investigated the influence of both cognitive and affective states on consumers' technology product evaluation and their subsequent behaviour. Based on Stimulus-Organism-Response (S-O-R; Mehrabian & Russell, 1974), the authors argue that an innovation through their attributes triggers users' cognitive and emotional states, leading to avoidance-approach behaviour. In their study, they focused on six aspects of technology product attributes: usefulness, ease of use, innovativeness of technology, visual appeal, prototypicality, and self-expression. Thus, respondents (high-technology product users) had to complete a survey based on their experiences with their own technology products. Results suggest that attitude and pleasure influence approach-avoidance behaviour directly, but arousal affects approach-avoidance behaviour indirectly via pleasure. That is, in addition to identifying key product attributes that play a role in consumer adoption of technology products, Lee and collaborators (2011) allow to identify the underlying process

whereby product attributes influence consumer behaviour (approach–avoidance behaviour). Interestingly, they conclude that it is important to focus on the meaning of products (i.e. possibility to maintain social networks or express identity) in order to deliver a pleasing user experience.

The studies presented in this section show some differences regarding the status of emotion: sometimes a determinant of attitude, other times a co-determinant of intention to use innovation with attitude. Besides, it also seems that these studies address the emotion in terms of a cognitive approach, which we describe in more details in the second chapter. In other terms, emotions seem to directly arise from the evaluation of the characteristics of an innovation (prototypicality, usefulness, ease of use, and so on). In the next section we propose to present other dimensions that have been investigated in the literature.

III.3 Positive and negative emotions

Many recent studies have focused on positive or negative emotion. For instance, Arkkelin (2003) showed that positive affect towards a learning tool leads to gaining experience knowledge and self-efficacy regarding usage and negative affect causes students to avoid the learning tool. Besides, Cenfetelli (2004) has found that positive emotions such as fondness, happiness, joy and satisfaction were positively related to perceived ease of use and that negative emotions such as unhappiness, worry, anger, nervousness, regret, disgust, fear, anxiety and irritation were negatively related to perceived ease of use. Emotions also were significant predictors of technology usage. Emotions were measured via the scale proposed by Diener, Smith, and Fujita (1995).

Moreover, Beaudry and Pinsonneault (2010) have studied the influence of four classes of emotion in the use of a new banking system toward account managers. Drawing on appraisal theories of emotions (Smith & Ellsworth, 1985), they focused on anger (loss emotion), anxiety (deterrence emotion), happiness (achievement emotion) and excitement (challenge emotion). Appraisal theories of emotions are described in the chapter 2 of the manuscript. According to the authors, *loss emotions* are triggered by the perception of a threat and lack of control over the system's consequences. *Deterrence emotions* occur when the system is perceived as "a threat and the individual feels that he/she has some control over its consequences" (p. 696). *Challenge emotions* are triggered by the perception of an opportunity and control. *Achievement emotions* "result from the appraisal of an upcoming event that will generate positive outcomes" (pp. 697). In their study, account managers had to indicate how

they felt each emotion at the announcement of the deployment of the new system and how often they used the new system to perform a list of specific tasks such as collecting information or negotiation. Results showed that excitement was not directly related to IT use but indirectly positively related to IT use through task adaptation which is seems consistent, according to the authors, with the evidence that "excitement promotes creativity and flexibility in thinking, problem solving and performing specific tasks" (p. 704). Happiness was positively related to IT use. Anger and anxiety were not related to IT use directly.

Finally, Wood and Moreau (2006) have developed and validated the E^3 (expectation → emotion→ evaluation) model. Interestingly, the E^3 model allows describing how emotion arises in the early use of complex products. Indeed, the authors considered that users have expectations about the difficulty he/she will experience in using a new product, which would influence the quality of the usage experience. In turn, emotion would influence product evaluations. In their research, emotions were measured via a modified version of Izard's (1977) differential emotion scale.

In the previous section, we saw that emotional experiences can be function of the product's characteristics and the gained benefits for the user. Interestingly, this section brings new suggestions for going further on our subject and to answer the question about how emotion arises. Indeed, Beaudry and Pinsonneault (2010) showed that specific emotions are associated with specific pattern of appraisal even if we don't totally agree with the category proposed. Nevertheless, the authors allow going beyond a valence-based approach. We will have the opportunity to discuss it at the end of this chapter. Moreover, Wood and Moreau (2006) suggested, through the E^3 model, that emotions are determined by bottom-up process (products characteristics) but also by top-down processes (expectations). We now propose to address in more details the influence of expectation on product evaluation and more precisely on satisfaction.

III.4 Satisfaction

Multiple definitions of "satisfaction" exist. In general, researchers considered satisfaction as a construct both cognitive and affective. For example, Legris, Ingham, and Collerette (2003) have defined satisfaction as "the sum of one's feelings or attitudes toward a variety of factors" (p. 192). The construct of satisfaction has also been described, in ICT literature, as a positive attitude and perception toward an object (Bailey & Pearson, 1983; Melone, 1990). However, whether the boundaries between emotion and attitude, sometimes

seem unclear, researchers have tried to distinguish them. Bhattacherjee (2001) for instance proposes that "satisfaction is a transient experience-specific affect, while attitude is a relatively more enduring affect transcending all prior experiences" (p. 354).

Moreover, the construct of satisfaction has been mostly studied within the expectation-confirmation theory (Oliver 1977, 1980) which aims to explain why people accept or reject an innovation after using it. Indeed, business management has generally considered satisfying users to be a successful way of increasing user intention, user loyalty or repurchase intention. According to the expectation-confirmation theory, satisfaction is function of the level of confirmation or disconfirmation of expectations originally made by a user vis-à-vis an innovation. Whether, there are different standards of comparison, the most common is the expectations of performance (Tse & Wilton, 1988, Oliver et al., 1994, Ha, 2006; Battachjee & Premkumar, 2008). Broadly, confirmation or disconfirmation of expectations depends on the perceived performance of the innovation. Therefore, users compare innovation performance to their expectations when making satisfaction evaluations. Several studies have shown the effectiveness of this theory in predicting user acceptance and use of Information Technology (Bhattacherjee, 2001; Bhattacherjee & Premkumar, 2004; McKinney, Yoon, & Zahedi, 2002; Battacherjee & Premkumar, 2008; Roca et al., 2006, Thong et al., 2006).

Additionally, other studies have suggested that merely satisfying users is not enough to ensure the success of an innovation. That is, another stream of research has studied the construct of "delight" (Chitturi, Raghunathan, & Mahajan, 2008; Kumar, Olshavsky, & King, 2001; Oliver, Rust, & Varki, 1997; Rust & Oliver, 2000). For example, Yang (2011) has focused on the development of a "customer delight barometer". Besides, Spreng, MacKenzie, and Olshavsky (1996) have pointed out that satisfaction research has mainly focused on the disconfirmation of expectations, rather than on desires.

They considered that "expectations are beliefs about the likelihood that a product is associated with certain attributes, benefits, or outcomes, whereas desires are evaluations of the extent to which those attributes, benefits, or outcomes lead to the attainment of a person's values" (pp. 17). Though, they confirmed the importance of desires congruency as a determinant of satisfaction.

Therefore, user satisfaction and user acceptance are considered to be the two dominants approaches within which perceptions of innovation success have been investigated (Wixom & Todd, 2005). The authors have successfully attempted to integrate the user satisfaction and technology acceptance literature. According to the authors satisfaction "is a person's feelings or attitudes toward a variety of factors".

Finally, satisfaction has been studied in relation to usability. According to Brangier and Barcenilla (2003), satisfaction refers to an affective reaction related to the use of a device and eventually associated with the pleasure to use. In that case, satisfaction is linked to the usability of the system and its instrumental qualities.

To conclude this section, we first can note a conflicting conceptualization of the satisfaction construct. The boundaries between emotion and attitude also seem unclear. Secondly, interesting researches have introduced the constructs of “delight” and “desire”. That is, the concept of satisfaction and usability has recently evolved to the concept of user experience.

III.5 User experience

Developed over the past fifteen years, the concept of user experience is an evaluative approach that gives a central place to affect (see review by Hassenzahl & Tractinsky, 2006; Mahlke, 2008). Indeed, according to ISO: ISO 9241-210 (2010), user experience (UX) includes all the users' emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviours and accomplishments that occur before, during and after use.

Whether the UX concept seems accurate in the framework of this thesis centred emotions, it nevertheless poses many conceptual issues. Indeed, whether the concept of user experience has the advantage to go further a simple vision of instrumental value of the product (i.e., usefulness and ease of use), it is also perceived as an umbrella concept, associated with a wide range of meanings, such as beauty, hedonic aspect (Forlizzi & Battarbee, 2004). So it is not a surprise if the concept of UX has been massively discussed in the literature (Beauregard & Corriveau, 2007).

Many definitions of user experience exist. For instance, according to Hassenzahl and Tractinsky (2006), user experience is “a consequence of user’s internal state (predispositions, expectations, needs, motivation mood, etc.), the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/social setting, meaningfulness of the activity, voluntariness of use, etc.)" (p. 95). Besides, presenting different design projects such as *Gustbowl* – a communication tool designed to connect children and parents, the authors discussed the influence of emotion in business. Interestingly, they show that emotions are not only important as antecedents of product use and evaluative judgements but emotions also are important as consequences of product use.

Finally, from a review of literature and empirical results, Thüring and Mahlke (2007) have proposed a model (CUE-Model), which incorporates various components of user experience found in different approaches. They identified three central components: the perception of instrumental qualities (usability, usefulness, ease of learning, etc.); the perception of non-instrumental qualities (aesthetic values, symbolic, etc.); and emotional reactions. That is, emotions are considered to be function of different aspects of the quality of the system (Figure 5).

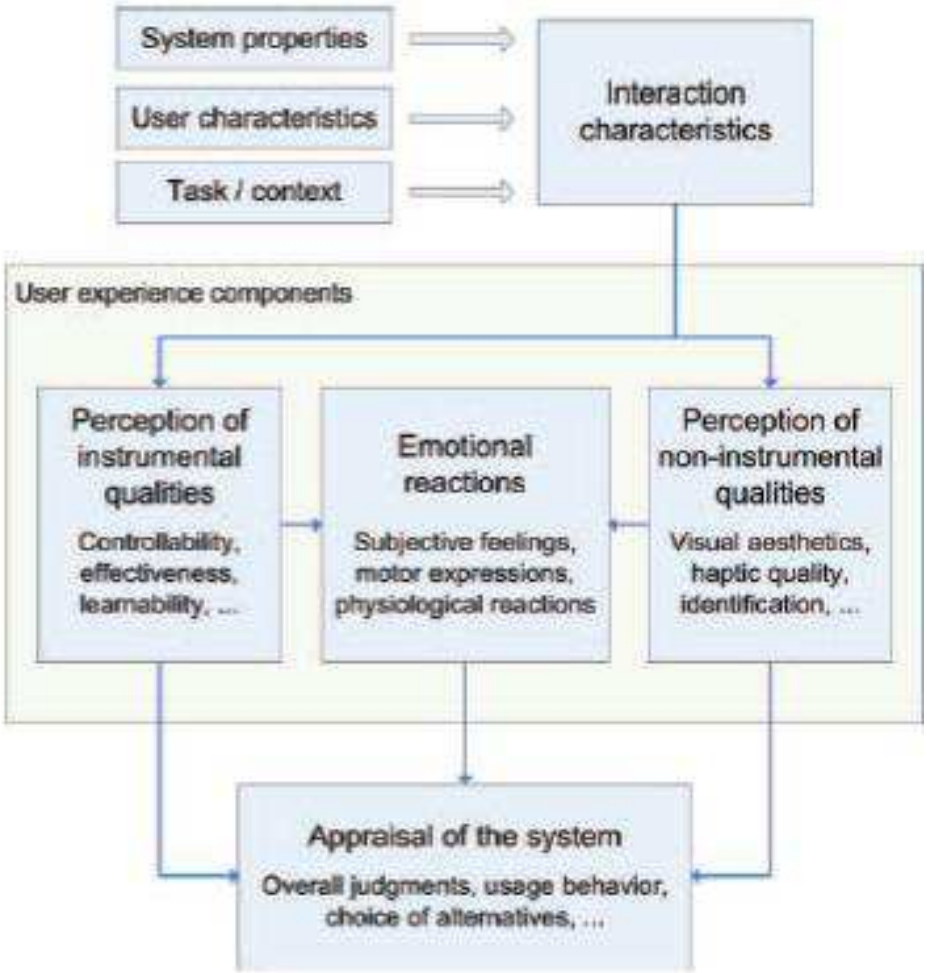

Fig. 5. The CUE-Model (components of user experience) (Thüring & Mahlke, 2007, p. 262)

So, the user experience approach allows considering both instruments qualities and non-instrumentals qualities of a product. It also integrates both cognitive and emotional components. For user experience researchers the message is clear: company must design for pleasure rather than for the absence of negative emotion. That is, one important challenge for

business today is to develop tool and method for assessing user experience with innovation (Mandryk, Inkpen, & Calvert, 2006) but also to consider emotions as design goals.

III.6 Anxiety

Psychological concerns such as anxiety play important role in decision (Sarin, 1992, cited in Bagozzi, Dholakia & Basuroy, 2003). Indeed, research to date has investigated the influence of anxiety in user acceptance and usage behaviour. For example, Compeau and Higgins (1995) have proposed a model which identifies the link between cognitive factors, affective factors (affect, anxiety) and usage.

According to Venkatesh (2000), anxiety refers to individual's apprehension or fear associated with actual or anticipated use of innovation. He has conducted three separate longitudinal field studies in order to identify determinants of perceived ease of use of a new interactive online help desk system (study 1), a new multi-media system (study 2) and a new computer operating system (study 3). He found that anxiety influence perceived ease of use of a new system, which in turn influence user acceptance. The same results were observed by Saadé and Kira (2006) who showed that anxiety impact student's perceptions of an online learning system courses.

Besides, several research studies have shown that anxiety is negatively related to attitude toward using a computer-mediated communication tool (Brown, Fuller, & Vician, 2004) but it does not have any direct effect on intention (Compeau et al., 1999; Venkatesh, Morris, Davis, & Davis, 2003).

So, use of innovation also have unpleasant side effect. People might feel positive emotions but also negative emotions such as anxiety. Generally speaking, the studies described above consider that technologies (computers, communication tool, etc.) are likely to generate anxiety among users, which could have an impact on the evaluation or acceptance of innovation. Finally, we can note again that it is difficult to articulate the different researches that have focused on anxiety. Many variables are involved and results are inconsistent.

IV. Concluding comments

Although previous research on user acceptance have focused primarily on cognitive factors, recent research henceforth suggest that emotion may also play a central role in innovation acceptance. Nowadays, innovation acceptance is viewed as the result of a set of

beliefs about innovation and a set of affective responses. That is, as described above, different affective factors such as anxiety, satisfaction, and pleasure play a role in influencing individual's judgements and decisions.

However, a review of user acceptance research reveals that it is difficult to get consistent insights about the impact of emotions. Firstly, emotions have been conceptualized and operationalized in several different ways. A definition of emotion is often not provided in empirical work. Emotions have also been limited to a very small set of possible human emotions. Secondly, impact of emotions on cognitive beliefs or usage behaviour is relatively ambiguous. Emotions are sometimes directly related to the intention to use an innovation and at other times to cognitive beliefs such as perceived ease of use. The literature offers neither an empirical nor theoretical consensus about the impact of emotion in usage intention.

Furthermore, we can note that, in general, studies adopt a cognitive vision of emotion, which supposed that emotions are function of the evaluation product characteristics. Interestingly, some research has focused on specific emotions and has tried to categorize them. Nevertheless, the proposed categorization is not completely consistent with other research based on cognitive appraisal theory. Indeed, Beaudry and Pinsonneault (2010) have defined the emotion of anger as a "loss emotion". Yet, as we will see in our second chapter, anger is generally associated with dimensions of control and certainty, while "loss emotions" are related in their article with the perception of lack of control.

Finally, we can observe that researches on user acceptance have mainly focused on emotions or affect within the actual use of an innovation rather than the anticipated use of an innovation (i.e., user experience approaches, satisfaction models). Altogether, the studies presented above have highlighted the importance of emotions and have raised a number of interesting issues and perspectives: How emotions influence judgments and decisions? "Could buying an innovative product be a way for emotion maintenance and regulation? "How expectations impact emotions and the behavioural intentions" and "How to design emotions?" We propose in the next chapter to refine our understanding of what is an emotion through a review of contemporary approaches to emotions.

CHAPTER 2

AN OVERVIEW OF CONTEMPORARY APPROACHES TO EMOTIONS

"Everyone knows what an emotion is, until asked to give a definition"

(Fehr & Russell, 1984, p. 464)

I. What is an Emotion?

I.1 Conceptual Definitions and Distinctions

What is an emotion? After Darwin (1877), William James is perhaps one of the most influential researchers to have addressed this issue, in his well-known article, published in the journal "Mind" (James, 1884). To answer this question, James focused on two others: "do we run from the bear because we are afraid or are we afraid because we run?" (LeDoux, 2007). Thus, he was asking is emotion (i) a cause of corporal reactions and action tendencies or rather (ii) a consequence.

Nowadays, a number of theories state that cognitions cause people to feel certain emotions (Frijda, 1986; Lazarus, 1991; Ortony, Clore & Collins, 1990; Roseman & Evdokas, 2004; Scherer, 2001). According to Arnold (1960), the evaluation directed towards an object determines the emotional experience. Her work has inspired many emotion theories. Cognitive models propose that emotions do not only trigger from object but they are triggered from a significant interpretation of the object by an individual. These models offer a solid proposal about which object do and do not elicit an emotion. To illustrate, anger is expected to be the result of an event being appraised as an obstruction to reaching a goal or satisfying a need.

In addition, since James, emotion's definition has evolved considerably, considering henceforth emotion as component processes and not only as a conscious experience or subjective feeling (Scherer, 2005).That is most emotion researchers come together and define emotion as involving five different subsystems of the organism's functioning: *cognition* - changes in attentional perceptual and inferential processes (appraisals), *physiology* - changes in the central and peripheral nervous systems, *actions tendencies* – changes is the predisposition for an execution of specific responses, *motor expression* - changes in the facial, vocal, postural appearance, and *subjective feeling* – changes in subjective experience (Izard, 1991; Roseman, 1984; Scherer, 1984).

That is, in the framework of this thesis, we will go on the consensual definition proposed by Scherer (2001), where emotion is defined as:

> "an episode of interrelated, synchronized changes in the states of all or most of the five organismic subsystems in response to the evaluation of an external or internal

stimulus event as relevant to major concerns of the organism" (Scherer, 2001, pp. 93).

This definition involves that cognition and emotion are interdependent and the ways individual appraises an object will determine the emotion he or she will feel. In fact, emotions are associated with specific patterns of cognitive evaluation of object which called appraisals (Lazarus, 1991; Roseman, 1984; Smith & Ellsworth, 1985).

Moreover, in response to the question "what is an emotion", James has also proposed to differentiate emotions from other kinds of affective experience. The term *affect* describes a state identified by valence. It refers to the extent that an experience is positive or negative, pleasant or unpleasant, good or bad. Thus, any experiential concept that is positive or negative can be considered affective. Affective processes can be studied at different levels of analysis: *emotional traits, moods, emotions* and *sensory experiences* (Keltner & Lerner, 2010; Rosenberg, 1998). All of these concepts make reference to internal states, more or less lasting and marked by affective tone. Although these terms are often used interchangeably in literature, they are distinct entities which we present below.

Emotional traits describe the stable tendency of a person to experience certain emotions in different situation (Larsen & Ketelaar, 1989). For example, term like anxious can describe both emotional traits as well as emotions (episodic state) (Scherer, 2005). Further, a people who experience trait-like positive affectivity are more likely to respond with state of cheerfulness, enthusiasm and energy at different times and in different contexts (Watson & Naragon, 2009).

Moods are diffuse affective states, low in intensity, long lasting (hours or even days) and emerge often without any apparent object or focus (Forgas, 1991; Frijda, 1994; Izard, 1991). Examples are being in a happy, morose or playful mood.

Emotions are briefer, relatively momentary experiences. Contrary to moods, they are elicited by a specific stimulus. Emotions are about something or about someone: one can regret a choice or be in love with someone (Ekman, 1992). Emotions can also be generated by the recalled or imagined representations of a stimulus.

Sensory experiences refer to the hedonic dimension of experiences (good/bad). They can evolve into emotional experiences when assessed in light of individual's social goals and aspirations (Keltner & Lerner, 2010).

Finally, according to cognitive theorist, emotions are elicited when a person evaluates an event situation as important for his or her well-being and central concerns. The nature of

the emotion elicited does not depend upon the situation itself, but upon the person's subjective evaluation of the situation in terms of a set of appraisal dimensions. Indeed, each emotion seems related to a *specific pattern of appraisals*, which are cognitions about the perceived antecedents of emotional experiences. In the next section, we propose to review appraisal theory approaches to emotion.

I.2 Appraisal Theory Approaches to Emotion.

Appraisal theories are certainly one of the most influential contemporary psychological approaches to emotions. They allow distinguishing emotions from each other and accounting for why the same situation leads to different emotions for different people. With regard to our general problematic, these approaches also allow us to gain understanding of how emotions arise and how emotions influence and are influenced by cognitive processes.

Literature counts diverse appraisal theories of emotion (Lazarus, 1991; Ortony et al., 1990; Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985; Weiner, 1980) which are based on the pioneering work of Arnold (1960) and Lazarus (1966). Each of these theories proposed a specific set of appraisals. Most of them include an evaluation of the degree to which a situation or event is consistent with one's *goals/needs* and compatible with one's *norms/values*. An additional significant criterion is *agency* for an event which refers to an appraisal of who or what caused an event to happen. *Valence* – degree of pleasantness, ranging from positive to negative- of a stimulus and *novelty* – appraisal of change in the environment- are also among the core appraisal criteria.

Historically, Roseman (1984) was the first to discuss Arnold's work on emotion, followed by Smith and Ellsworth (1985b), Frijda (1986), Oatley and Johnson-Laird (1987). In addition, Scherer (1984, 2001) proposed a dynamic model emphasizing the temporal sequence of appraisals (*Component process model of emotion*). He attempted to explain the elicitation and differentiation of emotional states as the results of a sequence of *stimulus evaluation checks* (SECs). In fact, he considered that individual continually scans objects of his perceptual field in an extremely fast sequence including five different levels of evaluation: (1) *novelty/expectancy*, (2) *intrinsic pleasantness*, (3) *goal/need-conduciveness*, (4) *coping potential* and (5) *compatibility with standards*.

In the latest version, SECs are organized in terms of four appraisal objectives: *Relevance* that is to say how relevant is the event for me and how does it affect me or my social reference group; *implications* which refer to the consequences of an event and the

degree to which these affect my well-being; *coping potential* that is how well can I cope with or adjust to these consequences and *normative significance* which refers to the significance of an event with respect to my self-concept and to social norms and values (Sander & Scherer, 2009; Scherer, 2001).

In recent version, Roseman (2001) identified seven appraisal dimensions of events directly influencing emotions (five appraisals originally). The Table 1 show the appraisals dimensions proposed by Roseman (2001) and the other three significant theorists. The central dimensions postulated by Roseman are: (1) *Unexpectedness* (the event is expected or not expected), (2) *situational state* (the event is consistent or inconsistent with a person's motives), (3) *motivational state* (the event is relevant to appetitive motives or aversive motives), (4) *probability* (the consequences of an event are seen as certain or uncertain), (5) *agency*, (6), *control potential* (the perceived ability to face the consequences of the event) and (7) *problem source (the event is attributed to characterological vs.noncharacterological factors)*. This approach is derived from several different appraisal theories (Frijda, 1986; Lazarus, 1991; Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985; Bernard Weiner, 1985).

Furthermore, Frijda (1986) differs only in that he believes that action tendency plays a central role in emotion. For instance, he proposed that "fear" is associated with *avoidance tendency* in order to protect themselves, "desire" is related to approach tendency and "interest" is linked to *attention tendency* to respond to stimuli more than others. With his collaborators, Frijda studied appraisals proposed by a number of theorists. Their findings support the theory that emotions experiences consist of both appraisal and action readiness awareness (Frijda, Kuipers, & Ter Schure, 1989). Appraisal tendencies refer to "goal-directed processes through which emotions exert effects on judgement and choice until the emotion-eliciting problem is resolved" (Lerner & Keltner, 2000, p. 477).

Table 1.

Comparative overview of major appraisal dimensions (adapted from Ellsworth and Scherer, 2003; Scherer, 1999)

	Roseman (2001)	Frijda (1986)	Smith/Ellsworth (1985)	Scherer (2001)
Novelty		Change Familiarity	Attentional activity	Novelty
Valence		Valence	Pleasantness	Intrinsic pleasantness
Goals/needs	Appetitive/aversive motives Certainty Motive consistency	Focality Certainty Presence Open/closed Urgency	Importance Certainty Perceived obstacle/ Anticipated effort	Goal significance
Agency	Agency Control potential	Intent/Self-other Modifiability Controllability	Human agency Situational control	Coping potential
Norms/values		Value relevance	Legitimacy	Compatibility standards

Lastly, Smith and Ellsworth (1985a) developed, through an empirical study, a model of emotions based on six dimensions of appraisal (pleasantness, certainty, anticipated effort, attention, human agency and situational control) discriminating fifteen emotions (happiness, sadness, fear, anger, boredom, challenge, interest, hope, frustration, contempt, disgust, surprise, pride, shame and guilt). However as we will see later, this set of six positive emotions largely neglects emotions characterized by lower arousal levels, such as satisfaction and social emotions, such as gratitude and love (Cavanaugh, 2009).

Each emotion is associated with a specific pattern of appraisal. For instance, fear is characterized with particularly low levels of certainty and control, while anger is characterized with high levels of certainty and control (Smith & Ellsworth, 1985).

Thus, our overview of cognitive-appraisal theories gives answers to two questions commonly asked by anyone interested in the issue of emotions: (1) what is an emotion? And

(2) how emotion arises? That is, it appears that emotions are a complex phenomenon and the questions of emotion can be addressed under a wide variety of perspectives. However one can retain that each emotion is defined by a set of central dimensions (e.g. control, certainty) and an understanding of these dimensions can help to understand what the antecedents of emotions are. But even more, as we will see in the next section, they give the possibility to derive predictions for the effects of emotions on judgment and decision making.

II. The Influence of Specific Emotions on Judgment and Decision Making.

A large number of papers has focused on the relationship between affect and cognitive processes (e.g. attention, judgment) and especially on the influence of mood (instead of emotion) in cognitive processes (see Bagozzi, Gopinath & Nyer, 1999; Cohen, Pham, Andrade, 2008 for reviews). Much of early evidence has shown that affective states color our perception of the world and influence our behaviours. For instance, it has been found that objects or individuals are judged more favourably when one is in a good moon than in a bad mood (Forgas & Bower, 1987; Forgas & Moylan, 1991; Isen, Shalker, Clark, & Karp, 1978a; Mayer, Gaschke, Braverman, & Evans, 1992). This is known in the literature as the *congruency effects of mood* – the tendency for people to judge objects or situations in accordance with their affective mood state. Furthermore, numerous studies have suggested that affective states influence the depth of information processing. For example, research in the field of persuasion has found that people in a good mood are more influenced by peripheral elements of messages than people in a sad or neutral mood (Mackie & Worth, 1989; Schwarz, Bless, & Bohner, 1991). That is, “heuristic cues” allow one to make decision without going in a careful information processing. In a broad sense, negative mood have been associated with careful processing and positive mood with superficial processing.

How to explain these results? The classical literature suggests the existence of various mechanisms to explain the effects of mood states on *what* people think and also *how* they think (see Lerner & Tiedens, 2006). First, *associative network mechanism* refer to the fact that emotion-congruent-judgments arise because of associations to mind (Bower, 1981). Thus, when an affective state arises, the semantic categories related to this state become available and guide the encoding, retrieval and interpretation of information. Second, *informational mechanism* refers to the fact that people attend to their feeling as a source of information in forming judgments towards objects and people (Schwarz & Clore, 1988; Schwarz & Clore,

1983). That is, when faced with an evaluative judgment, one would ask the implicit question "how-do-I feel-about-it". So, a positive state would lead to a positive evaluation of the stimulus at hand whereas a negative state would lead to a negative evaluation. Lastly, *motivational mechanism allows* explaining effects of mood states on information processes. It refers to the fact that individuals are, in general, motivated to avoid negatives states and maintain positives states (Bless, Bohner, Schwarz, & Strack, 1990; Isen & Levin, 1972). Thus, people in a good mood would avoid investing cognitive resources in tasks which might change their emotional state. In literature, positive moods have been linked to a "mood maintenance" motive whereas negative moods have been linked to a "mood repair" motive (Isen & Geva, 1987; Isen, Nygren, & Ashby, 1988).

Originally, these mechanisms have been identified under a valence-based approach to emotions, i.e. on whether an affect is positive or negative. In fact, prior research has shown that consumer behave differently in positive versus negative mood. Yet, recent studies have revealed more nuanced influences of specific emotions. For example, Lerner and Keltner (2001) have shown that emotions of the same valence (e.g., anger and fear) can have distinct effects in choice and judgments, whereas emotions with different valence (e.g., anger and happiness) can have similar effects.

In the next section, we review contemporary insights and findings of psychology of emotions in the context of judgment and decision making. We first consider the Appraisal-Tendency framework (ATF) (Lerner & Keltner, 2000), which allow understanding and predicting effects of emotions. Then, we discuss the link between emotion and motivation, an issue at the center of our research. Finally, we review contemporary empirical research to emotion.

II.1 Beyond Valence: The Appraisal-Tendency Framework

In a large and pioneering body of research, Lerner and Keltner (2000) have suggested that a specific-based approach is more effective to understand and predict the influence of emotions on judgment and decision making. Their model, the Appraisal-Tendency framework (ATF) is widely used today to make predictions concerning the influences of specific emotions on judgement and choice (DeSteno, Dasgupta, Bartlett, & Cajdric, 2004; Lowenstein & Lerner, 2003; Tiedens & Linton, 2001).

The ATF is based on two conceptual frameworks: first *appraisal approaches to emotion*, based on diverse cognitive dimensions (Ellsworth & Smith, 1988; Lazarus, 1991;

Roseman, 1984, 1991; Scherer, 2001; Smith & Ellsworth, 1985) and second *functional approaches to emotion*, resting on the assumption that emotions serve a co-ordination role and that they trigger a set of responses (physiology, behaviour, experience, and communication) (Frijda, 1986).

Therefore, while early studies of emotion tended to focus only on the dimension of valence, the ATF assumes that emotions activate appraisal tendencies (automatic processes) that guide subsequent judgment and decisions. The term valence refers to the extent that an experience is pleasant or unpleasant, positive or negative, good or bad. That is, positive and negative moods have been experimentally induced or observed naturalistically, and these general feeling states have been expected to produce more positive and negative judgments respectively (Isen, Shalker, Clark, & Karp, 1978b; Johnson & Tversky, 1983; Kavanagh & Bower, 1985; Mayer et al., 1992; Wright & Bower, 1992).

The ATF has led to major advances in emotion research. Indeed, going beyond the dominant valence approaches, a growing literature has demonstrated that two emotions of the same valence affect judgments in a very different way. For instance, individuals feeling anger tend to make optimistic judgments about future events, whereas individuals feeling fear tend to be more pessimistic (Lerner & Keltner, 2000). Besides, when faced with a gambling and job selection task, anxious people tend to prefer uncertainty reducing options (low-risk/low-reward option), whereas sad people tend to prefer reward seeking options (high-risk/high-reward options) (Raghunathan & Pham, 1999). So, together these findings support posit of the AFT that specific emotions influence decision making in a manner consistent with the emotion's underlying appraisal tendency. That is, emotions can be characterized not only by the primary appraisal of valence but also by a number of secondary appraisals including perceptions of certainty (how certain am I about the situation?), required attention and effort (how much attention do I need to devote to the situation?) and so on.

Additional research has further investigated the influence of specific emotions on information processing. For example, Tiedens and Linton (2001) have shown that a state of anger lead to heuristic strategies of information processing whereas a state of sadness lead to systematic information processing. These results are consistent with findings from Weary and Jacobson (1997) who found that people who feel "uncertain" process information more systematically that people who feel "certain".

The ATF has allowed extending the feelings as information perspective to specific emotions. As mentioned earlier, this perspective suggests that decision makers may consult their feelings towards objects to make a judgment or a choice (Schwarz & Clore, 2003). In the

view of the literature, indeed, it seems that emotions provide different types of information such as information about value and information about motives and wants. Therefore, the information may derive from the underlying appraisal patterns of emotions.

Moreover, a number of studies have also suggested the importance to take into account the motivational dimensions of emotions (Raghunathan & Pham, 1999; Raghunathan, Pham, & Corfman, 2006). Thereby, although emotions can be viewed as *goals* – performing or avoiding an action in order to feel or not to feel a given emotion (emotions as goals), or as *monitor of goals*- informing individual whether his or her goals are compromised or achieved (the emotions monitor goals), emotions also play a central role in activating goals (the emotions activate goals) (Castelfranchi, 2000). Thus, this last point allows highlighting the relationship between emotion and motivation and the role of emotion in activating goals. Research and approach focusing on the relationships between emotion and motivation are reviewed in the following paragraph.

II.2 Emotion and Motivation

Etymologically, emotion and motivation share the same Latin root, *movere*, which means “to move” (Cohen, Pham, & Andrade, 2008). Although, the literature has mainly dealt with the relationship between emotion and cognition, the link between emotion and motivation is nowadays an important field of research (as evidenced by number of papers published in journal as *Motivation and Emotion).* Furthermore, we can note that whereas cognition has often been treated as separate from motivation, the theory of goal systems (Kruglanski et al., 2002) helped to reconcile the two by offering a cognitive approach to motivation. That is, from this perspective, goals are defined through two main aspects, a cognitive and motivational aspect (Kruglanski, 1996).

Most researches addressing the link between emotion and motivation rely, in general, on evolutionary perspective which consider emotion as a superordinate program whose function is to direct goal choice and motivational priorities (Cosmides & Tooby, 2000). Indeed, as seen earlier, emotions are associated with different motivational construct such as action tendencies (Lazarus, 1991), action readiness (Frijda, 1986) or emotivations (Roseman, 2008).

A key point of motivation approaches is that a person in a negative state is motivated to pursue hedonic objective while in a positive emotional state, he/she is motivated to protect his or her emotional state. Thus, individuals are motivated to choose stimuli that would allow

them to regulate their emotional states. This is about emotional regulation which corresponds to people's spontaneous (conscious or unconscious) attempt to intensify, decrease, or maintain positive and negative emotions (Gross & Thompson, 2007; Koole, 2009). An overview of different research streams show that people experiencing negative emotion are more willing to make behavioural choices that will lead to more positive feelings. Examples of emotion regulation are taking greater risks for greater rewards or purchasing gifts for themselves (Luomala & Laaksonen, 1997; Mick & DeMoss, 1990). That is, faced with a new product, an emotion regulation strategy could consist of approaching or avoiding the product in order to regulate emotions.

There is also evidence suggesting that people experiencing positive affect can, under certain circumstances seek variety (Kahn & Isen, 1993). It has also been suggested that people may be more willing to take actions that will help them to maintain the current affective state. So people would not only avoid what is bad in order to protect their current positive state but also approach what is good in order to maintain it (Clark & Isen, 1982).

Furthermore, whether dynamic affect regulation theories are generally opposed to static affect evaluation theories (ie. affect as information or mood congruency), Andrade (2005) has attempted to bring these two models research streams under the same umbrella in order to understand and predict behavioural intentions from differences in the valence of affective states. Through two experiments, he show that when no mood changes are expected from engaging to an activity, evaluation mechanism guides behaviour (ie., in a negative vs. positive affect condition, individuals are less vs. more willing to try some food), whereas when changes are expected both evaluation and affect regulation mechanisms influence behavioural intention. In the last case, absence or presence of mood lift cue or mood-threatening cue are important to make predictions.

Another piece of evidence for goal directed activity comes from Raghunathan and Pham, (1999) and Raghunathan et al. (2006) who have shown that emotions such as *sadness* - interpreted as a signal of loss or a lack of reward - and *anxiety* – interpreted as a signal of uncertain environment - are associated with implicit goals. Here, emotional signal can be derived from their underlying appraisal patterns. Interestingly, their researches suggest that affect-as-information process underlies the influence of emotion on behavioral intentions and judgments. Accordingly, the information derived from the experiential component of emotions gives rise to specific goals which impact subsequent behavior. That is, sad individuals were motivated by an implicit goal of reward replacement and anxious individuals were motivated by an implicit goal of uncertainty reduction.

Similarly, Chun, Kruglanski, Sleeth-Keppler, and Friedman (2011) pointed out in one of their study (experiment 2) that participants, undergraduates students at the University of Maryland, primed either by pride or shame endorsed different patterns of goals. Depending on the condition, participants were reminded of two recent events: the victory of their university basketball team (pride condition) or the postgame rioting by some university's students (shame condition). Then, they were invited, through a second study, to make choice between two swatches of same material but with different colors: one red (the participants' school color) and the other purple (a control color). That is, 86,7% of participants in the pride condition and 42,9% of those in the shame condition chose the red watch, suggesting the goal of identification or disidentification with the university.

In many circumstances affect regulation seems to represent an important mechanism driving the effects. Many recent studies have focused on the cognitive and motivational characteristics of emotions in order to differentiate emotions between them and predict their behavioural consequences. Next we present some contemporary research to emotion that addresses this focus.

In sum, we can suppose that the influence of emotions on judgments and behavioral intentions isn't only mediated by cognition (appraisal processes) but also by motivation (goals or desires). As noted above, two emotions sharing the same valence – anxiety and sadness- might influence decision making in different way because of the different goals activated by the emotions. That is, it seems that people- when facing a judgment or a choice- ask themselves "how-do-i-feel-about-it" and derive from the answer sad or anxious, different mood repairing goals to pursue, i.e. rewards in order to repair sadness and security to repair anxiety (Raghunathan & Pham, 1999).

II.3 Empirical Contemporary Research to Emotion

a. Differentiating specific emotions to understand their behavioural implications

Many researchers agreed nowadays that it is important to define emotional state beyond their valence when studying their effects on behaviour. Thus, much research have now embraced a specific emotion in particular and tried to differentiate it from other emotional experiences (Chao, Cheng, & Chiou, 2011; van Tilburg & Igou, Eric, 2011; Zeelenberg, Dijk, Manstead, & Pligt, 2000). The focus on emotion-specific approach has lead to many researches investigating what makes a specific emotion distinct from other emotional

experiences. In general, participants are asked to recalled and described a past emotional experience (e.g. anger, sadness, boredom) in terms of feelings, thoughts, action tendencies, actions and emotivational goals (see Roseman, Wiest, and Swartz, 1994).

For example, authors have focused on the emotions of regret and disappointment (Zeelenberg et al., 2000; Zeelenberg, Dijk, Manstead, & Pligt, 1998). Their study suggested that these two emotions are associated with different appraisals and differ in experiential content. Accordingly, they have distinct influences on decision making and behaviour. Contrary to most of researcher, Zeelenberg and his collaborators have focused on *anticipated emotions* instead of *experienced emotions*. Thus, they have developed the "affect is for doing" approach. It implies that to understand the impact of emotion on future behaviour "one should focus on the meaning of emotion for the decision maker's action and take seriously the motivational aspect of emotion" (Zeelenberg & Pieters, 2006). They have based their approach on appraisal theory developed by Roseman et al. (1994).

An interesting research has addressed the relevant issue of the link among appraisals, specific emotions and emotion regulation strategies (Schmidt, Tinti, Levine, & Testa, 2010). Schmidt and collaborators were interested to the specific appraisal profiles associated with different emotions felt during exam period –anxiety/fear, frustration/powerlessness and positive emotions. They found that these emotions were related to different appraisal and different emotion regulation strategies. That is, students, who reported feeling positive emotions three weeks before an exam, reported also engaging in reappraisal and problem-focused strategies. This study introduces the interesting idea that individuals also engage in strategies that maintain or increase their emotional experience and that positive emotions can be particularly functional when facing negative emotional circumstances.

In line with research of the experiential content of emotion, van Tilburg and Eric (2011) have found that the experiential configuration of *boredom* is distinct from other emotional experience such as anger and sadness (study 1). Moreover, in their last study, they manipulated the state of boredom by means of a repetitive task: Coping two (low boredom) or five (high boredom) references from Wikipedia. Results have shown that the appraisal of *task boringness* mediates the relationship between the boredom induction and the distinct experiential content (study 4). They conclude that a better understanding of what it means to feel an emotion and how this emotion differs from other emotion is the "opportunity to *distinguish* between the effects that stem from each of these emotions" (p. 12).

b. What about positive emotions?

Although, extant research has largely focused on differences between negative emotions, positive emotions are becoming an important topic of investigation. This recent interest for specific positive emotions probably stems from the emerging field of positive psychology which aims to strengthen the positive aptitudes of each individual by studying the mechanisms contributing to the mental well-being.

According to Pekrun, Götz, Titz, and Perry (2002) positive emotions "help to envision goals and challenges, open the mind to thoughts and problem-solving, protect health by fostering resiliency, create attachments to significant others, lay the groundwork for individual self-regulation, and guide the behaviour of groups, social systems, and nations" (p.149). Second, "positives emotions are worth cultivating, not just as end states in themselves but also as a means to achieving psychological growth and improved well-being over time" (Fredrickson, 2001, p. 218).

Thereby, many researchers have put their efforts on studying the distinction between different positive emotions and their impact on cognitive processes. Although, the literature has historically regarded positive emotions as less differentiated than negative emotions (Smith & Ellsworth, 1985), recent research suggest that there also are differences between specific positive emotions (Bartlett & DeSteno, 2006; Cavanaugh & Fredrickson, 2010).

For instance, the emotion of gratitude has inspired extensive interest in research (Bartlett & DeSteno, 2006; Emmons & McCullough, 2003; Watkins, Woodward, Stone, & Kolts, 2003). Algoe and her colleagues have also focused on some specific positive emotions such as elevation, gratitude and admiration (Algoe, Haidt, & Gable, 2008; Algoe & Haidt, 2009). They suggested that these emotions can be qualified as *modal emotions*. That is they found that the emotions of elevation, gratitude and admiration are different from happiness and different from each other (Algoe & Haidt, 2009). And in a research devoted to the emotion of gratitude, they showed its important role in building relationship between two individuals: recipient and benefactor (Algoe et al., 2008). The latter results are quite consistent with a recent study conducted by Kubacka, Finkenauer, Rusbult, and Keijsers, (2011) in a context of marital relationships, where gratitude enhances relationship maintenance. Emmons and McCullough (2003) have attempted to validate classical assumptions concerning the benefits of gratitude on happiness and well-being in everyday life. That is they showed that gratitude lead to a sense of connectedness to others and reductions in negative affect.

Saint Clair (2010) has focused on the cognitive and motivational differences between pride and surprise, two emotions which differ on the underlying cognitive appraisal dimension of certainty.

Moreover, other studies that have been particularly inspiring in this thesis have shown that emotions were linked to cognitive and motivational mechanisms. For example, based on an evolutionary approach to emotions, Griskevicius, Shiota, and Nowlis, (2010) have found that two specific positive emotions (e.g. proud and satisfaction) have distinct effects on product judgements. Authors argued that each emotion is associated with distinct cognitive and motivational components. For example, proud enhances the desire for products that allow one to draw positive attention to oneself. Besides, in another series of studies, Griskevicius, Shiota, and Neufeld (2010) have showed that emotions of the same valence can lead to different information processing. That is, the emotion of amusement leads to heuristic information processing whereas the emotion of surprise lead to more systematic information processing.

Furthermore, Bosmans and Baumgartner (2005) in their approach have stressed the link between specific extraneous emotions and two general, orthogonal classes of goals (achievement and protection) that are fundamental to human behaviour: what do my feelings tell me about the product, and are these feelings consistent with the goal served by the product? They have compared the differential effects of positive emotions. They found that cheerful feelings resulted in more positive evaluation when an achievement goal was salient whereas quiescent feelings resulted in more positive evaluations when a prevention goal was salient.

Recent researches have also focused on the appraisal antecedents of positive emotions (Goetz, Frenzel, Stoeger, & Hall, 2010; Pekrun, 2006) such as perceived control and perceived value. That is both perceived control and perceived value seem to be critical antecedents of positive emotions such as enjoyment, pride and satisfaction.

While appraisals of control and certainty have proven useful for distinguishing among negative emotions, additional appraisals may be needed to understand important links between positive emotions and consumption behaviour. Cavanaugh (2009) addressed in her thesis dissertation, how specific positive emotions influence consumption behaviours and focused on the appraisal dimensions of *social connection*, *temporal focus*, *problem solving* and *perceived control*. That is, it seems that a comprehensive taxonomy of appraisal dimensions allow to predict and explain the impact of specific emotions.

Specific positive emotions: empirical findings suggest that incidental gratitude but not amusement increases effort in costly prosocial behaviours (Bartlett & DeSteno, 2006); elevation but not amusement or admiration motivates kindness toward others (Algoe & Haidt, 2009); happiness but not peacefulness increases processing of self-referent health appeals (Agrawal, Menon, & Aaker, 2007); pride generates more self-control than happiness (Eyal & Fishbach, 2006) While this recent work makes it clear that specific positive emotions can have differential effects, these researchers often draw from disparate theories to arrive at their conclusions.

Much research has examined the link between specific positive emotions and psychological state such as gratitude and well being. However, they do not allow identifying what mechanisms can explain effects of positive emotions on behavioral consequences or psychological state.

Recent approaches on specific emotions suggest that emotions are also associated to motivational function. That is, the simple act of remembering an emotional experience activates specific goals and actions. Relatively little is known about the appraisal dimensions characterizing and differentiating positive emotions.

CHAPTER 3

PRESENTATION OF THE RESEARCH QUESTION

This section recounts the evolution of our research project and the various issues raised during our dissertation. In connection with the request of the Ixiade Group, the starting point of our reflection was to review user acceptance models and develop an understanding on how emotional dimensions impact the evaluation of an innovation and behavioural intention. In this sense, along an initial review of literature, we pointed out a number of limitations in terms of how to define and conceptualize emotion, and also posed a series of questions about the conditions that trigger emotions. Rapidly, our reflection has led us to examine specific theories of emotion in more details in order to better understand how emotions influence consumer judgments and behavioural intentions with respect to innovations. Thus, the purpose of this chapter is to present our research questions, including a conceptual overview of the literatures applied in this thesis.

As mentioned earlier, research in decision making dealing with emotions has exploded in the last decades. So, it is not surprising that much of recent literature on acceptance have incorporated emotional experiences to explain and predict user behavior (Davis, Bagozzi, & Warshaw, 1992; Kulviwat et al., 2007; Lee, Ha, & Widdows, 2011; Moon & Kim, 2001; Wood & Moreau, 2006). Interestingly, among the proposed framework, two approaches have explored how emotion arises from cognitive processing: The *user experience models* (Hassenzahl & Tractinsky, 2006; Mahlke, 2008; Thüring & Mahlke, 2007) and the *expectation-confirmation theory* (Oliver, 1977, 1981). In the first approach, emotion is seen as the result of the perception of the product's intrinsic characteristics (instrumental and non-instrumental qualities) and in the second approach emotion is reduced to the concept of satisfaction. Also, whether the interest of these approaches is undeniable, they seem nevertheless limited in two aspects. First, they don't take into account top-down processes. However, the quality of an experience seems to be jointly demined by characteristics of the products (bottom-up processes) and users' desires or expectations (top-down processes) (Lee, Frederick and Ariely, 2006). Second, they usually follow a valence-based approach, depending on whether one is experiencing a positive versus negative emotion (Bower, 1981; Forgas, 1995; Schwarz & Clore, 1983). However, contemporary research on emotions has since suggested that a specific-based approach is more effective to understand and predict the influence of emotions. As an illustration, recent empirical research indicated that emotions of the same valence, such as anxiety and sadness (Raghunathan & Pham, 1999; Raghunathan, Pham, & Corfman, 2006), fear and anger (Lerner & Keltner, 2000, 2001) or regret and disappointment (Martinez, Zeelenberg, & Rijsman, 2011; Zeelenberg, Dijk, Manstead, & Pligt, 1998), can have different effects on judgment and choice. So, two essential questions

remain conspicuously unanswered: *How might top-down processes influence the user emotional experience? And then how might specific emotions differentially influence innovative products' evaluation and behavioral intention?*

We propose to answer the two above questions in a first study (*Study 1*). In order to do that, we will select an innovative product for which two versions are available. As a first step, we will focus on user-experience approaches and on the expectation disconfirmation theory (Oliver, 1977), a theory generally studied in research on user satisfaction/dissatisfaction and in a post-purchase situation. We will consider and discuss some definitions of satisfaction and then will introduce several studies showing the interest in taking into account other specific emotions. As a second step, we will try to improve the technology acceptance model (Davis, 1989), aiming at predicting users acceptance of innovative product, by investigating the impact of specific emotions on attitude and behavioral intention. Specific emotions will be derived from Chitturi et al. (2008) who have studied the impact of specific emotions on evaluation of various products such as cell phones and automobiles.

Furthermore, after exploring the influence of specific emotions on product's evaluation, another important issue is also to explain and predict *how specific emotions influence product's evaluation.* In order words, *what are the moderators (Study 2) and the mediators (Studies 3 & 4) influencing the association between specific emotions and products' evaluation*? The Appraisal Tendency Framework (Lerner & Keltner, 2000) (based on the cognitive and functional approach of emotions) has suggested that specific emotions, associated with specific patterns of cognitive appraisals, result in different judgments and decision making. For instance, individuals feeling *anger* – associated with certainty appraisal – would tend to make optimistic judgments about future events, whereas individuals feeling *fear* - associated with uncertainty appraisal - would tend to be more pessimistic (Lerner & Keltner, 2000). A large body of literature has supported this reasoning and has considered that appraisals dimensions help differentiating emotions and predicting the influence of specific emotions. Besides, researchers have suggested that affect-as-information process underlies the influence of emotions on judgments and choice. According to the affect-as-information model, people derives from their feelings specific information to make judgments (Schwarz, 1990; Schwarz & Clore, 1983). In short, information given by the specific emotion is derived from the emotion's underlying appraisal tendency (Ellsworth & Scherer, 2003; Lerner & Keltner, 2000). That is, "specific emotions give rise to specific cognitive and motivation processes which account for the effects of each emotion upon judgement and decision making" (Han et al., 2007, p. 158).

However, whether the cognitive processes have been well documented, little is known about the motivational processes (Zeelenberg & Pieters, 2006). To overcome this limit, Zeelenberg and Pieters (2006) have developed the Feeling-is-for-doing approach and have updated the concept of *experiential content*, which "reflects how emotions are felt and what emotions mean to the person experiencing them" (p. 124). This concept allows addressing the cognitive and the motivational aspects of emotions. Accordingly, it seems that the appraisal processes trigger specific emotions, with specific experiential content. Therefore, to derive predictions for the influences of specific emotions, authors have put their efforts on studying the distinction across different specific emotions through their underlying appraisal dimensions and experiential content. Recently, some authors have relied on this approach such as Hooge (2008) who has investigated the role of shame and guilt in social behaviour. Considering this, **the claim of this dissertation is that understanding and investigating the cognitive and motivational dimensions of an emotion can be useful to predict their influence on judgments and behavioural intentions with respect to innovation.**

In our *Studies 2, 3 and 4* we will try to explore the motivational dimensions of specific emotions and identify the moderators and the mediators of the relationships between specific emotions and product's evaluation. Also, innovative products designed by Ixiade Company will be selected. More specifically, in our *Study 2*, we will focus on three specific emotions generally involved in consumers' behavior (Laros & Steenkamp, 2005). Then, in our *Studies 3 and 4*, we will investigate a mediator of the relationships between specific emotions and product's evaluation. Furthermore, given that the purpose of this dissertation is to help designers to elicit a large a range of positive emotions through products, we will focus on positive emotions in *Studies 3 & 4*. It is important to note that studies on specific positive emotions have only emerged in the last decade (Bartlett & DeSteno, 2006; Cavanaugh & Fredrickson, 2010; Eyal & Fishbach, 2006; Goetz, Frenzel, Stoeger, & Hall, 2010; Griskevicius, Shiota, & Nowlis, 2010), and little is known about specific positive emotions compared to specific negative emotions. In general, authors have relied on or have developed different theories to provide predictions: appraisal theories, evolutionary-function theories or broaden-and-build theory of positive emotions. For instance, Fredrickson (2001, 2004) has suggested that all positive emotions broaden *thought-action repertoires* such as the desire to explore when one is feeling "interest" or the desire to play when one is feeling "amusement". Griskevicius et al. (2010) have proposed the concept of "*emotion-specific short term goals*". Thus, in *Studies 3 and 4*, we will investigate the motivational dimensions associated with specific emotions and test the hypothesis that *emotion-specific short-term goals* might explain

the impact of specific emotions on product's desirability (Griskevicius et al., 2010). Also, in our *Study 4*, we pay particular attention to the concept of "*thought-action repertoires*" and discuss its link with *"emotion-specific short-term goals"*.

Finally, our four studies will allow us to address both *integral emotions* (*Study 1*) and *incidental emotions* (*Studies 2, 3 and 4*). Indeed, when considering the role of emotions in decision making, an important distinction is generally made between *integral emotion* – emotion genuinely experienced and associated with the source of decision- and *incidental emotion* – emotions unrelated to the object of decision and experimentally manipulated. In particular, focusing on incidental emotions will help us to explore the mechanisms underlying emotion's influence on judgment (Han et al., 2007).

PART II:
Empirical studies

CHAPTER 1

AFFECTIVE EXPECTATIONS AND SPECIFIC EMOTIONS AS GUIDES TO BEHAVIOURAL INTENTIONS WITH RESPECT TO INNOVATIONS

Affective expectations and specific emotions as guides to behavioural intentions with respect to innovations

Summary

Nowadays, user experience is a key concept to capture the usage quality of innovations. Interestingly, this recent stream of research allows taking into account new dimensions that have been neglected so far in the study of Human-Innovation interaction. The integration of emotional factors appears to be a promising way to understand why some innovations are better accepted than others. In this chapter, we propose to investigate the concept of user experience through bottom-up (product characteristics) and top-down processes (user's expectations). Also, we investigate how emotions are triggered and explore the effects of specific emotions on the evaluation and the acceptation of an innovation. To do so, we manipulated users' level of expectations concerning an innovative product (participants received a positive, negative or no expectation prior to using the E-reader) and used two different E-reader (medium quality experience vs. low quality experience). Eighty eight (88) participants from various socio professional categories were recruited to take part in the study. Results suggest that affective expectations influence emotional experience and product evaluation. The results partly validated the acceptation model and indicated that disconfirmation of affective expectations is a key factor in the development of specific emotions.

Key words: User experience, affective expectations, specific emotions, evaluation, acceptance.

Introduction

User experience (UX) is a concept commonly used by companies to express their added-value strategy focusing on the quality of Human-Innovation interaction. For example, Microsoft proposed a "rich, vibrant and striking" user experience through their new version of Windows Embedded CE. In the same way, the LG Company promised a novel experience with their new Smartphone. That is, psychologist and ergonomics, already familiarized with ergonomics and usability approaches, have to deal nowadays with new concept such as user

experience (Barcenilla & Bastien, 2010) and have to go beyond a simple "utilitarian and functional" understanding of innovative products (Dubois & Bobillier-Chaumon, 2010).

In the innovation literature, Mahlke and Thüring (2007) are rare authors to have proposed a model of user experience (the CUE-Model). They have identified three core components: *the perception of instrumental qualities* (usability, usefulness, ease of learning, etc.); *the perception of non-instrumental qualities* (aesthetic values, symbolic, etc.); and *emotional reactions* which are influenced by the qualities of the product. Nevertheless, whether the CUE-Model incorporates many aspects of user experience developed in the literature, it does not address other important issues related to the user past experience and his/her expectations. For example, it has been shown that user also anticipates the nature of its interaction with products (Kankainen, 2002).

In this chapter, we propose to study Human-Innovation interaction from an emotional perspective and intend to clarify the role of affective expectations in the overall user experience. Firstly, our goal is to examine the conditions under which emotions trigger. Namely, are the user's emotional reactions influenced by the properties of the product? Or do other dimensions such as affective expectations play a role in the emergence of specific emotions? Secondly, we examine the impact of specific emotions on product evaluation and behavioral intention. To address these objectives, we present in the following part the expectations disconfirmation theory (Oliver, 1977) and the technology acceptance model (Davis, 1989).

I Theoretical background

I.1 Expectation disconfirmation theory versus Affective expectation theory

Initiated by Anderson (1973), the *expectation disconfirmation theory* has been largely used in marketing research (Cardozo, 1965; Churchill & Surprenant, 1982; Pizam & Milman, 1993; Westbrook & Oliver, 1991; Westbrook & Reilly, 1983). It has been a dominant paradigm for studying customer satisfaction across products and services (Tse, Nicosia & Wilton, 1990). In summary, it supposes that satisfaction emerges from comparing the product performance against initial expectations after the use of the product. The product can be evaluated as better, worse or the same as expected (Oliver, 1980). Therefore, depending on

the cases, one can speak of positive disconfirmation (i.e., positive discrepancy) or negative disconfirmation (i.e. negative discrepancy), referring to the subjective post-usage comparison.

In the literature, there are several different standards of comparison. The most common corresponds to expectations related to the product performance (Ha, 2006; Tse & Wilton, 1988). In such cases, expectations' confirmation or disconfirmation would depend on the perceived performance of the product. Consequently, beyond the innovative product's performance, expectation disconfirmation would influence users' emotional responses (Phillips & Baumgartner, 2002; Westbrook & Oliver, 1991). Furthermore, expectation literature has shown two possible effects of expectations and disconfirmation on satisfaction: the assimilation and the contrast effects. *Assimilation effects* generally occur for moderate disconfirmation whereas *contrast effects* result for large disconfirmation (Anderson, 1973; Oliver, 1977). For example, Lankton and McKnight (2012) have studied the influence of two types of expectations on satisfaction: usefulness and ease of use expectations. Also, Wood and Moreau (2006) have developed the E^3 (expectation → emotions → evaluation) model and suggested the role of complexity expectations on product success.

Besides, some researchers have more precisely studied the impact of top-down and bottom-up processes on affect through the *affective expectation model* (Wilson, Lisle, Kraft, & Wetzel, 1989). Summary, affective expectations refer to user's prediction about how he or she will feel toward specific objects (Wilson & Klaaren, 1992). Faced with a product, a user could, for instance, wonder how exciting or stressful it would be using it. Thus, emotions also come into play prior to use, when users form expectations (Klaaren, Hodges, & Wilson, 1994; Phillips & Baumgartner, 2002; Wilson & Klaaren, 1992) and after use depending if affective expectations are met or not. Generally, these expectations are formed through prior experiences in order to limit additional time and cognitive processing to determine the valence of the product (Geers & Lassiter, 1999). Therefore, it seems that affective expectations (i.e., "How much happy would I be if I use this product?) are critical for predicting both emotions and product evaluation.

I.2 A model of expectations and post-use emotions: satisfaction or delight?

As we mentioned earlier, satisfaction has been at the core of expectation disconfirmation model. Nevertheless, no single definition of satisfaction has been commonly accepted in marketing literature and it is lacking of a clear conceptualization. According to Yi

(1990) satisfaction has been viewed either as an *outcome* – resulting from the use experience - or a *process* – resulting from the evaluation of the perceived discrepancy between expectations and perceived performance of the product. Satisfaction has also generally been viewed as a hybrid cognition-emotion (Oliver, 1977) and not as an emotion itself. Its distinction with attitudes and emotions still remains an important issue. First, as an evaluative response to products, satisfaction can be seen as attitude and more specifically as a post-use attitude (LaTour & Peat, 1979). However, numerous studies have tried to show empirically that attitude and satisfaction are separate concept. For instance, Oliver (1980) has found that satisfaction precede and influence post-purchase attitude. Second, it appears that satisfaction cannot be assimilated to emotion because one could experience pleasant feeling but would still feel dissatisfaction if its expectations are not met.

In addition, it has been found that consumers/users generally perform several types of responses to dissatisfaction: taking no action, making a complaint, engaging in negative word of mouth communication and so on. However, drawing on classic theories of emotions (Frijda et al., 1989.; Lazarus, 1991), response of complaint appears to be rather an action tendency associated to *anger* – an emotion associated with blame (Keltner, Ellsworth, & Edwards, 1993) and the emotional goal to change an unwanted situation. That is, studying the impact of a specific emotion involves to differentiate it from one another by their cognitive appraisals (Roseman, 1984; Smith & Ellsworth, 1985) and yet cognitive appraisals of satisfaction were not investigated in expectation disconfirmation theory. Consequently, it is difficult to know what satisfaction is and what it really means to users.

Finally, in the last decade, it has been suggested that satisfying users is not enough to induce the desire to use products (Oliver et al., 1997). Companies should rather strive for user delight. The importance of delight has been recognized in many researches as loyalty research (Jones & Sasser, 1995; Norman, 2004; Verma, 2003). On the one hand, drawing on Plutchik (1980), numerous researchers have associated delight to joy and surprise (Berman, 2005; Finn, 2005; Oliver et al., 1997). In the other hand, some studies have recently shown that surprise is not necessary to experience delight (Chitturi et al., 2008; Kumar et al., 2001). Interestingly, Chitturi et al. (2008) have found evidence that high-arousal emotions of excitement and cheerfulness are antecedent of delight (promotion positive emotions) and that low-arousal emotions of confidence and security (prevention positive emotions) are antecedent of satisfaction. Also, it is interesting to note that delight is in general viewed as more emotional than satisfaction because it is associated with emotions such as arousal, joy, surprise and pleasure.

I.3 The present study and hypothesis

In the present study, we proposed to study the discrepancy between affective expectations and objective performance. An important aspect of our first study is our attempts to examine more closely how specific emotions are formed and how they impact product evaluation and behavioral intentions. Indeed, whether models discussed above have shown interest in explaining the formation of emotions, they also provide insights to explain and predict attitude and behavioral intention. Indeed, we consider that emotions resulting from disconfirmation of expectations act such information signals, allowing users to evaluate their interaction with innovation (Wood & Moreau, 2006). First, drawing on model of expectations and recent research on specific emotions, we hypothesized that

> **H1**: negative disconfirmation ("worse than expected") will lead to specific negative emotions such as anxiety, anger and disappointment and positive disconfirmation ("more enjoyable than expected) will lead to specific emotions such as delight, security and excitement.

Second, it has been shown that various factors are involved in acceptance of innovative product. The technology acceptance model identifies two central factors: perceived ease of use and perceived usefulness. *Perceived ease of use* refers to the degree to which a user believes that using and learning to use the innovative product will be as more or less easy. Perceived *usefulness* refers to the degree to which a user believes that the use of an innovative product will provide practical benefits. Therefore, drawing on the technology acceptance model we hypothesized that

> **H2**: specific positive emotions will exert positive impact on attitude and specific negative emotions will exert a negative impact on attitudes;
>
> **H3**: the more the innovative product will be perceived as useful, the more favorable the attitude will be and vice versa;
>
> **H4**: the more the innovative product will be perceived as easy to use, the more favorable the attitude will be and vice versa;
>
> **H5**: user attitude toward an innovative product will be associated to behavioral intention.

II Method

This section describes the experimental protocol implemented and the stimuli used for testing our research hypotheses. We chose to test two versions of an electronic book. We also manipulated their descriptions (3 experimental conditions) to induce changes in the users' affective expectations towards the technological innovation.

II.1 Participants and Design

A total of 88 participants (60% female, 40% male) from 18 to 71 years old (*M* age = 34, *SD* = 12.7) completed this study. The sample was composed as follows: higher managerial and professional occupations: 4.5%; lower managerial and professional occupations: 11.4%; intermediate occupations: 17%; employees: 34.1%; never worked, long-term unemployed and students: 33%. All participants were randomly assigned to one condition of a 2 Product type (Reading comfort vs. less reading comfort) x 3 expectations (positive, negative, control) between-subjects design.

II.2 Stimuli description

Both versions used in this study allow listening music, view image files or photos and can store up to 350 E-Books. They are similar in terms of aesthetic but differ in terms of uses and comfort of reading. The version 1 is a non-tactile device while version 2 has a touch screen. Through an analysis of several user forums, we identified two groups of attributes characteristic of an eBook: the comfort of reading and the ease of navigation. A pretest conducted with 26 undergraduates students shows that the version 1 (M = 4, 33; on a 5-point scale) was perceived to be more enjoyable and comfortable than the version 2 (M = 3, 68), F (1, 24) = 6, 67; $p < .05$.

II.3 Procedure

Participants were run one at time in the laboratory. After arriving at the lab, participants were introduced to the aim of the study:

> *"We are conducting a study for a technology company that would like to gather your views on their new electronic book"*

Next, we put at the disposal of the participants the descriptive page of the product. Then, we indicated to them, in oral, that we were at the end of the study. Also, depending on the experimental condition, we added some information in order to induce specific expectations:

- Control condition. No information added.
- Negative expectations. *"Here is the description of the e-book. It is not a very good device. The reading is not as comfortable as reading with a classic book. The screen can cause tired eyes. The navigation is not very nice, not very intuitive and the speed of a page to another is slow. It's a shame the pleasure of reading is altered."*(60 words).
- Positive expectations. *"Here is the description of the e-book. You will see it is a great device. It offers a comfortable reading comparable as reading with a classic book and it does not cause tired eyes. The navigation is very nice, very intuitive and the speed of a page to another is very fast. Everything was really designed for the pleasure of reading remains intact."*(63 words).

After the expectation induction procedure, participants rated a first questionnaire that accesses their affective expectations concerning the use of the eBook. Then, they could explore and discover the various functionalities of the eBook during 5 to 10 minutes. Finally, they completed a second paper-and-pencil questionnaire. The questionnaire was designed with previously validated items. Participants were thanked and debriefed.

II.4 Measures

Affective expectations. 21 items from Edell and Burke (1987), Holbrook and Batra (1987), and Richins (2008) were used to measure the affective expectations of the participants: calm, delighted, amused, amazed, excited, enthusiasm, inspired, pleased, encouraged, peaceful, astonished, fascinate, surprised, angry, frustrated, nervous, anxious, uncomfortable, tense, embarrassed, disappointed (rated on a scale ranging from 1 = *very much* to 5 = *not at all*). After a factor analysis (see Appendix), an index of positive emotions was formed by averaging each participant's responses to the 5 items pertaining to positive affective expectations (enthusiasm, delighted, pleased, excited, inspired, α =.80), and an index of negative emotions was formed by averaging each participants' responses to the 5 items pertaining to negative affective expectations (Nervous, embarrassed, angry, frustrated, anxious, α = .89).

Disconfirmation of expectations (α = .84). We used a direct measurement of disconfirmation of expectations (Irving & Meyer, 1995). On 5 point scales, we asked participants to indicate if "the comfort of use", "the pleasure of use", and "the general experience of use" were much less than expected or much better than expected (from 0 to 4).

Attitude (α = .81). Participants rated 3 items adapted from Bagozzi, Baumgartner, and Yi (1992): "My feelings about this product is very positive" "I very much like this E-book" "I'm glad I discovered this product during this study" (1 = *very much* to 5 = *not at all*).

Usage Intention (α = .84). Participants rated 5 items adapted from Kim and Malhotra (2005): "If you have this E-book for free, would you use it?" "…during your holidays?" "…to read your professional papers?" "…to read your favourite books?" "...during your daily journeys?" (1 = *very much* to 5 = *not at all*).

Integral Emotions. Items were similar to those used for the measurement of the affective expectations. After a factor analysis, three types of positive emotions were formed by averaging participant's responses pertaining to Delight (enthusiasm, delighted and pleased, α = .87), Excitement (excited and inspired, α = .74) and Security (peaceful and calm, α = .76). Also, three types of emotions were formed by averaging participants' responses pertaining to Anxiety (nervous, embarrassed, anxious, uncomfortable and tense, α = .84), Anger (1 item) and Disappointment (1 item). Participants indicated the intensity with which they experienced each of the different emotions during the use of the eBook.

II.5 Covariables

Three other variables explaining the adoption of a technological innovation were measured:

Perceived ease of use (α = .70). Participants rated 4 items "I think learning to use this product is easy ...?" "...requires a lot of effort" "... requires little knowledge" and "…requires a lot of time" (1 = *very much* to 5 = *not at all*).

Perceived utility (α = 68). Participants rated 4 items "I think this E-book ... can be useful in my work?" "...can be useful during my holidays" "... will allow me to read more books" (1 = *very much* to 5 = *not at all*).

Innovativeness (α = 70). The innovativeness reflects the tendency to be among the first to use new products or new technologies (Clark & Goldsmith, 2006). Participants assessed their innovativeness by rating themselves on the following 3 items-scale adapted from Roehrich (2004) "I like to buy new and different product" "I want to be among the first

to buy new products" and "I try new products before my friends" (1 = *very much* to 5 = *not at all*).

III Results

Because of a floor effect in the negative expectations conditions, we only conducted an analysis on data from the positive expectations condition and the control condition. Indeed, our manipulation did not significantly affect expectations in the negative condition. Thus, the overall sample size was 55 participants.

Manipulation Checks. As expected, participants assigned to the "positive expectations" condition scored higher on positive expectations (M = 3.99, SD = .58) than did the participants assigned to the control condition (M = 3.40, SD = .59), F (1, 54) = 13.95, p < .01. Conversely, they scored less on negative expectations (M = 1.85, SD = .82) than did the participants assigned to the control condition (M = 2.08, SD = .91). Nevertheless, this difference was not significantly different, F (1, 54) = 1.04, p = .31.

Table 2

Means as a function of expectations condition and product's type

	Positive expectations		Control	
	Version +	Version -	Version +	Version -
Disconfirmation	3.02	2.38	3.09	2.95
	(.66)	(.29)	(.87)	(.85)
Delight	3.70	2.68	3.67	3.58
	(.82)	(.58)	(.81)	(.75)

Note. Standard deviations are shown in parentheses.

Disconfirmation of expectations. An ANOVA with expectations condition and type of product on disconfirmation of expectations revealed a main effect of expectations conditions, $M_{(\text{Positive})}$ = 2.65, SD = .60 vs. $M_{(\text{control})}$ = 3.07, SD = .85, F (1, 51) = 5.03, p < .05, a trend main effect of type of product, $M_{(\text{Version +})}$ = 3.03, SD = .75 vs. $M_{(\text{Version -})}$ = 2.70, SD = .70, F (1, 51) = 3.55, p = .065 and as expected a trend expectation condition x type of product interaction, $M_{(\text{Positive, Version +})}$ = 3.02, SD = .66 vs. $M_{(\text{Control, Version +})}$ = 3.09, SD = .87 vs. $M_{(\text{Positive, Version -})}$ = 2,38, SD = .29 vs. $M_{(\text{Control, version -})}$ = 2.95, SD = .85, F (1, 51) = 3.26, p = .07. Participants in the positive expectations condition using the inferior-quality E-book

experienced greater negative disconfirmation compared to other participants who used the superior-quality E-book.

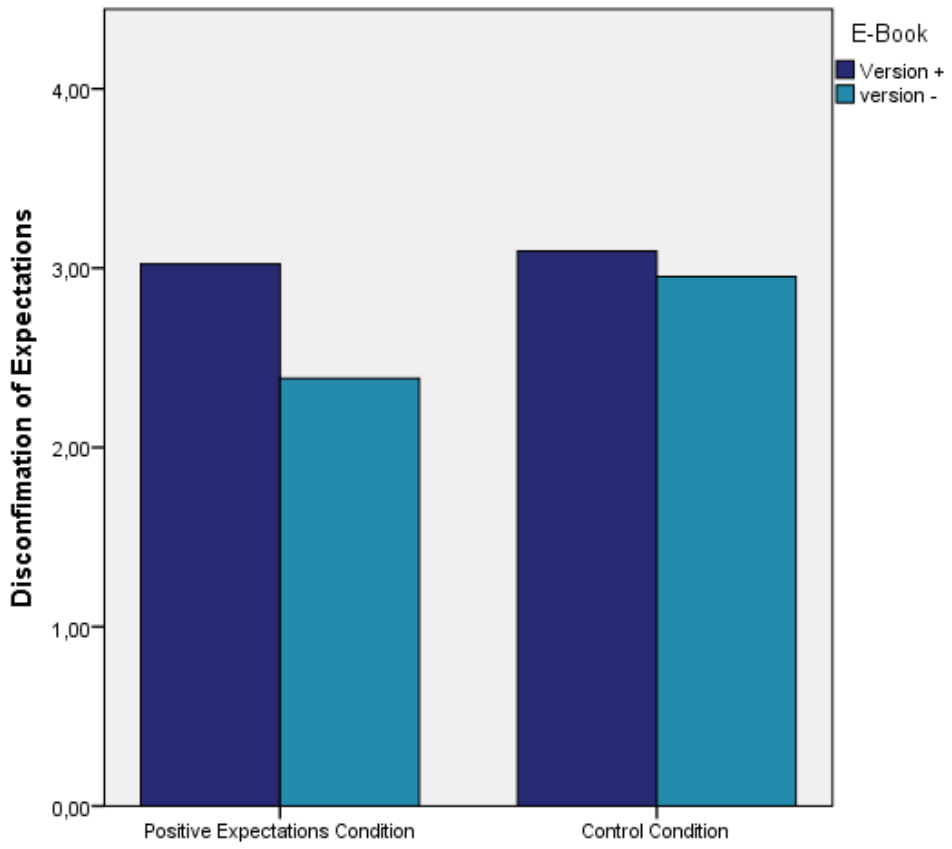

Fig. 6. Disconfirmation of Expectations

Influence of the disconfirmation of expectations on positive and negative emotions. Whether the disconfirmation of expectations influences emotions, we should observe an expectation condition x type of product interaction. The three positive emotions “Delight”, “Excitement” and “Security” and the three negative emotions “Anxiety”, “Anger” and “Disappointed” were entered as independant variable in an ANOVA. We only found significantly results on delight. Indeed, an ANOVA revealed an main effect of condition $M_{(\text{Positive})}$ = 3.19, *SD* = .86 vs. $M_{(\text{control})}$ = 3.62, *SD* = .77, F (1, 51) = 4.73, p < .05, a main effect of type of product, $M_{(\text{version +})}$ = 3.68, *SD* = .80 vs. $M_{(\text{version -})}$ = 3.13, *SD* = .75, F (1, 51) = 8.16, p < .05 and as expected a trend expectation condition x type of product interaction, $M_{(\text{Positive, version +})}$ = 3.70, *SD* = .82 vs. $M_{(\text{Control, version +})}$ = 3.67, *SD* = .81 vs. $M_{(\text{Positive, version - })}$ = 2,68, *SD* = .58 vs. $M_{(\text{Control, version -})}$ = 3.58, *SD* = .75, F (1, 51) = 5.49, p <.05.

Thus, H1 is partly validated. We did not observe significant effects of users' disconfirmation on anxiety, disappointment, security and excitement. Nevertheless, we found that users experiencing negative disconfirmation were less delighted than other users.

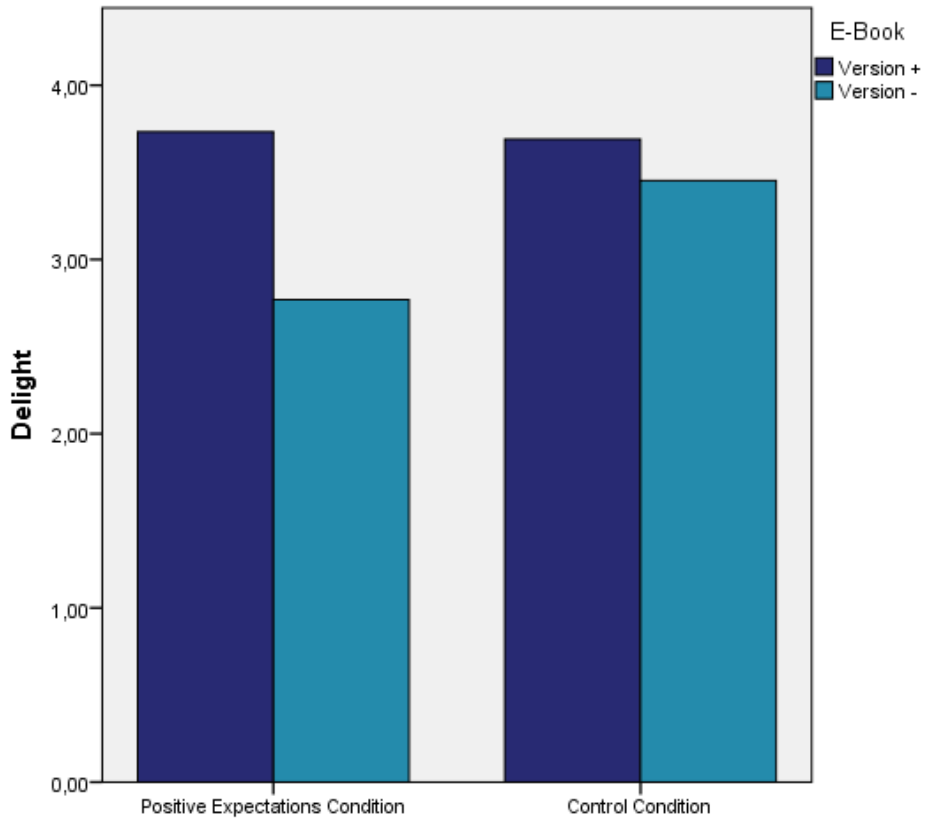

Fig.7 *. Delight after the E-Book Usage*

Effect of delight on attitude. We conducted an analysis in which attitude served as the dependent variables. Attitude was regressed on expectations, positive emotions, negative emotions, perceived utility, perceived facility and innovativeness. First, only delight lead to an increase in attitude (β = .42, p < .01). So H2 is partly validated. We only observe the influence of delight on attitude. In addition, both perceived utility and perceived facility had significant positive effects on attitude. Results are consistent with H3 and H4. The effects of expectations and innovativeness on attitude were non- significant.

Usage Intention. A one-step regression analysis (cf. table 3) showed that usage intention is influenced by perceived utility (β = 54, p < .01), attitude (β = .36, p < .05) and innovativeness (β = .16, p < .05). Results are consistent with H5.

Table 3

Multiple Regression Analyses on Attitude and Intention as a function of Delight and ATM variables

	Attitude [a]		Behavioral intention [b]	
	B	t	β	t
Variables				
Positive expectations	**.24**	**2.44****	.06	ns
Negative expectations	.052	Ns	.02	ns
Delight	**.35**	**3,01***	.02	ns
Perceived utility	**.27**	**2.44****	**.54**	**5.3***
Perceived facility	**.33**	**3.55***	.04	ns
Innovativeness			**.16**	**2.1****
Sex			.03	.ns
Attitude			**.36**	**2.1****

*p < .01, ** p < .05, [a]R2 = .58 [b]R2 = .74

Discussion

In this study, we investigated the role of emotional experience in the evaluation and acceptance of an innovation. We manipulated the expectations of users and tested two versions of an electronic book (to induce changes in user experience). Indeed, as mentioned earlier, this study addressed two goals. First, we studied the influence of top-down processes on user experience. As such, our results indicated that users' affective expectations influenced the way users feel about a product. Nevertheless, among the various specific emotions measured – delight, excitement, security, anxiety, anger and disappointment- delight was the only specific emotion influenced by the users' expectations. Chitturi et al. (2008) provides some interesting insights to explain these results. In fact, authors have shown that products that meet or exceed customers' hedonic wants enhance user delight whereas products that meet or exceed customers' utilitarian wants enhance user satisfaction. Also they showed that excitement is an antecedent of delight whereas security is an antecedent of satisfaction. Thus, whether our results did not show an impact of affective expectations on excitement and security, descriptive statistics indicates in line with Chitturi et al. (2008), that a significant

positive correlation exists between delight and excitement whereas there is no significant relationship between delight and security.

Second, the goal of this study was also to identify the predictors of product evaluation and behavioral intention. Such as, we found that delight was the only specific emotion influencing the product's evaluation. In addition, specific negative emotions did not impact the evaluation of the innovation. This latter finding is perhaps the fact of a "suspension judgment", a phenomenon introduced by Wood and Moreau (2006). According to them, users might hold their negative feelings "at bay in the initial assessment of the product" (p. 50). Thus, even if they experience specific negative emotions, they may not rely to them to evaluate a product.

Lastly, we tested the influence of expectations, delight, attitudes and covariates on the intention to use. We found that attitude, innovativeness and perceived utility were the only predictors of usage intention. However, "delight" and "perceived facility" did not impact the usage intention. Similar results were already found in the acceptance literature. Indeed, it has been found that perceived facility has not always a direct effect on usage intention (King & He, 2006; Venkatesh & Morris, 2000).

To conclude, our present study allows confirming the importance of specific emotions in determining the evaluation of an innovation. It mainly highlights the importance of taking into account top-down processes when studying user experience and the importance of studying specific emotions in human-technology interaction.

Limitations of the study and future research directions. There are two limitations that need to be acknowledged and addressed regarding the present study. First, it is limited in that it only focused on positive and neutral expectations. Indeed, our manipulation procedure of negative affective expectation failed. Ways of inducing expectations should be carefully considered. Second, Santos and Boote (2003) have explored two types of expectation: predictive "will be" expectation and peripheral expectations. Concretely in our study, we were interested in the first type of expectation that is to say what the user think he/she will feel. Studying other type of expectations such as the *"desire"* -what the consumer wants to happen- (p. 143) could also bring interesting insights on how specific emotions arise (Spreng et al., 1996).

Besides, future research should address new ways to measure delight and post-use emotions in order to improve the relevance of the user experience. Also, when studying the specific emotion formation process or the impact of specific emotions on evaluations and

decisions, one should consider the type of benefits – *utilitarian versus hedonic*- proposed by the product (Chitturi et al., 2008)

***Implications for designers*.** Designing for positive emotions such as delight requires improving product or service performance (hedonic and utilitarian benefits) in order to generate positive disconfirmations and promote a positive user experience. Besides, designers or marketers should note that overpromising can be very detrimental. Affective expectations shape users 'experience and the actions inherent to the emotion they experiment. A product that fails to meet expectations or promises can evoke specific negative emotion such as anger and can therefore involve complaint behaviour or negative word of mouth.

CHAPTER 2

WHY ARE WE PURCHASING PRODUCTS? TOWARDS A DYNAMIC VIEW OF THE IMPACT OF SPECIFIC EMOTIONS ON PRODUCT DESIRABILITY

In the preceding chapter, we have, first, highlighted the impact of top-down processes on user experience, and secondly, we have outlined the impact of specific emotions on product's evaluation. Specifically, we have shown that users' expectations about how they will feel toward a specific product impact the actual user emotional experience. In order to go further in understanding the dynamic effects of specific emotions, we propose in this chapter to investigate how specific emotions (anger, fear and amusement) influence the desirability of innovative products linked with either hedonic or less hedonic meaning cues. This research allows identifying a moderator of the relationship between incidental emotions and product desirability.

Why are we purchasing products? Towards a dynamic view of the impact of specific emotions on product desirability

Summary

This research investigates how specific incidental emotions influence product's desirability. Drawing on the emotion regulation process, we examined the influence of three specific emotions – fear, anger and amusement and investigated how the nature of product (hedonic versus less hedonic) moderates the emotion-desirability relationship. One hundred and eighty nine (189) undergraduates volunteered to participate on the study. Depending on the experimental condition, participants were induced to feel anger, fear or amusement through an autobiographical recall method. Then, they were asked to evaluate either a hedonic product or a less hedonic product. Our results demonstrate the motivational implication of emotions on product desirability and show that findings vary depending on the nature of product.

Key words: Incidental emotions, desirability, type of product, emotion regulation.

Introduction

Human action (i.e., purchasing products) is predominantly guided by motivation and desired end state. So it is not surprising that concepts such as motives, goals and desires are often regarded when considering the why of consumption (Ratneshwar, Glen, Mick & Huffman, 2011). For example, it has been shown that goals such as enjoyment, usefulness and expressiveness play an important role in consumer's products choice (Nysveen, Pedersen, & Thorbjørnsen, 2005). Thus, in line with dynamic affect regulation theories (Clark & Isen, 1982; Gross, 1998; Lazarus & Folkman, 1984; Zillmann, 1988) and the undo effect of positive emotion (Fredrickson, 2000), we argue that purchasing product could be viewed as a way to cultivate positive emotions.

Indeed, an important literature of emotion regulation has highlighted the people's hedonic tendencies to manage or regulate their emotions (Baumeister, 2002; Gross, Richards, & John, 2006). For instance, one might purchase goods to make himself or herself feel better (Mick & DeMoss, 1990). Broadly speaking, affect regulation models suggest that people spontaneously attempt to improve their current affective state when feeling bad and to protect

it when feeling good (Andrade, 2005). That is, affect regulation relies on a hedonic goal pursuit assumption, in which positive affect represents a goal (or reflects achievement of a goal).

Dynamic affect regulation models have historically been opposed to static affective evaluation models in order to explain the impact of emotion on behavior and cognitive processes. In this chapter, we propose to review these models in order to predict the influence of incidental emotions on product desirability. The aim of the present research is to understand how and why specific emotions influence product's desirability. Drawing on specific emotion-based approaches, we propose to extend the previous research on affect regulation that were mainly based on valence-based approaches.

I Theoretical background

I.1 Dynamic affect regulation model versus static affective evaluation model

How might incidental emotions influence behavior and cognitive processes? Two theoretical perspectives are generally used to answer this question: static affective evaluation models and dynamic affect regulation model. First, static affective evaluation theories include theories such as affect as information (Schwarz & Clore, 1983) and mood-congruency (Bower, 1981; Isen et al., 1978b). These models focus on the impact of affective states on cognition during an evaluative judgment (so, at a single point in time). They suggest that affect influences cognition and action tendencies either directly, by providing people with unique information (Schwarz & Clore, 1983), or more indirectly, by making mood congruent information more accessible in people minds (Bower, 1981; Isen et al., 1978). Second, dynamic affect regulation theories mostly rely on theories such as mood-maintenance (Clark & Isen, 1982), coping (Lazarus & Folkman, 1984), mood management (Zillmann, 1988) and emotion regulation (Gross, 1998). These theories incorporate dynamic aspects such as individuals' hedonic goals (i.e., preferences for feeling good). They propose that users may consider possible affect discrepancy between two points in time (i.e., *what I feel now* and what *I could feel in the future as a result of the behavioral activity*), and this anticipated affective change is likely to influence behavior.

However, Andrade (2005) showed in two experiments that it is possible to integrate these two groups of model to explain and predict the impact of affect on behavior and

behavioral intentions. In their first experience, participants were induced to feel either positive affect or negative affect or neutral affect. Then, a picture of chocolate bars was presented and participants were asked to indicate in which extent they would be willing to try the product. Also, they were told that they would have to answer a 6 min. survey if they decided to taste it. This experiment was based on the premise that women consider that chocolate has some mood-lifting properties more often than men. Results showed that when the mood-lifting cue was present (female participants), sad and happy participants were more willing to try the chocolate than the control participants. Conversely, when the mood-lifting cue was absent (male participants), only positive participants were more willing to try the chocolate than the control participants. Sad participants were less willing to try chocolate than the control participants. Accordingly, when no mood changes are expected (absent mood-lifting cue), affective evaluation mechanism guides behavioral intention and when participants expect the behavioral activity to make them feel better, affect regulation mechanism guides behavioral intention.

Besides, Garg, Wansink, and Inman (2007) have extended findings from Andrade (2005) by studying the impact of specific incidental affect on actual consumption. For example, in their study 2, participants were asked, after the affect manipulation, to read an event narrative in order to give time to consume either M & M's (hedonic unhealthful product) or Raisins (less hedonic healthful product) according to the experimental condition. Consistent with the integrative mood management and mood evaluation framework (Andrade, 2005), authors found that sad participants consumed more M & M's than control and happy participants. In contrast, in the case of raisins, happy participants consumed the most and sad participants consumed the least.

That is numerous studies have shown that positive and negative emotions can trigger specific action in a perspective of emotion regulation (Andrade & Cohen, 2007; Andrade, 2005; Fishbach & Labroo, 2007). Consequently, following an emotion regulation perspective we can argue that consumer evaluation is influenced by the motivation to maintain positive emotions and to moderate negative emotions.

I.2 The present study and hypothesis

In the present study, we propose to extend previous work on emotion regulation. From a specific emotion-based approach, we study the impact of three specific emotions, generally involved in consumer behavior (Laros & Steenkamp, 2005), on product desirability:

Amusement, fear and anger. These three emotions have different valence and different appraisal of certainty. Amusement is an emotion with positive valence, and both anger and fear are emotions with negative valence. According to Smith and Ellsworth (1985b), amusement and anger have a strong appraisal of certainty and fear lacks strong appraisal of certainty.

Whether numerous studies have shown that understanding the appraisal dimensions of specific emotions is useful to explain and predict the influence of emotion on behavior or cognitive processes (Lerner & Keltner, 2001), other studies have also suggested the importance to take into account the motivational dimensions of emotions (Raghunathan et al., 2006; Rajagopal Raghunathan & Pham, 1999; Zeelenberg & Pieters, 2006). For example, emotion may play a central role in activating specific goals (Castelfranchi, 2000).

That is drawing on regulation emotion theories, we hypothesize that:

H1: Participants in a happy state are more likely to prefer the product linked with hedonic meanings than the control condition participants in order to maintain their positive feelings;

H2: Participants in a happy state are less likely to prefer the product linked with less hedonic cues than the control condition participants in order to maintain their positive feelings;

H3: Participants induced to feel anger are more likely to prefer both products that the control condition participants in order to decrease their negative emotions;

H4: Participants induced to feel fear are more likely to prefer both products that the control condition participants in order to decrease their negative emotions;

Through the appraisal tendency approach, Lerner & Keltner (2001) have proposed that "specific emotion activates a predisposition to appraise future events in line with central appraisal dimension that triggered the emotion" (p. 147). Because fear and anger differ in terms of certainty and control dimension, they showed, for example, that fearful people are less optimistic than angry people. Thus, we hypothesize that:

H5: Participants induced to feel anger (emotion associated with a heightened sense of certainty) are more likely to prefer both products than participants

induced to feel fear (emotion associated with a heightened sense of uncertainty)

II Method

II.1 Participants and Design

One hundred eighty nine students (122 females and 67 males, M_{age} = 21.43; *SD* = 3.97) at the University of Pierre-Mendès-France (France) participated in this study. Participants were told that they were taking part in two unrelated studies: a first study on short-term memory and a second study on product's evaluation. To enhance the credibility of the study, we used different fonts for the instructions and for the questionnaires of the two supposed studies. As a reward for their participation, respondents were given the option to enter into a raffle draw for a prize. All participants were randomly assigned to one condition of 4 emotions (fear, anger, amusement, control) x 2 products type (hedonic versus less hedonic) between-subjects design.

II.2 Procedure

Participants were run one at a time in the laboratory. First, the distinct emotion states were induced using an autobiographical recall method. Participants were asked to remember and recount an event related to a specific emotion (amusement or anger or fear or control) (cf. Appendix 5, 6, 7 and 8). For instance, in the fear condition, participants were asked to recall "a specific event where they have seen the presence of a threat or risk to themselves or others and when they felt the need to escape or protect themselves".

Next, half of the participants evaluated the hedonic product whereas the other half evaluated the less hedonic product. For that, they completed a 5 items scale ("*I find this product attractive", "I really like this product", "my feeling about this product is positive", "I would love to use this product", and "I am seduced by this product"*) from 1 "not at all" to 9 "totally". The complete task took between 30 and 40 minutes.

III Results

Pretest. A group of 83 participants (22 males, 57 females and 4 students did not report their gender; M_{age} = 21.50; *SD* = 4.84) were asked to rate either the hedonic version or the less

hedonic version of the product using 8 items: Practical, tedious, fun, functional, unnecessary, entertaining, unpleasant, useful (7-point scales from “not at all” to “extremely”). We averaged the ratings for the hedonic scale and the ratings for the utilitarian scale. As expected, participants in the less hedonic condition rated the product higher on the utilitarian benefits than did the participants in the hedonic condition ($M_{less\ hedonic}$ = 4, 66 vs. $M_{hedonic}$ = 4, 01; F (1, 80) = 4, 81, p < .05). No difference was found in the hedonic benefits among the groups.

Desirability. The distribution was negatively skewed, and we applied a log transformation to the data. That is, the analyses on desirability were performed in the transformed data.

A multicontrast linear regression was performed (see appendix 25). We introduced 3 contrasts linked to the emotion condition. The first contrast tests the difference between the amusement condition and the control condition. The second contrast tests the difference between the two negative conditions and the control condition. The third contrast tests the difference between the amusement condition and the two negative conditions. The interaction between the type of product and the 3 contrasts were also introduced into the regression.

Figure 8 shows the effects of emotion induction and type of product on desirability. The descriptive analysis supports our assumptions H1, H2, H3, and H4. Indeed, we note that participants induced to feel amusement found the hedonic product more desirable that participants in the no emotional control condition. By contrast, participants who were induced to feel amusement did not found the less hedonic product more desirable that the participants in the control condition. However, it does not show significant differences in preferences between participants induced to feel anger and participants induced to feel fear. So, this result does not support our hypothesis H5.

The statistical analysis allows us to concur with findings from the descriptive analysis. Whether the main effect of type of product and emotions were not significant, the interactions between emotion and product were significant. Consistent with our hypothesis (H3 and H4), we found that participants who were induced to feel anger and fear evaluated both products as more desirable than the participants from the control condition, B = 0.06, t (183) = 2.17; p < .05. Also, we found a significant difference between participants who were induced to feel negative emotions and participants who were induced to feel positive emotions among the less hedonic product, B = 0.08, t (183) = 2.95; p < .05. Contrary to H5, no difference was shown between participants who were induced to feel fear and participants who were induced to feel anger. Thus, in our study, the specific negative emotional states did not have an independent influence on product’s desirability.

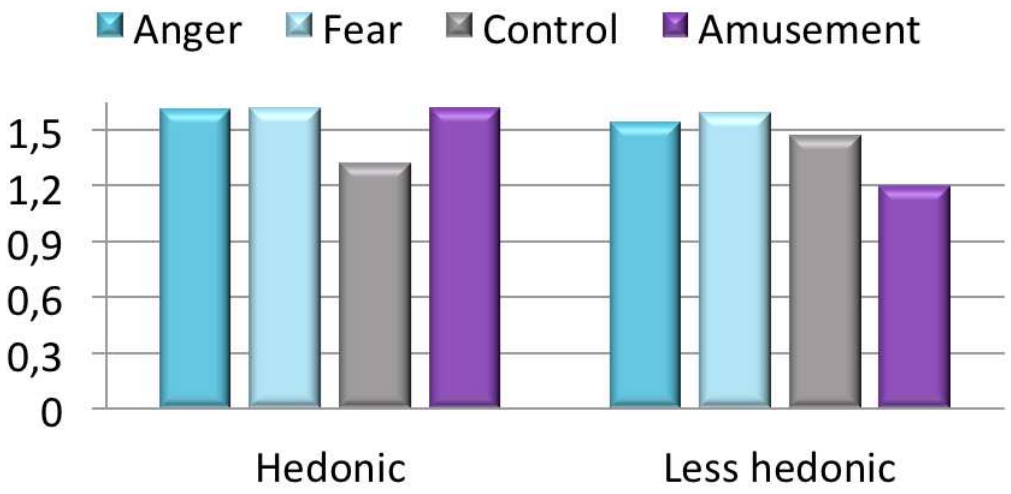

Fig. 8. Evaluations of the hedonic and the less hedonic products as a function of emotion

Discussion

The main objective of this study was to test the influence of specific emotions on product desirability. Based on dynamic emotion regulation models, we proposed that individuals in a negative state (fear and anger) tend to move toward a product allowing them to repair their emotional state, whereas individuals in happy state tend to move towards a product allowing them to maintain their emotional state, or tend to avoid a product that is likely to change their positive state. In this study, we used two types of products: a hedonic product linked to fun experience and a less hedonic product linked to a more functional experience. The results indicate that the influence of specific emotions on the product's desirability vary, depending on the type of products. Participants who were in a negative state (fear or anger) and in a positive state (amusement) assessed the hedonic product as more desirable than participants in the no emotional control condition. In contrast, only participants who were in a negative state of fear or anger assessed the less hedonic product as more desirable than participants in the control condition. In fact, the participants who were in a positive state of amusement found the less hedonic product as less desirable than participants in the control condition.

That is, the results are consistent with those of Garg, Wansink, and Inman (2007) who developed an integrative affective management and affective evaluation framework. Indeed, in our study, it appears that happy people evaluated the "less hedonic" product as less desirable than did the participants in the control condition, as the mood management predicts.

Nevertheless, it should be noted that our results are not totally comparable with their results. In their study, Garg and Collaborators have used two types of products: raisins (less hedonic product) and M & M's (hedonic product) but unlike our study, the less hedonic product used in their study is not linked to mood-changing cues, which explain that their results are consistent with the affective evaluation framework (versus emotion regulation framework). Our findings allow highlighting the motivational implication of emotions on product desirability.

Besides, we hypothesized that angry people will find product more desirable than fearful people, but contrary to our predictions, we did not find any difference between fearful participants and angry participants. Our results can be explained by the fact that the product used in our study is not ambiguous in terms of certainty and control. Indeed, it has been shown that anger generally affects risky evaluation (DeSteno, Petty, Wegener, & Rucker, 2000). Thus, in fact, the cognitive appraisals of the specific emotions of anger and fear did not account for their influence on the product desirability. Thus, it seems that users might approach innovative products in order to cultivate positive emotions.

***Implications for designers*.** Studies that have focused on the emotion regulation consumption phenomenon often suggested that it is important for companies to develop better advertising campaign to engage people to consume or buy their product. Instead, we believe that it is important to develop products to make people feel better about their lives. Therefore, firms should put their efforts into developing product with emotional implication and not only into developing advertising campaign (emotional window dressing). Designers must engage users in the design process to create projects with emotional cues and to develop products consistent with users' value. Co-design and participatory design approaches provide a great opportunity to engage users in the design process and to develop product or services that better fits with their aspirations (Alam, 2002; Kristensson & Magnusson, 2010; Steen, Manschot, & De Koning, 2011). Also scenario based designed seems a good tool to define the goals of a design projects and anticipate the experience desired by users.

CHAPTER 3

LET'S PLAY OR SAVOUR: THE INFLUENCE OF SPECIFIC EMOTIONS ON INNOVATIVE PRODUCT DESIRABILITY

Our second study provided additional evidence in support of our claim. First, findings demonstrated that users anticipate how a product will make them feel (product can be linked to more or less hedonic cues), and so that, the effects of specific emotions on product's desirability vary, depending on the type of product or the experience proposed by the product. Second, findings highlighted the motivational implication of specific emotions on product desirability. Indeed, results suggested that user evaluation can be influenced by the motivation to maintain positive emotions or to moderate negative emotions. In the next two studies, we propose to explore more specifically the motivational dimensions linked to specific positive emotions in order to advance prediction on how specific emotions influence products' desirability.

Let's Play or Savor: The Influence of Specific Emotions on Innovative Product Desirability

Summary

How specific positive emotions influence product's desirability? Two studies (Studies 3 and 4) examined the hypothesis that emotion-specific short-term goals might explain the impact of specific emotions on product's desirability. We addressed two specific positive emotions – amusement and satisfaction-, and used two type of product (welfare versus recreational). Different ways to induce emotions, and to measure emotion-specific goals were proposed. In Study 3, ninety seven (97) undergraduate participants were induced to feel either amusement or satisfaction through scenarios. Findings show that amusement enhances the desirability of recreational product and that satisfaction enhances the desirability of welfare product. Study 4, conducted on one hundred and twelve (112) undergraduates, allows replicating findings of Study 3 using different methods to induce emotions- autographical recall-, and to measure emotion-specific goals. Our results demonstrate that emotion specific-goal mediates the influence of specific positive emotions on product desirability.

Key words: Amusement, satisfaction, emotion-specific short-term goals, thought-action repertoires, desirability.

Introduction

The differential impact of same-valence emotions on cognitive outcomes is well established (DeSteno et al., 2000; Garg, Inman, & Mittal, 2005; Lerner & Keltner, 2000). Also, a series of review investigating the relationship between emotion and judgement and decision making have been proposed (Angie, Connelly, Waples, & Kligyte, 2011; Lerner & Tiedens, 2006; Pham, 2007). Correspondingly, two line of research are generally used to explain and predict how specific emotions influence different judgment[3].

First, the Appraisal-Tendency Framework (Lerner & Keltner, 2000, 2001; Lerner & Tiedens, 2006) proposed that emotions activate appraisal tendencies that guide subsequent

[3] We can also mention a third approach: the level of activation (Rucker & Petty, 2004). Whether amusement has been linked with activation and satisfaction with inactivity, we share the Fredrickson (1998, 2004) point of view that these tendencies are far too general too be called specific.

judgement. Based on Ellsworth and Smith (1988), the ATF proposes that each emotion is defined by one or more cognitive-appraisal dimensions. Briefly, there are six dimensions allowing differentiating emotions: certainty, pleasantness, attentional activity, anticipated effort, control and responsibility. For example, anger is characterized by three central dimensions: certainty, unpleasantness and individual control. By contrast, fear is defined by uncertainty, unpleasantness, and situational control. That is, Lerner and Keltner (2001) observed that fear tends to trigger risk-aversion, whereas anger tends to trigger risk-seeking.

Second, drawing on evolutionary theory, a number of studies have investigated the emotion-specific functional motives for examining the effects of different emotions on judgement (Bartlett & DeSteno, 2006; Fredrickson, 1998, 2001b; Keltner, Haidt, & Shiota, 2006; Shiota, Campos, Keltner, & Hertenstein, 2004; Williams & DeSteno, 2008). For instance, Griskevicius et al. (2010) suggested that *emotion-specific short term goals* might explain the specific effects of emotions on judgment and choice. Indeed, they found that the emotion of satisfaction enhance the desirability of products such as a bed or a dishwasher, which help to achieve the goal to be in familiar and comfortable environment whereas pride enhance the desirability of products such as a watch or a pair of shoes, which help to achieve the goal "to be noticed by others and to draw positive attention to one-self" (p. 246).

That is, whether the informational function of emotion has largely been investigated, its motivational function remains less explored. Through the "feeling is for doing model", Zeelenberg and Pieters (2006) suggested that emotions do not only give us information about how one feel about how he/she is doing but also direct goal-related behaviour that is to say tell one what to do next. For instance, Nesse (2006) have shown that sadness which is generally associated with experiencing a painful loss, can motive one to attempt replace the lost resource and to prevent future losses.

Furthermore, while most prior work has focused on negative emotions, a growing body of literature now considers the different effects of positive emotions (Cavanaugh, 2009; Fredrickson, 1998, 2001, 2004; Griskevicius et al., 2010). In particular, Fredrickson (1998, 2001, 2004) has developed the Broaden-and-Build theory of positive emotions which considers that positive emotions extend habitual modes of thinking or acting and broaden peoples' momentary thought-action repertoires such as play, explore, savour or integrate.

I Research Implications: the mediating role of emotion-specific short-term goals

In the present research, we propose to extend recent research offering function-based definitions of specific positive emotions (Bartlett & DeSteno, 2006; Fredrickson, 1998, 2001a; Keltner et al., 2006; Shiota et al., 2004; Tracy & Robins, 2007; Williams & DeSteno, 2008). Particularly, we intend to replicate and extend Griskevicius and collaborators' research (2010) by focusing on two positives emotions – *satisfaction* and *amusement*. That is, building on previous literature, we make predictions on how this two emotions lead to different outcomes. By using the theorized function of each emotion and correspondingly the emotions-specific short-term goals, we derived hypotheses on how and why amusement and satisfaction influence the desirability of specific classes of innovative products. Below, we discuss in more detail the two emotions of satisfaction and amusement.

I.1 Satisfaction

Only few researches have investigated the behavioural function of satisfaction. Generally linked to a present event (Cavanaugh, 2009) or inactivity (Frijda, 1986), satisfaction is seen to create "the urge to sit back and savour current life circumstances" (Fredrickson, 2004, p. 1396). In a recent study, Griskevicius et al. (2010) have shown that experiencing satisfaction enhance the desire for products generally used in a safe, familiar and comfortable environment. Because satisfaction enhances the goal to savour and to be in safe, familiar and comfortable environment, we hypothesized that satisfaction would enhance the desire for welfare products but not the desire for innovative products that do not help achieve this goal. Satisfaction is not considered by some theorists as an emotion. Nevertheless, we consider that satisfaction involved all emotional components that is to say behavioural (facial and voice expression), cognitive and subjective components (Lazarus, 1991).

I.2 Amusement

In general, real smiles (Duchenne Smile) are characteristic of the emotion of amusement. Generally experienced during social or cognitive play (Pellegrini & Smith, 2004; Shiota et al., 2004), amusement is seen to enhance the desire to play (Fredrickson, 2004; Frijda, 1986) and increases effort in prosocial behaviour (Bartlett & DeSteno, 2006).That is,

we hypothesized that amusement will enhance the desire for recreational products but should not enhance the desirability of products that do not help achieve this goal.

I.3 Overview

In two experiments we manipulated participants' emotional states and examine its effects on innovative product desirability. Specifically, we explore how emotions differentially influence product's desirability. We used two different measures to access participants' emotion-specific short-term goals: one measure used in Griskevicius et al. (2010) (Study 3) and one measure developed by Fredrickson (2004) (Study 4). Indeed, in the emotion literature different concepts are mentioned and this study aims at clarifying how specific emotion function-based is related to the concept of thought-action repertoires. Also, we used two different methods to elicit emotions: scenarios (Study 3) and autobiographical recall (Study 4). Finally, we test our hypotheses using different stimuli.

II Study 3

The current work examines the potential effects of two induced positive emotions, satisfaction and amusement, relative to neutral condition on motivation. Though, we investigate the mediating role of specific short-term goals. We argue that the elicitation of specific emotion should activate specific short-term goals linked to the underlying fitness-enhancing function of that emotion.

> **H1**: Considering the hypothesized function of satisfaction, we predicted that this emotion should enhance the desire for the welfare product because satisfaction should lead people to want savour and enjoy safe and comfortable environment.
>
> **H2**: Similarly, considering the hypothesized behavioural function of amusement, we predicted that amusement should enhance the desirability for the recreational product because amusement leads people to want to play.

II.1 Method

Participants and Design. Ninety seven students (44 women and 53 men; M_{Age} = 21.8, *SD* = 2.8) were randomly assigned to one of the six experimental conditions: emotional state

(Satisfaction, Amusement, Neutral) crossed with products (Uma/Gustative Tattoo, Thermopod/Thermocool Sole). As a reward for their participation, respondents were given the option to enter into a raffle draw for a prize. Both innovative products were designed by the IXIADE Company. *Uma* is a gustative tattoo associated with various flavours. *Thermopod* is a thermocool sole with a technology providing a constant venting and ideal foot temperature.

Procedure. On entering the lab, the participants were informed that they would be participating in several short, unrelated studies: a research project on memory and a research project on consumer judgment. First, Participants were randomly assigned to read either an amusement scenario or a satisfaction scenario or a control scenario. They were told that they would be asked to recall information about the story later in the session. Then, we moved to the consumer judgment in which they were asked to evaluate one of the three products. The participants were told that the consumer judgment study was designed to allow a little time before the recall.

Products desirability. After reading their randomly assigned scenario, participants were asked to evaluate one of the two innovative products. They completed 4 items (e.g., "the product is appealing"; "I am thrilled by this product") from 1 (*strongly disagree*) to 9 (*strongly agree*).

Manipulation check items. All participants reported the intensity of the emotion felt from 0 (*I haven't felt any emotion*) to 8 (*I felt intense emotions*) and 0 (*I felt calm*) to 8 (*I felt excited*). Then, they completed positive emotions (i.e. love, satisfaction, amusement, joy) and negative emotions (i.e., anger, fear, sadness, degust) items from 0 (*not at all*) to 8 (*a lot*).

Goals measures. Following Griskevicius et al. (2010), participants responded to 10 items related to their motives after reading the scenario (i.e., "to be in a comfortable environment", "to be in a secure environment", "to be with by friends or my family", "to distract myself") from 1 (*not at all*) to 9 (*a lot*).

Additional measures. The questionnaire required participants to rate 5 innovativeness items (e.g. "I like to buy and to try new products", "I usually try new products before my friends") (Roehrich, 2004) from 1 (*not at all*) to 9 (*a lot*). Items were reverse coded where appropriate.

After completing the questionnaire, the participants were then thanked and debriefed. They were probed for any suspicion concerning the relationship between the two tasks. None of the participants expressed any awareness or suspicions that the two tasks were related.

II.2 Results

Manipulation checks. The feelings manipulation was successful. The amusement manipulation produced a greater intensity of amusement than the control condition (M = 5.52 vs. M = 2.84; p < .001) and compared with the satisfaction manipulation (M = 5.52 vs. M = 3.87; p < .001). In contrast, the satisfaction manipulation produced a greater intensity of satisfaction than the control condition (M = 5.50 vs. M = 2.81; p < .001) and compared with the amusement manipulation (M = 5.50 vs. M = 2.28; p < .001).

Desirability. Our primary prediction was that amusement enhances the desirability for the recreational product and that satisfaction enhances the desirability of the welfare product. As predicted, a 3 (emotions) x 2 (product) omnibus ANOVA on desirability (α = 88) revealed a significant interaction between induced emotions and product type (F (2, 91) = 7.68; p <.01). Results showed that the welfare product was evaluated more positively under satisfaction ($M_{satisfaction}$ = 5.23 vs. $M_{control}$ = 4.29; B = .31, t (92) = 2.81; p <.05), whereas the recreational product was evaluated more positively under amusement ($M_{amusement}$ = 5.63 vs. $M_{control}$ = 4.88; B = .22, t (92) = 1.99; p <.05). In contrast, as predicted, amusement manipulation did not enhance the desirability of the welfare product ($M_{amusement}$ = 3.23 vs. $M_{control}$ = 4.88; B = .22, t (92) = 1.99; p <.05); and the satisfaction did not enhance the desirability of the recreation product $M_{satisfaction}$ = 5.23 vs. $M_{control}$ = 4.29; B = .18, t (92) = 1.70; p <.09, suggesting a tendential effect).

Mediational analyses. Here, we tested whether the emotion specific-desire mediates the influence of induced emotion on product desirability. As Griskevicius and collaborators (2010), we applied the mediation test method suggested by Baron and Kenny (1986). As a first step, we present results that relate to the recreational product, and as a second step, we present results for the welfare product.

Recreational product. First, we found that the induced emotion (amusement versus control) has an influence on the predicted mediator (recreational desire); B = -0.41, t (48) = -3.17; p < .05. Secondly, the predicted mediator (recreational desire) has an effect on the product desirability; B = 0.49, t (48) = 3.87; p < .001. Thirdly, the induced emotion

(amusement versus control) has an effect on product desirability (B = -0.29, t (47) = -2.12; p < .05) but this effect went away when the predicted mediator was included in the analysis (B = -0.10, t (48) = -0.77; p = .44).

Welfare product. First, we found that the induced emotion (satisfaction versus control) has a significant effect on the predicted mediator (welfare desire); B = 0.42, t (47) = 3.22; p < .05. Secondly, the predicted mediator (welfare desire) has an effect on the product desirability; B = 0.44, t (47) = 3.34; p < .05. Thirdly, the induced emotion (amusement versus control) has an effect on product desirability (B = 0.45, t (47) = 3.48; p < .001) but this effect decreased when the predicted mediator was in the analysis (B = 0.31, t (47) = 2.20; p< .05).

II.3 Discussion

The aim of the study 3 was to explore how specific emotions influence product's desirability. In doing so, we intended to replicate and extend study from Griskevicius and collaborators (2010) who have suggested that emotion-specific short term goals might explain the specific effects of emotions on judgment and choice. That is, we studied the influence of two specific emotions – amusement and satisfaction – on product desirability. First, in line with our predictions (H1& H2), we showed that amusement enhances the desirability of recreational product and that satisfaction enhances the desirability of welfare product. Second, our results suggested that emotion specific-desire mediates the influence of specific positive emotions on product desirability. This discounting effect confirms that specific emotions direct goal-related behaviour by enhancing specific desire (i.e.; desire to be in the comfortable place when feeing satisfaction or desire to distract one selves when feeling amusement).

Thus, whether the cognitive-appraisal dimensions of specific emotions have been largely studied to explain and predict the effects of specific emotions on cognitive processes (Lerner & Keltner, 2001; Cavanaugh, 2009), it also seems that studying the motivational dimensions of specific emotions is relevant to differentiate an emotional experience from another. Here, for example, we suggested that the experiential content of a specific emotion helps to derive predictions for the influence of specific emotions. Nevertheless, as already mentioned, various concepts are put forward in the literature of specific positive emotion and their differences or similarities are unclear. For instance, Fredrickson (2001, 2004) has proposed the concept of thought-action repertoires to explain the effects of specific emotions. In what ways are the

concepts of “specific emotion desire-based” and “thought-action repertoires” similar? We propose to clarify this issue in our Study 4.

III STUDY 4

Study 4 was designed to clarify how specific emotion desire-based is related to the concept of though-action repertoires. In doing so, we replicated the results of our study 3 by using the goals measure developed by Fredrickson (2004). Also, we used different innovative products and a different emotion manipulation. In order to increase generality, different emotion states of amusement and satisfaction were induced using an autobiographical recall method. Furthermore, as mentioned by Kim, Park, and Schwarz (2010), “a baseline condition is more relevant when one’s theory predicts the elimination of an effect, which requires comparison to a baseline, than when it predicts the reversal of an effect” (p. 989). So, in this Study 4, we did not include a control condition. In this study, our hypotheses were similar as ones formulated in Study 3. We proposed that satisfaction create the desire to savour and that amusement create the desire to play.

III.1 Method

Participants. One hundred and twelve undergraduate students (88 women and 24 men) completed the study on the Internet. They were randomly assigned to the conditions of a 2 (feelings: amusement vs. satisfaction) x 2 (product: recreational vs. welfare) between-subjects design.

Procedures. As for our study 3, participants were asked to participate to a memory study and to evaluate an innovative product. In the following study, we sought to replicate and extend results from the study 3 using other types of emotion-induction procedure. The procedures were similar to those used in study 3. However, this study used different measures of the motivational dimensions and different innovative products.

First, participants completed a different emotion manipulation task. Participants were asked to reminisce an event associated with either amusement or satisfaction (Appendix 16).

Goals measures. After the participants reported their current feelings by responding to a set of emotion adjectives (adapted from Griskevicius et al., 2010), they were asked “to list all the things they would like to do right then” (Fredrickson, 2004, p. 1370). We asked two student assistants to code each statement. They were naïve to condition assignments and

hypotheses. We defined “recreational social activities” as activities carried out with people and associated with moments of laughter and play and “welfare activities” as activities that encourage well-being, comfort and safety. Then, participants were asked to read and evaluate one of the two innovative products.

Stimuli and product evaluation. Two different innovations were selected for this study: *Magic pad* and *Lightzone*. *Magic pad* is a game multimedia tablet which we have classified as a “recreational innovative product”. *Lightzone* is a LED light for residential use which we have classified as a “welfare innovative product”.

Participants reported their attitudes toward the product and purchase intentions by responding to a series of questions. The desirability scale was identical to the one used in study 3. These responses served as the measure of product desirability.

Finally, some questions were also asked to determine their degree of innovativeness. The participants were then thanked and debriefed.

III.2 Results

Preliminary analyses. We completed first a preliminary analysis to determine if some variables could modulate the product’s desirability. No effects on product's desirability were found for participant sex, age and level of innovativity. So, these variables were excluded from analyses.

***Manipulation Checks*.** Three of the participants did not provide ratings for the emotion measures and were dropped from the analysis of the manipulation checks. The feelings manipulation was again successful. A mixed ANOVA on the two feelings indices revealed a significant two-way interaction of induced feeling and feeling indices ($F(1, 110) = 34.18$, $p < .001$). No other effects were significant. As in study 1, the amusement emotions induction produced a greater intensity of amusement ($M_{amusement} = 6.83$ vs. $M_{satisfaction} = 5.42$), whereas the satisfaction emotions induction produced a greater intensity of satisfaction ($_{satisfaction} = 4.51$ vs. $M_{amusement} = 6.08$).

Desirability. A 2 (feelings) x 2 (product) ANOVA on the product evaluation index ($\alpha = .88$) replicated the two-way interaction between induced feelings and product type ($F(1, 54) = 15.60$, $p < .01$). No other effects were significant. As in study 3, the playful product was evaluated more positively under amusement than under satisfaction ($M_{amusment} = 4.55$ vs. $_{satisfaction} = 3.27$; $F(1, 106) = 6.93$, $p < .05$), whereas the welfare product was evaluated more

positively under satisfaction than under amusement ($M_{amusement}$ = 4.48 vs. $_{satisfaction}$ = 5.59; F(1, 106) = 4.84, p < .05).

Meditational analyses. As in the first study of this chapter, we tested whether the emotion specific-desire mediates the influence of induced emotion on product desirability. First for the recreational product, we found that:

- Induced emotion has an influence on the predicted mediator (recreational desire); *B* = -0.59, *t* (55) = -5.45; *p* < .001;
- Predicted mediator has an effect on the product desirability; *B* = 0.45, *t* (55) = 3.76; *p* < .001;
- Induced emotion has an effect on product desirability (*B* = -0.32, *t* (55) = -2.57; *p* < .05) but this effect went away when the predicted mediator was included in the analysis (*B* = -0.09, *t* (55) = -0.61; *p* = .53).

Second, for the welfare product, we observed that:

- Induced emotion has an influence on the predicted mediator (welfare desire); *B* = 0.71, *t* (51) = 7.35; *p* < .001;
- Predicted mediator has an effect on the product desirability; *B* = 0.45, *t* (55) = 3.76; *p* < .001;
- Induced emotion has an effect on product desirability (*B* = 0.30, *t* (51) = 2.25; *p* < .05) but this effect went away when the predicted mediator was included in the analysis (*B* = -0.22, *t* (51) = -1.30; *p* = .19).

III.3 Discussion

The aims of our Study 4 were, first, to clarify in what ways the concepts “specific emotion desire-based” and “thought-action repertoires” are similar, and second, to replicate findings from our Study 3 with a different method of induction. Literature on emotions is abundant and several concepts or theories are pointed out. In the field of positive emotions, Fredrickson (1998, 2001, 2004) has developed the broaden and build theory that seems to provides a useful framework for understanding users behaviour. As already mentioned, she suggested that specific positive emotions broaden thought-action repertoires. Thus, in Study 4, we investigated the though-action repertoires associated with the specific positive emotions of amusement and satisfaction and examined to what extend these could explain the effect of specific positive emotions on product’s desirability.

In accordance with our Study 3, we found that satisfaction enhanced the desirability of welfare product whereas that amusement enhanced the desirability of recreational product. Also, our results highlighted that the thought-action repertoires associated with each specific emotions are unique. Indeed, we found that emotion of satisfaction drives participants toward an innovative product to enable them "to savor" and that emotion of amusement drives participants toward an innovative product to enable them "to play".

Thus, our findings allow to clarity the link between the concepts of "specific emotion desire-based" and "thought-action repertoires" and suggest a need to reflect on how to ensure better linkage between the emotional theories and concept. These would lead to a better understanding on the influence of specific emotions and on the mechanisms and processes explaining user behaviour.

General Discussion

Our both studies support the motivational implication of emotions on product desirability. We illuminated the specific motivational dimensions of two specific positive emotions: welfare motives for satisfaction and recreational motives for amusement. Subsequently, our research does not only replicate the study of Griskevicius and collaborators (2010), but also extend their findings in two ways. First, our experiments replicated the finding that specific positive emotions stimulate specific motives, with the manipulation of another specific positive emotion: amusement. Second, our study 4 suggested that the concept of specific emotion function-based is related to the concept of though-action repertoires. Indeed, the measure developed by (Fredrickson, 2004) appeared to be a relevant measure to access user's motives.

Our research also is consistent with previous research suggesting that emotions dispose individuals toward goal-based actions (Frijda et al., 1989) and lead to broadened response tendencies (Fredrickson, 1998) such as the desire to explore and process new information when feeling interest.

Implications for designers. Our two studies suggest that the desirability of an innovation vary depending on the emotional experience of the user. Indeed, we demonstrated that user experiencing amusement evaluated the recreational product more desirable, while those experiencing satisfaction evaluated the welfare product more desirable. Thus, the

current research allows us to make design recommendations. Designer should not only design for a general positive emotion but rather for a specific positive. The Wii-console is a good example of product designed for amusement – fun, social activities and moments of laugher. After its launch in late 2006, the Wii have emerged as the number 1 in sales. Interestingly, the Wii was able to offer to casual players (a group of friends and family) a new way of playing games.With a view to provide better insights to development teams, it seems interesting to extend these findings by studying the effect of other emotions such as fascination, enthusiasm or interest. Concentrating effort on the emotion experience appears to be an interesting way to design products that evoke specific emotions.

PART III
GENERAL DISCUSSION AND CONCLUSIONS

GENERAL DISCUSSION

The aims of this dissertation were, *first*, to investigate how specific emotions affect innovative products' evaluation and behavioural intention, *second*, to examine the moderators and mediators that affect the influence of specific emotions on product's evaluation. In this section, we propose to discuss the main findings, the contributions of this research and directions for future researches. We also identify limitations and suggest practical applications.

User experience: The influence of affective expectations versus the intrinsic product characteristics

Approaches taking into account emotions were mainly interested in emotions as a response rather than as a process. However, Zeelenberg and collaborators (2006) have, more recently, highlighted the importance to consider emotions at each step of individual's

judgement or behaviours and have distinguished between *anticipated emotions* and *experienced emotions*.

Thus, the aim of our Study 1 was to determine how affective expectations and specific emotions influence an innovative product evaluation and behavioural intention. For this purpose, we studied different specific emotions throughout the process of evaluation: 1// before the use of the innovative product, that is to say when the user forms initials affective expectations – *What emotions am I going to experience?* – And 2// after the use of the product – *What emotions have I experienced?* We also studied satisfaction from an emotional perspective and not only from a cognitive perspective. Indeed, in the expectation disconfirmation models, satisfaction was not conceptualized as a result of a comparative evaluation of the product's quality and the final benefit obtained by the use. Satisfaction was rather conceptualised as a low emotional state associated with confidence and security (Chitturi et al., 2008). The findings of our Study 1 supported several key propositions. For instance, our results confirmed that users' affective expectations influence the way a user feel about a product. Indeed, our results suggested that top-down processes also affect user experience. Nevertheless, we found that *delight* was the only specific emotion influencing the product's evaluation. Indeed, *Satisfaction* did not show any influence on product's evaluation. Thus, in our study, not all specific positive emotions enhanced the desire of users for an innovative product.

Interestingly, our findings point to the emotional approach discussed by Rimé (2009). He considers that the emotional states arise when there is a disruption in the interaction between a human and an object. In our study, the disruption originated in the disconfirmation of the affective expectations. Moreover, our results are consistent in some way with Oliver et al. (1996) who have shown that satisfying users is not enough to induce the desire to use products.

Therefore, our first study leads to the conclusion that further research adopting a specific-based approach of emotion is needed to better predict and explain product's desirability. Also, it seems that products are generally associated with meaning cues informing the user on the emotions on what he/she could experience. We particularly addressed that point in our Study 2, taking into account a dynamic view of the impact of specific emotions on product desirability.

The moderator role of the nature of product in the relation Specific Emotion and Product's desirability

It seems that consumers or users foresee the experience proposed by an innovative product and so that their anticipated emotions directly influence the quality of their interaction with a product (Study 1). In our Study 2, we investigated how specific emotions influence the desirability of innovative product linked with meaning cues (hedonic cues vs. less hedonic cues). Findings obtained in our second study were congruent with Andrade (2005) and Garg et al. (2007). Indeed, results suggested that the influence of specific emotions on the product's desirability vary depending on the type of products (hedonic versus less hedonic). In addition, findings allowed highlighting the motivational implication of specific emotions on product's evaluation. The cognitive appraisal (certitude and control) of the specific emotions did not account for their influence on the product desirability. Consequently, in line with our first study, it seemed appropriate to consider that users generally anticipate how a product will make them feel. Products appeal to meanings and when their meanings are related to users' goal (i.e. to experience positive emotions), products associated with hedonic cues are perceived as desirable. An interesting study could be next to study the impact of specific emotions on innovative product, only associated with utilitarian.

Therefore, our second study leads to the conclusion that developing product in accordance with users' beliefs, expectations and desires offers an opportunity to design for positive emotions. Nowadays many designers try to develop innovative products helping users to experience positive interaction. Storyboards represent in the designers' community an interesting tool to explore human experience and emotional reactions towards a future product. The insights generated by storyboard can then support designers in designing products to evoke specific positive emotions.

Nevertheless, it is important to note that designing for "*interest"* or designing for "*amusement"* is not the same and does not involve the same requirement. In our Studies 3 and 4, we particularly try to develop a better understanding on positive specific emotions. We specifically investigated the dimensions associated with two emotions: satisfaction and amusement.

The motivational implication of specific emotions

Experiential issues play an important role in user product or service development (Pine & Gilmore). So it is becoming essential to better understand experiential contents associated with specific positive emotions. Zeelenberg and his collaborators has developed the "affect is for doing" approach. It implies that to understand the impact of emotion on future behaviour "one should focus on the meaning of emotion for the decision maker's action and take seriously the motivational aspect of emotion" (Zeelenberg & Pieters, 2006). Emotions are associated with different appraisals and differ in experiential content. Recently, literature on specific emotion has mainly focused on cognitive processes to explain their influence.

The aims of our Studies 3 and 4 were to replicate findings of Griskevicius and collaborators (2010) who have identified a mediator that affect the influence of specific emotions on product desirability. They focused on two specific emotions: satisfaction and pride. So, our studies allowed replicating their findings by testing the influence of amusement and satisfaction.

Studies 3 and 4 of this manuscript suggested that the motivational dimension (operationalized as "emotion-specific short-term goals" or "thought-action repertoires") play an important role in shaping how specific emotion influence products' evaluation.

Limits and perspectives

The first limitation of our dissertation is that we only investigated the effect of affective expectations in our Study 1. However, various studies have shown the importance of studying other types of constructs such as desire – *what the user wants to experience* (Santos & Boote, 2003; Spreng et al., 1996). Future investigation should specify the role of bottom-up processes in user experience by taking into account users desires (Ratneshwar, Glen, Mick & Huffman, 2011).

The second limitation is our self-reported measures of emotions used in Study 1. Indeed, we have shown in our Study 1 the difficulty to make realistic assessment of users' negative emotions while interacting with an e-book. Participants principally reported positive emotions. Therefore, questions related to the study of emotions and their measures are becoming more relevant than ever. It is becoming critical to develop appropriate way to measure emotional reactions adapted to interactive context. In a study not presented here, we

proposed a non-invasive method to measure specific emotions (Sbai, Dubois & Kouabenan, 2010). Our method was based on an auto-annotation tool adapted from the Dynemo project (Dubois, Tcherkassof, Bollon,& Adam, 2002; Tcherkassof, Bollon, Dubois, Pansu, & Adam, 2007). Furthermore, it also seems appropriate to continue to distinguish specific emotions from another and to consider reliable measurement scales.

The third limitation is that our population study was represented by students from various academic institutions, except Study 1. Nevertheless, it is important to note that innovative products selected for our Studies 2, 3 and 4 were adapted to the age of the target group (i.e. a digital globe, a digital tablet). A study with a broader population will have to be conducted to further test the validity of our results.

Finally, future research needs to explore the influence of other variables such as norms and social context in the relationship specific emotions – product's desirability. For instance, Terrade and collaborators (2009) suggested that normative influences have frequently been overlooked in usage approaches. Some authors have shown that study of certain specific emotions could help to explore the role of normative influences. For example, Van de Ven, Zeelenberg and Pieters (2010) have suggested that people often compare themselves with other, and that could generate envy and increase envy-eliciting product value. The range of specific positive emotions is broad and future research should explore emotions such as gratitude, enthusiasm, admiration and so on.

Practical Implications

Three practical implications for development teams (designers and engineers) can be envisaged. First, emotion should be viewed as a dynamic process and not only as a response. Thus, development teams should take into account users 'emotion at each step of the design process and not only at the evaluation stage of new products or services. Second, they should dedicate their time and effort for the benefit of users by developing products that meet or exceed their expectations. Indeed, we believe that participatory design represents a promising approach that could help designers understand user's motives and shape products that appeal to emotion. It seems important to develop an approach that goes beyond to the physical properties of products to the emotional responses they evoke, the experiences they promote. Our results highlighted for example the importance of taking into account emotional cue or benefits proposed by the product. Third, they should design product with the intention to

evoke particular experiences or particular emotions. Scneario-based design constitutes a relevant tool to investigate users' reactions towards a future product and to explore how users may interact with it. Finally, we believe that our dissertation could also have wider implications. For example, companies should also try to generate some specific emotions in order to promote innovative behavior in the workplace. Emotion should be integrated as other dimensions such as motivation in the understanding of innovative motives (Battistelli & Picci, 2009; Picci & Battistelli, 2009). Moreover, at a time when job satisfaction became a key concern, it is worth considering whether companies should not try to enhance interest or enthusiasm.

CONCLUSIONS

This dissertation has attempted to highlight the importance of addressing a specific-emotion approach (versus a valence based approach) to better predict the effect of specific emotions on product's desirability. The questioning was double-sided: What are the processes involved in the emergence of emotions in a user-product interaction? And how do specific emotions impact the product evaluation and behavioural intention? First we have examined the influence of affective expectations and specific emotions on product evaluation. Second, we investigated the mechanisms underlying the impact of specific emotions on product's desirability. Thus, our dissertation has demonstrated the influence of specific emotions on innovative product desirability and suggested the importance to investigate the motivational dimensions of specific emotions. The challenge remains in the future to explore other specific positive emotions that have been little studied in the literature.

RÉSUMÉ FRANÇAIS

Introduction

Joie, colère, gratitude, peur, surprise, etc. font partie intégrante de notre vie. Omniprésentes dans nos relations avec les autres et dans nos rapports aux objets, les émotions donnent goût à notre vie et sont déterminantes dans la manière de percevoir notre environnement, de le construire et de se l'approprier (Guimelli & Rimé, 2009) : joie de la découverte, peur d'être envahi par la technologie ou encore fierté de posséder la dernière tablette tactile à la mode.

Aussi, sommes-nous entrés dans une ère d'économie où les expériences et les émotions représentent un enjeu majeur pour le succès des produits et services (Pine & Gilmore, 1998). Norman (2004), Desmet et Hekkert (2007) sont considérés comme les premiers à avoir mis en évidence l'importance de prendre en compte les émotions dans le processus de conception. Le message porté par de nombreuses approches dont celle de l'expérience utilisateur (Hassenzahl & Tractinsky, 2006; Mahlke, 2008) est clair, pour toucher un public, les concepteurs doivent développer des produits qui suscitent des réponses

émotionnelles et non pas seulement concevoir des produits fonctionnels ou utilisables (Crilly, Moultrie, & Clarkson, 2009). En effet, une majorité de nos choix semble guidée par le désir de cultiver des expériences émotionnelles positives pour nous-mêmes et notre entourage (Cavanaugh & Fredrickson, 2010).

En outre, la distinction entre *design classique* et *design émotionnel* n'est pas sans rappeler la distinction entre *psychologie classique* et *psychologie positive*. En effet, de la même manière que la psychologie positive cherche à renforcer les aptitudes positives de chaque individu, le design émotionnel cherche à améliorer le quotidien des usagers en développant des produits qui suscitent des expériences émotionnelles positives. Dès lors, la mise en place d'une approche centrée émotion suppose au préalable une meilleure compréhension de la distinction entre les émotions et particulièrement les émotions positives.

Aussi**,** après une longue tradition de recherche centrée sur la valence des émotions, les approches contemporaines de l'émotion tentent-elles aujourd'hui de distinguer les émotions entre elles (Cavanaugh & Fredrickson, 2010; Griskevicius et al., 2010). La présente recherche s'inscrit dans la continuité des approches spécifiques de l'émotion. Elle s'intéresse moins à l'émotion en tant que réponse immédiate qu'à l'émotion en tant que processus. Dans un premier temps, elle ambitionne d'étudier le concept d'expérience utilisateur et de déterminer dans quelle mesure les émotions spécifiques influencent l'évaluation d'une innovation et les intentions comportementales. Dans un deuxième temps, elle propose d'identifier les processus qui sous-tendent l'effet des émotions sur l'évaluation d'objets innovants.

I Etude 1

Tout d'abord, nous nous sommes intéressés à l'approche centrée expérience utilisateur, une des rares approches à prendre en compte l'affect et l'expérience émotionnelle dans l'évaluation d'un objet d'innovant. S'il est difficile de trouver une définition unique de l'« expérience utilisateur », on distingue néanmoins dans la littérature quelques axes de définition allant de l'utilisabilité classique aux aspects esthétique, hédonique, ou affectif de l'usage de la technologie (Hassenzahl & Tractinsky, 2006). Aussi, Mahlke et Thüring (2007) sont-ils de rares auteurs à avoir proposé un modèle de l'expérience utilisateur (le modèle CEU ou CUE-Model en anglais). Ils identifient trois composantes centrales : la perception des qualités instrumentales (utilisabilité, utilité, facilité d'apprentissage, etc.), la perception des qualités non instrumentales (esthétique, valeurs, symbolique, etc.) et les réactions émotionnelles. Ces dernières seraient influencées par les aspects de la qualité de l'objet

d'innovation. Cependant, si le modèle CEU intègre la plupart des aspects de l'expérience utilisateur développés dans la littérature, il n'aborde que peu les questions relatives à l'expérience antérieure et aux attentes de l'utilisateur, des dimensions à l'œuvre dans l'expérience d'usage (Kankainen, 2002). L'usager ne traiterait donc pas seulement les qualités instrumentales et non instrumentales des objets mais il anticiperait également la nature de ses interactions avec ces derniers. Les attentes renvoient de manière générale à la tendance des individus à anticiper la nature de leur interaction avec un objet. Le rôle des attentes a été en particulier mis en évidence au travers de deux modèles : le *modèle de la disconfirmation des attentes* initié par Anderson (1973) et le *modèle des attentes affectives* (Wilson et al., 1989).

Le modèle de la disconfirmation des attentes a largement été repris par Oliver (1977, 1980) dans le cadre des recherches sur la satisfaction. Selon ce modèle, cette dernière dépendrait étroitement du degré de confirmation ou d'infirmation des attentes initialement formulées par un usager/consommateur vis-à-vis d'un objet. Ainsi, au-delà des performances d'un objet innovant, ce serait l'infirmation des attentes qui serait à l'origine des différentes réponses émotionnelles des utilisateurs (Phillips & Baumgartner, 2002; Westbrook & Oliver, 1991). Par ailleurs, il semblerait que les émotions interviennent également avant l'usage d'une innovation, c'est-à-dire au moment où les usagers développent leurs attentes (Klaaren et al., 1994; Phillips & Baumgartner, 2002; Wilson & Klaaren, 1992). Selon le modèle des attentes affectives, les usagers anticiperaient l'expérience émotionnelle proposée par l'objet d'innovation - *quelle expérience cette innovation va-t-elle me permettre de vivre ?*

Ainsi, notre première étude propose–t-elle d'étudier le concept d'expérience utilisateur au travers des processus ascendants (caractéristiques de l'objet) et descendants (attentes affectives). L'objectif est notamment d'étudier les conditions de déclenchement des émotions spécifiques ainsi que l'impact de celles-ci sur l'évaluation et l'acceptation d'un objet d'innovant. Jusqu'à présent, les émotions ont été principalement étudiées selon l'approche dominante en termes de valence. Le modèle de la diconfirmation des attentes a quant à lui généralement porté sur la formation de la satisfaction. Inspirée par les travaux de Chitturi et al. (2008), notre étude porte de manière spécifique sur les émotions d'enchantement (delight), d'excitation, de satisfaction, d'anxiété, de colère et de déception. Nous postulons ici que l'infirmation négative des attentes (moins bien qu'attendu) va générer des expériences émotionnelles négatives (anxiété, colère ou déception) alors que l'infirmation des attentes positives (mieux qu'attendu) va générer des expériences émotionnelles positives (enchantement, satisfaction ou excitation). Par ailleurs, cette étude tente également d'intégrer la dimension émotionnelle au modèle de l'acceptation proposé par Davis (1989).

Pour cela, quatre-vingt-huit (88) participants de catégorie socioprofessionnelle variée sont recrutés pour l'étude. En fonction de la condition expérimentale, ces derniers doivent tester une des deux versions d'un dispositif de livres électroniques (moyenne qualité d'interaction versus mauvaise qualité d'interaction). Afin de faire varier les attentes affectives (positive, négative, contrôle) des participants, la description de l'innovation est manipulée.

Après l'induction des attentes, les participants doivent renseigner un premier questionnaire sur leurs attentes vis-à-vis de l'objet innovant. Ils doivent indiquer dans quelle mesure ils pensent ressentir, pendant l'usage du lecteur de livre électronique, chacune des émotions, mesurées à l'aide de 21 items adaptés de Edell et Burke (1987), Holbrook et Batra (1987), ainsi que Richins (2008). Ensuite, ils ont la possibilité de manipuler pendant 5 à 10 minutes une des deux versions du Ebook. Ils doivent ensuite renseigner un second questionnaire comportant des échelles de mesure de la disconfirmation des attentes (Irving & Meyer, 1995), des attitudes vis-à-vis de l'objet d'innovant (Bagozzi et al., 1992), de l'intention d'usage (Kim & Malhotra, 2005), du ressenti émotionnel (similaire à celle des attentes affectives), de la facilité et de l'utilité perçue (échelles adaptées de Davis, 1989) et enfin d'innovativité (Roehrich, 2004).

Les résultats mettent en évidence le rôle des processus descendants dans la construction de l'expérience utilisateur. En effet, nos résultats soutiennent que l'expérience utilisateur ne dépend pas seulement des qualités intrinsèques de l'objet innovant mais également des attentes initiales de l'usager. En raison d'un effet plancher sur les attentes négatives, nos résultats ne portent que sur les conditions attentes positives et contrôle (soit 55 individus). Ainsi, si une partie des résultats sont en accord avec nos prédictions (les attentes affectives vis-à-vis d'un objet influencent l'expérience émotionnelle des participants), on peut voir que seule l'émotion d'enchantement a été influencée par les attentes initiales des usagers. On n'observe pas de différence significative de ressenti d'anxiété, colère, déception, satisfaction ou excitation entre les conditions expérimentales. Ces résultats sont plausiblement à mettre en relation avec les travaux de Chitturi et al. (2008) qui suggèrent que l'atteinte ou le surpassement de besoins hédoniques génère de l'enchantement alors que l'atteinte de besoins utilitaires génère de la satisfaction. Nous pouvons donc penser que l'objet innovant testé dans cette étude est associé à des bénéfices hédoniques. Par ailleurs et de la même manière que précédemment, seule l'émotion d'enchantement semble avoir un effet sur l'évaluation de l'objet d'innovant. En lien avec les travaux de Wood et Moreau (2006), on peut parler de « suspension du jugement », c'est-à-dire qu'il semblerait que les sujets ne fassent pas référence à leur ressenti émotionnel négatif lors de leur première évaluation de l'objet. Enfin,

les résultats indiquent que l'utilité perçue, l'attitude et l'innovativité sont les seuls prédicteurs significatifs de l'intention d'usage.

Les études 2, 3 et 4 tentent dans le deuxième temps de cette thèse de mettre évidence une partie des variables modératrices et médiatrices qui influencent le lien émotions spécifiques et évaluation. L'objectif de l'étude 2 est notamment de déterminer dans quelle mesure les émotions spécifiques influencent l'évaluation de produit associé à des bénéfices hédoniques versus moins hédoniques.

II Etude 2

Les actions humaines sont majoritairement guidées par la motivation et l'atteinte d'un état final désiré. Ainsi, n'est-il pas étonnant que les concepts de motivation, de buts et de désires aient suscité l'intérêt de nombreux chercheurs dans l'étude des comportements de l'usager/consommateur (Ratneshwar, Glen, Mick & Huffman, 2011). Par exemple, il a été montré que les buts de plaisir ou encore les buts identitaires jouaient un rôle important dans les choix des consommateurs (Nysveen et al., 2005). Dès lors, en lien avec les théories de la régulation émotionnelle (Clark & Isen, 1982; Gross, 1998; Lazarus & Folkman, 1984; Zillmann, 1988), nous pouvons penser que l'achat d'un produit est un moyen de cultiver des expériences émotionnelles positives.

Dans la littérature sur la régulation émotionnelle, il est admis que les individus mettent en place des stratégies de régulation dans une perspective hédonique. Par exemple, une personne peut acheter des objets de consommation dans le but de se sentir mieux, de réguler un état émotionnel négatif (Mick & DeMoss, 1990). De manière générale, les modèles de régulation émotionnelle suggèrent que les individus tentent spontanément d'améliorer leur état émotionnel quand ils se trouvent dans un état affectif négatif et de maintenir leur état émotionnel quand ils se trouvent dans un état affectif positif (Andrade, 2005).

Contrairement aux modèles de l'évaluation statique auxquels ils s'opposent dans la littérature, les modèles de la régulation émotionnelle, considérés comme dynamique, suppose l'anticipation d'un état affectif de la part des individus. En d'autres termes, les individus auraient tendance à comparer leur état émotionnel actuel à celui désiré. Par ailleurs, Andrade (2005) et Garg, Wansink et Inman (2007) ont montré qu'il était possible d'intégrer ces deux modèles et ont identifié une variable modératrice de la relation entre émotion et évaluation : la nature de l'objet (associé à des bénéfices hédoniques versus bénéfices moins hédoniques).

Dans la présente étude, nous tentons d'investiguer cette variable modératrice au travers d'une approche spécifique de l'émotion. Pour cela, nous proposons d'étudier trois émotions couramment étudiées dans la littérature ciblée sur le comportement du consommateur (Laros & Steenkamp, 2005) : la colère, la peur et l'amusement. Nous avons choisi les émotions de colère et de peur car elles sont associées à des dimensions cognitives distinctes : certitude versus incertitude. En effet, dans la littérature, Lerner et Keltner (2001) ont montré que les dimensions cognitives étaient pertinentes dans l'explication et la prédiction de l'effet des émotions spécifiques sur les processus cognitifs ou comportementaux. Dès lors, nous postulons ici que les réponses des participants dans un état affectif de peur, colère ou d'amusement vont être modulées par la nature de l'objet d'innovation (hédonique versus moins hédonique). Nous postulons également une différence de résultats entre les émotions de peur et de colère du fait de leurs dimensions cognitives.

Afin de tester nos hypothèses, cent quatre-vingt-neuf (189) étudiants sont recrutés sur la base du volontariat. Pour la procédure d'induction émotionnelle, la méthode du rappel autobiographique est retenue pour induire l'amusement, la peur, la colère ou un état neutre chez les participants. Après l'induction émotionnelle, les participants doivent remplir un court questionnaire afin de donner leur avis sur un objet d'innovation (hédonique versus moins hédonique).

Les résultats confirment une partie de nos hypothèses. On observe, en effet le rôle modérateur de la nature du produit sur la relation entre émotions spécifiques et évaluation. Néanmoins, contrairement à nos hypothèses, on n'observe pas de différence significative entre les conditions peur et colère. Une explication plausible est que contrairement aux travaux de DeSteno, Petty, Wegener, & Rucker (2000) suggérant que la colère affecte les évaluations à risque (DeSteno, Petty, Wegener, & Rucker, 2000), l'objet innovant testé dans cette étude ne présente pas d'ambigüité sur les dimensions de certitude ou de contrôle. Dès lors, nos résultats suggèrent l'importance de la composante motivationnelle des émotions dans l'évaluation de produit.

Les études 3 et 4 qui suivent testent empiriquement l'importance de la composante motivationnelle des émotions dans la relation émotions spécifiques et évaluation. Elles proposent en d'autres termes d'explorer les mécanismes permettant d'expliquer l'effet des émotions spécifiques sur l'évaluation de produits innovants.

III Etudes 3 et 4

Comment les émotions spécifiques influencent-elles l'évaluation de produits innovants ? En lien avec les résultats de notre étude 2, suggérant l'intérêt de prendre en compte la composante motivationnelle des émotions, l'approche « feeling is for doing » proposée par Zeelenberg et Pieters (2006) considèrent que les émotions ne sont pas seulement là pour nous informer, mais qu'elles nous dirigent aussi vers l'atteinte de buts. Par exemple, Nesse (2006) a montré que la tristesse qui est généralement associée à l'expérience d'une perte, pouvait conduire les individus à tenter de remplacer la ressource perdue ou encore à se prémunir contre une autre perte.

De plus, si une majorité des travaux sur les émotions s'est concentrée sur les émotions négatives, une littérature de plus en plus abondante s'intéresse désormais aux émotions positives (Cavanaugh, 2009; Fredrickson, 1998, 2001, 2004; Griskevicius et al., 2010). Plus spécifiquement, la théorie de l'élargissement constructif des émotions positives développée par Fredrickson (1998, 2001, 2004) suggérèrent que les émotions positives enrichissent momentanément le répertoire des actions et de la pensée de l'individu. L'intérêt encourage par exemple à explorer alors que la satisfaction incite à savourer le moment présent. Par ailleurs, de nombreuses études fondées sur l'approche évolutionniste des émotions se sont intéressées à la dimension motivationnelle des émotions spécifiques au travers des buts - *emotion-specific functional motives* - (Bartlett and DeSteno 2006; Fredrickson 1998, 2001; Keltner, Haidt, and Shiota 2006; Shiota et al. 2004; Williams and DeSteno 2008). Griskevicius et al. (2010) a ainsi mis en évidence le rôle médiateur des buts dans l'impact des émotions spécifiques sur l'évaluation de produits.

L'objectif des études 3 et 4 est d'investiguer plus en avant le rôle médiateur des buts. Il s'agit dans un premier temps (étude 3) de répliquer et d'étendre les travaux de Griskevicius et collaborateurs (2010) en se focalisant sur deux émotions spécifiques : la satisfaction et l'amusement. Dans un deuxième, il s'agit de voir en quoi le construit de but renvoie à celui de répertoires pensée-action – *thougth action repertoires* – proposé par Fredrickson (2010).

Pour susciter une émotion spécifique d'amusement ou de satisfaction, nous avons choisi la méthode des scénarii (étude 3) et la méthode du rappel autobiographique (étude 4). Pour les définir, l'amusement est une émotion expérimentée dans des activités de loisirs et généralement accompagnée de rires et de sourires. La satisfaction renvoie quant à elle à un sentiment de satiété et de satisfaction expérimenté suite à l'accomplissement de besoins basiques. Elle s'accompagne généralement d'un besoin de sécurité et de confort. Deux types

de produits sont sélectionnés pour nos deux dernières études: deux produits de la sphère « loisirs » versus deux produits de la sphère « bien-être ». Nous proposons que l'émotion d'amusement favorise l'attractivité des produits innovants encourageant le partage social et le rire tandis que l'émotion de satisfaction favorise l'attractivité des produits innovants associés au bien-être et au confort. Pour l'étude 3, quatre vingt dix sept (97) étudiants sont recrutés sur la base du volontariat. Après l'induction émotionnelle, les participants doivent évaluer un des deux objets de l'étude (un tatouage gustatif versus une semelle thermorégulatrice). Un questionnaire permet de s'assurer de la validité de l'induction émotionnelle et de mesurer les « buts » des participants (Giskevicius et al., 2010) – *but de connexion sociale, but de confort*. Les résultats valident les effets différenciés des émotions d'amusement et de satisfaction sur l'évaluation de l'objet innovant. Le rôle médiateur des dimensions motivationnelles est également validé. Enfin, l'étude 4, réalisée auprès de cent douze (112) étudiants, permet de répliquer les résultats obtenus dans l'étude 3. Elle s'appuie ici sur la mesure développée par Fredrickson (2004) afin d'opérationnaliser le construit de dimension motivationnelle. Les résultats démontrent la pertinence de cette mesure pour accéder aux buts des usagers et permettent d'identifier les mécanismes motivationnels en jeu dans l'influence des émotions spécifiques sur le jugement.

Limites, contributions et voies de recherche

Limites. Au cours de notre première étude, nous nous sommes intéressés à l'effet des attentes affectives- *l'émotion que l'usager pense ressentir*- sur l'expérience émotionnelle. Or diverses études ont montré l'intérêt d'étudier d'autres types de construits comme les désires – *ce que l'usager aimerait voir se produire* (Santos & Boote, 2003; Spreng et al., 1996). Une autre limite concerne certainement nos mesures auto-rapportées des émotions. Enfin, il semble également pertinent de continuer à définir certaines des émotions spécifiques (ex : enchantement, satisfaction) et de réfléchir à des échelles fiables de mesures.

***Contribution et voies de recherche*.** La présente recherche permet de mettre en évidence l'importance d'étudier les émotions spécifiques et notamment les dimensions motivationnelles des émotions. La contribution majeure de ce travail est qu'une partie des mécanismes expliquant l'effet des émotions spécifiques sur l'évaluation de produit innovant a pu être mis en lumière. Ainsi, une meilleure compréhension et prise en compte du processus émotionnel apparaissent comme une voie prometteuse pour la conception de produits

innovants. Si cette thèse a permis d'aborder diverses émotions positives comme l'enchantement ou l'amusement, il semble intéressant d'investiguer d'autres émotions comme la gratitude ou l'intérêt dans de futures recherches.

References

Adams, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived usefulness, ease of use, and usage of information technology: a replication. *MIS quarterly*, *16*(2), 227-247.

Agarwal, R., & Karahanna, E. (2000). time flies when you're having fun: cognitive absorption and beliefs about information technology usage. *MIS Quarterly*, *24*(4), 665-694.

Agrawal, N., Menon, G., & Aaker, J. L. (2007). Getting Emotional About Health. *Journal of Marketing Research)*, *44*(1), 100-113.

Alam, I. (2002). An exploratory investigation of user involvement in new service development. *Journal of the Academy of Marketing Science*, *30*(3), 250-261.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Prentice Hall.

Algoe, S. B., & Haidt, J. (2009). Witnessing excellence in action: The 'other-praising'emotions of elevation, gratitude, and admiration. *The journal of positive psychology*, *4*(2), 105-127.

Algoe, S. B., Haidt, J., & Gable, S. L. (2008). Beyond reciprocity: Gratitude and relationships in everyday life. *Emotion*, *8*(3), 425.

Alter, N. (2002). *Les logiques de l'innovation: approche pluridisciplinaire*. Paris. La Découverte.

Alter, N. (2010). *L'innovation ordinaire*. Paris. Presses Universitaires de France.

Anderson, R. E. (1973). Consumer dissatisfaction: the effect of disconfirmed expectancy on perceived product performance. *Journal of Marketing Research*, 38-44.

Andrade, E. B., & Cohen, J. B. (2007). On the consumption of negative feelings. *Journal of Consumer Research*, *34*(3), 283-300.

Andrade, E. B. (2005). Behavioral Consequences of Affect: Combining Evaluative and Regulatory Mechanisms. *Journal of Consumer Research*, *32*(3), 355-362.

Angie, A. D., Connelly, S., Waples, E. P., & Kligyte, V. (2011). The influence of discrete emotions on judgement and decision-making: A meta-analytic review. *Cognition & Emotion*, *25*(8), 1393-1422.

Arnold, M. B. (1960). *Emotion and Personality: Psychological aspects* (Vol. 1). New York. Columbia University Press.

Arkkelin, D. (2003). Putting Prometheus' feet to the fire: Student evaluations of Prometheus in relation to their attitudes towards and experience with computers, computer self-efficacy and preferred learning style. *Syllabus2003 Proceedings*.

Bagozzi, R. P, & Lee, K. H. (1999). Consumer resistance to, and acceptance of, innovations. *Advances in Consumer Research, 26*, 218-225.

Bagozzi, R. P., Baumgartner, H., & Yi, Y. (1992). State versus action orientation and the theory of reasoned action: an application to coupon usage. *Journal of Consumer Research*, 505-518.

Bagozzi, R. P., Dholakia, U. M., & Basuroy, S. (2003). How effortful decisions get enacted: The motivating role of decision processes, desires, and anticipated emotions. *Journal of Behavioral Decision Making*, *16*(4), 273-295.

Bagozzi, R. P. (2007). The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift. *Journal of the Association for Information Systems*, *8*(4), 244-254.

Bailey, J. E., & Pearson, S. W. (1983). Development of a tool for measuring and analyzing computer user satisfaction. *Management science*, 530-545.

Barcenilla, J., & Bastien, J. M. C. (2009). L'acceptabilité des nouvelles technologies: quelles relations avec l'ergonomie, l'utilisabilité et l'expérience utilisateur? *Le Travail humain*, *72*(4), 311-331.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173-1182.

Bartlett, M. Y., & DeSteno, D. (2006). Gratitude and Prosocial Behavior: Helping When It Costs You. *Psychological Science*, *17*(4), 319-325.

Battistelli, A., & Picci, P. (2009). The innovation process: typology, antecedents level. In A. Battistelli (Ed.) *Innovation in the transformation of jobs and organisation*, Roma: Di Renzo Editore, 9-28.

Baumeister, R. F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research*, *28*(4), 670-676.

Beaudry, A., & Pinsonneault, A. (2010). The other side of acceptance: studying the direct and indirect effects of emotions on information technology use. *MIS Quarterly*, *34*(4), 689-710.

Beauregard, R., & Corriveau, P. (2007). User experience quality: a conceptual framework for goal setting and measurement. *Digital Human Modeling*, 325-332.

Berman, B. (2005). How to delight your customers. *California Management Review*, *48*(1), 129-151.

Bhattacherjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 351-370.

Bhattacherjee, A., & Premkumar, G. (2004). Understanding changes in belief and attitude toward information technology usage: a theoretical model and longitudinal test. *MIS Quarterly*, *28*(2), 229-254.

Bless, H., Bohner, G., Schwarz, N., & Strack, F. (1990). Mood and persuasion. *Personality and Social Psychology Bulletin*, *16*(2), 331-345.

Blythe, M., Overbecke, C., Monk, A. F., & Wright, P. C. (2003). *Funology : From Usability to Enjoyment*. Dordrecht : Kluwer.

Bonapace, L. (2002). Linking product properties to pleasure: the sensorial quality assessment method – SEQUAM. In W.S. Green and P.W. Jordan (Eds.), *Pleasure with products: beyond usability* (pp. 189-217). London: Taylor & Francis.

Bosmans, A., & Baumgartner, H. (2005). When feelings influence product evaluations (and when they do not): Discrete-affect-validation and the role of consumption motives. *Advances in Consumer Research*, *32*, 102.

Bower, G. H. (1981). Mood and memory. *American psychologist*, *36*(2), 129.

Brangier, E., & Barcenilla, J. (2003). *Concevoir un produit facile à utiliser: adapter les technologies à l'homme*. Paris. Editions d'Organisation.

Brown, S. A., Fuller, R. M., & Vician, C. (2004). Who's afraid of the virtual world? *Journal of the Association for Information Systems*, *5*(2), 79-107.

Bruner, G. C., & Kumar, A. (2005). Explaining consumer acceptance of handheld Internet devices. *Journal of Business Research*, *58*(5), 553-558.

Cardozo, R. N. (1965). An experimental study of customer effort, expectation, and satisfaction. *Journal of Marketing Research*, 244-249.

Castelfranchi, C. (2000). Affective appraisal versus cognitive evaluation in social emotions and interactions. *Affective interactions*, 76-106.

Cavanaugh, L. A. (2009). *Feeling good and doing better: How specific positive emotions influence consumer behavior and well-being.* ProQuest Information & Learning, US.

Cavanaugh, L., & Fredrickson, B. (2010). Positive Emotions Are Like a Box of Chocolates: Without Identifying the Different Flavors You Never Know What Behavior You're

Going to Get. *Advances in Consumer Research - North American Conference Proceedings*, *37*, 24-27.

Cenfetelli, R. T. (2004). *The inhibitors of technology usage* (Doctoral dissertation, University of British Columbia).

Chao, Y.-H., Cheng, Y.-Y., & Chiou, W.-B. (2011). The psychological consequence of experiencing shame: Self-sufficiency and mood-repair. *Motivation and Emotion*, *35*(2), 202-210.

Chin, W. W., & Todd, P. A. (1995). On the use, usefulness, and ease of use of structural equation modeling in MIS research: a note of caution. *MIS Quarterly*, 237-246.

Chitturi, R., Raghunathan, R., & Mahajan, V. (2008). Delight by design: The role of hedonic versus utilitarian benefits. *Journal of Marketing*, *72*(3), 48-63.

Chun, W. Y., Kruglanski, A. W., Sleeth-Keppler, D., & Friedman, R. S. (2011). Multifinality in implicit choice. *Journal of personality and social psychology*, *101*(5), 1124.

Churchill Jr, G. A., & Surprenant, C. (1982). An investigation into the determinants of customer satisfaction. *Journal of marketing research*, 491-504.

Clark, M. S., & Isen, A. M. (1982). Toward understanding the relationship between feeling states and social behavior. *Cognitive social psychology*, *73*, 108.

Clark, R. A., & Goldsmith, R. E. (2006). Global innovativeness and consumer susceptibility to interpersonal influence. *The Journal of Marketing Theory and Practice*, *14*(4), 275-285.

Cohen, J. B, Pham, M. T., & Andrade, E. B. (2008). The nature and role of affect in consumer behavior. *Handbook of consumer psychology*, *297*, 348.

Cohen, J. B., & Andrade, E. B. (2004). Affective Intuition and Task-Contingent Affect Regulation. *Journal of Consumer Research*, *31*(2), 358-367.

Cohen, Joel B., Pham, M. T., & Andrade, E. B. (2008). The nature and role of affect in consumer behavior. In C. P. Haugtvedt, P. M. Herr, & F. R. Kardes (éd.), *Handbook of consumer psychology.* (p. 297-348). New York, NY: Taylor & Francis Group/Lawrence Erlbaum Associates.

Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS quarterly*, 145-158.

Compeau, D. R., & Higgins, C. A. (1995). Application of social cognitive theory to training for computer skills. *Information Systems Research*, *6*(2), 118-143.

Cosmides, L., & Tooby, J. (2000). Evolutionary psychology and the emotions. In M. (Ed. . Lewis & J. M. Haviland-Jones (éd.), *Handbook of Emotions (2nd Edition)*. New York, NY US: Guilford Press.

Crilly, N., Moultrie, J., & Clarkson, P. J. (2009). Shaping things: intended consumer response and the other determinants of product form. *Design Studies*, *30*(3), 224-254.

Csikszentmihalyi, M., & Csikszentmihalyi, I. (1975). *Beyond boredom and anxiety*. Jossey-Bass Publishers San Francisco, CA.

Cuisinier, F. (2010). Emotions and design between feelings and emotions. *Art + Design + Psychology*, 2, 49–56. http://www.parsons-paris.com/uploads/general/Collection.

Damasio, A. R. (1994). *Descartes' error: emotion, reason, and the human brain*. New York: Grosset/Putnam..

Darwin, C. (1877). *L'expression des émotions chez l'homme et les animaux*. Paris. Reinwald.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, 982-1003.

Davis, Fred D. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, *38*(3), 475-487.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, *22*(14), 1111-1132.

De Hooge, I. E. (2008). *Moral emotions in decision making: Towards a better understanding of shame and guilt*. http://arno.uvt.nl/show.cgi?fid=80835.

Desmet, P. M., & Hekkert, P. (2007). Framework of product experience. *International Journal of Design*, *1*(1), 57-66.

DeSteno, D., Dasgupta, N., Bartlett, M. Y., & Cajdric, A. (2004). Prejudice From Thin Air The Effect of Emotion on Automatic Intergroup Attitudes. *Psychological Science*, *15*(5), 319-324.

DeSteno, D., Petty, R. E., Wegener, D. T., & Rucker, D. D. (2000). Beyond valence in the perception of likelihood: The role of emotion specificity. *Journal of Personality and Social Psychology; Journal of Personality and Social Psychology*, *78*(3), 397.

Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of personality and social psychology*, *69*, 130-130.

Dubois, M., & Bobillier-Chaumon, M. É. (2010). L'acceptabilité des technologies: bilans et nouvelles perspectives. *Le travail humain*, *72*(4), 305-310.

Dubois, M., Tcherkassof, A., Bollon, T., & Adam, J.M. *Effet des modalités de présentation de l'information lors d'interactions faciales*. Rapport final de recherche au Ministère de l'Education Nationale de la Recherche et de la Technologie. Programme cognitique : thème nouvelles technologies & cognition. Laboratoire de Psychologie Sociale ; Laboratoire CLIPS IMAG, UMR 5524 CNRS/INPG/UJF, 2002.

Edell, J. A., & Burke, M. C. (1987). The power of feelings in understanding advertising effects. *Journal of Consumer Research*, 421-433.

Ekman, P. (1992). An argument for basic emotions. *Cognition & Emotion*, *6*(3-4), 169-200.

Ellsworth, P. C, & Scherer, K. R. (2003). Appraisal processes in emotion. *Handbook of affective sciences*, *572*, V595.

Ellsworth, P. C, & Smith, C. A. (1988). From appraisal to emotion: Differences among unpleasant feelings. *Motivation and Emotion*, *12*(3), 271-302.

Ellsworth, Phoebe C., & Scherer, K. R. (2003). Appraisal processes in emotion. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (éd.), *Handbook of affective sciences.* (p. 572-595). New York, NY US: Oxford University Press.

Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, *84*(2), 377.

Eyal, T., & Fishbach, A. (2006). Affect as a Cue for Goal-Conflict Resolution. *Advances in Consumer Research*, *34*, 483-84.

Fehr, B., & Russell, J. A. (1984). Concept of emotion viewed from a prototype perspective. *Journal of experimental psychology: General*, *113*(3), 464.

Finn, A. (2005). Reassessing the foundations of customer delight. *Journal of Service Research*, *8*(2), 103-116.

Fishbach, A., & Labroo, A. A. (2007). Be better or be merry: How mood affects self-control. *Journal of Personality and Social Psychology*, *93*(2), 158-173.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: an introduction to theory and research*. Addison Wesley Publishing Company.

Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological bulletin*, *117*(1), 39.

Forgas, J. P., & Bower, G. H. (1987). Mood effects on person-perception judgments. *Journal of personality and social psychology*, *53*(1), 53.

Forgas, J. P., & Moylan, S. J. (1991). Affective influences on stereotype judgements. *Cognition & Emotion*, *5*(5-6), 379-395.

Forlizzi, J., & Battarbee, K. (2004). Understanding experience in interactive systems. In *Proceedings of the 5th conference on Designing interactive systems: processes, practices, methods, and techniques*, 261-268.

Fournier, M. (2010). L'avènement de la consommation. *Sciences Humaines*, (11).

Fredrickson, B. L. (1998). What good are positive emotions?. *Review of General Psychology*, *2*(3), 300.

Fredrickson, B. L. (2000). Cultivating research on positive emotions: A response.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, *56*(3), 218.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical transactions-royal society of london series b biological sciences*, 1367-1378.

Frijda, N. H. (1986). *The emotions*. Cambridge University Press.

Frijda, N. H. (1994). Varieties of affect: Emotions and episodes, moods, and sentiments. *The nature of emotions: Fundamental questions*, 197-202.

Frijda, N. H., Kuipers, P., & Ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of Personality and Social Psychology*, *57*(2), 212.

Garg, N., Inman, J. J., & Mittal, V. (2005). Incidental and Task-Related Affect: A Re-Inquiry and Extension of the Influence of Affect on Choice. *Journal of Consumer Research*, *32*(1), 154-159.

Garg, N., Wansink, B., & Inman, J. J. (2007). The influence of incidental affect on consumers' food intake. *Journal of Marketing*, *71*(1), 194-206.

Geers, A. L., & Lassiter, G. D. (1999). Affective expectations and information gain: Evidence for assimilation and contrast effects in affective experience. *Journal of Experimental Social Psychology*, *35*(4), 394-413.

Ghani, J. A., & Deshpande, S. P. (1994). Task Characteristics and the Experience of Optimal Flow in Human—Computer Interaction. *The Journal of psychology*, *128*(4), 381-391.

Goetz, T., Frenzel, A. C., Stoeger, H., & Hall, N. C. (2010). Antecedents of everyday positive emotions: An experience sampling analysis. *Motivation and Emotion*, *34*(1), 49-62.

Green, W., & Jordan, P. (2002). Pleasure with products: Beyond usability Taylor & Francis. *New York*.

Griskevicius, V., Shiota, M. N., & Neufeld, S. L. (2010). Influence of different positive emotions on persuasion processing: A functional evolutionary approach. *Emotion*, *10*(2), 190.

Griskevicius, V., Shiota, M. N., & Nowlis, S. M. (2010). The Many Shades of Rose-Colored Glasses: An Evolutionary Approach to the Influence of Different Positive Emotions. *Journal of Consumer Research*, *37*(2), 238-250.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General psychology*, *2*(3), 271.

Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life. *Emotion regulation in couples and families: Pathways to dysfunction and health*, 13-35.

Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. *Handbook of emotion regulation*, *3*, 24.

Guimelli, C., & Rimé, B. (2009). Émotions et représentations sociales. *Représentations sociales et processus sociocognitifs*, 165-180.

Ha, H. Y. (2006). An integrative model of consumer satisfaction in the context of e-services. *International Journal of Consumer Studies*, *30*(2), 137-149.

Ha, I., Yoon, Y., & Choi, M. (2007). Determinants of adoption of mobile games under mobile broadband wireless access environment. *Information & Management*, *44*(3), 276-286.

Han, S., Lerner, J. S., & Keltner, D. (2007). Feelings and consumer decision making: The appraisal-tendency framework. *Journal of Consumer Psychology*, *17*(3), 158-168.

Hassenzahl, M. (2004). Emotions can be quite ephemeral : We can not design for then. *Interactions*, *11* (5), 46-48.

Hassenzahl, M., & Tractinsky, N. (2006). User experience-a research agenda. *Behaviour & Information Technology*, *25*(2), 91-97.

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *The Journal of Marketing*, 92-101.

Holbrook, M. B., & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of consumer research*, 404-420.

Hsu, C. L., & Lu, H. P. (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & Management*, *41*(7), 853-868.

Igbaria, M., Parasuraman, S., & Baroudi, J. J. (1996). A motivational model of microcomputer usage. *Journal of management information systems*, 127-143.

Irving, P. G., & Meyer, J. P. (1995). On using direct measures of met expectations: A methodological note. *Journal of Management*, *21*(6), 1159-1175.

Isen, A. M., & Geva, N. (1987). The influence of positive affect on acceptable level of risk: The person with a large canoe has a large worry. *Organizational Behavior and Human Decision Processes*, *39*(2), 145-154.

Isen, A. M., & Levin, P. F. (1972). Effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, *21*(3), 384.

Isen, A. M., Niedenthal, P. M., & Cantor, N. (1992). An influence of positive affect on social categorization. *Motivation and Emotion*, *16*(1), 65-78.

Isen, A. M., Nygren, T. E., & Ashby, F. G. (1988). Influence of positive affect on the subjective utility of gains and losses: It is just not worth the risk. *Journal of personality and Social Psychology*, *55*(5), 710.

Isen, A. M., Shalker, T. E., Clark, M., & Karp, L. (1978). Affect, accessibility of material in memory, and behavior: A cognitive loop? *Journal of personality and social psychology*, *36*(1), 1.

Izard, C. E. (1977). *Human emotions*. Springer.

Izard, C. E. (1991). *The psychology of emotions*. Springer.

James, W. (1884). What is an emotion? *Mind*, (34), 188-205.

Jamieson, L. F., & Bass, F. M. (1989). Adjusting stated intention measures to predict trial purchase of new products: A comparison of models and methods. *Journal of Marketing Research*, 336-345.

Johnson, E. J., & Tversky, A. (1983). Affect, generalization, and the perception of risk. *Journal of personality and social psychology*, *45*(1), 20.

Jones, T. O., & Sasser Jr., W. E. (1995). Why Satisfied Customers Defect. *Harvard Business Review*, *73*(6), 88-91.

Jordan, P. W (1999). Pleasure with products : Human factors for body, mind and soul. In W. S. Green & P. W. Jordan (Eds.), *Humans factors in Product Design : Current practice and future trends* (pp. 206-217). London : Taylor & Francis.

Kahn, B. E., & Isen, A. M. (1993). The influence of positive affect on variety seeking among safe, enjoyable products. *Journal of Consumer Research*, 257-270.

Kankainen, A. (2002). *Thinking model and tools for understanding user experience related to information appliance product concepts*. Helsinki University of Technology.

Kavanagh, D. J., & Bower, G. H. (1985). Mood and self-efficacy: Impact of joy and sadness on perceived capabilities. *Cognitive Therapy and Research*, *9*(5), 507-525.

Keiningham, T. L., & Vavra, T. (2001). The customer delight principle: Exceeding customers' expectations for bottm-line success. *New York.*

Keltner, D., Ellsworth, P. C., & Edwards, K. (1993). Beyond simple pessimism: effects of sadness and anger on social perception. *Journal of personality and social psychology*, *64*(5), 740.

Keltner, D., & Lerner, J. S. (2010). Emotion. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (éd.), *Handbook of social psychology, Vol 1 (5th ed.).* (p. 317-352). Hoboken, NJ US: John Wiley & Sons Inc.

Kim, H. W., Chan, H., Chan, Y., & Gupta, S. (2004). Understanding the Balanced Effects of Belief and Feeling on Information Systems Continuance. *ICIS 2004 Proceedings*, 24.

Kim, S. S., & Malhotra, N. K. (2005). Predicting system usage from intention and past use: scale issues in the predictors. *Decision Sciences*, *36*(1), 187-196.

King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management*, *43*(6), 740-755.

Klaaren, K. J., Hodges, S. D., & Wilson, T. D. (1994). The role of affective expectations in subjective experience and decision-making. *Social Cognition*, *12*(2), 77-101.

Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion*, *23*(1), 4-41.

Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information systems research*, *13*(2), 205-223.

Kristensson, P., & Magnusson, P. R. (2010). Tuning Users' Innovativeness During Ideation. *Creativity and Innovation Management*, *19*(2), 147-159.

Kruglanski, A. W. (1996). Motivated social cognition: Principles of the interface. In E. T. Higgins & A. W. Kruglanski (éd.), *Social psychology: Handbook of basic principles.* (p. 493-520). New York, NY US: Guilford Press.

Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, R., Chun, W. Y., & Sleeth-Keppler, D. (2002). A theory of goal systems. In M. P. Zanna (éd.), *Advances in experimental social psychology, Vol. 34.* (p. 331-378). San Diego, CA US: Academic Press.

Kubacka, K. E., Finkenauer, C., Rusbult, C. E., & Keijsers, L. (2011). Maintaining Close Relationships. *Personality and Social Psychology Bulletin*, *37*(10), 1362-1375.

Kulviwat, S., Bruner, I. I., Gordon, C., Kumar, A., Nasco, S. A., & Clark, T. (2007). Toward a unified theory of consumer acceptance technology. *Psychology & Marketing*, *24*(12), 1059-1084.

Kumar, A., Olshavsky, R. W., & King, M. F. (2001). Exploring alternative antecedents of customer delight. *Journal of Consumer Satisfaction Dissatisfaction and Complaining Behavior*, *14*, 14-26.

Lankton, N. K., & McKnight, H. D. (2012). Examining Two Expectation Disconfirmation Theory Models: Assimilation and Asymmetry Effects. *Journal of the Association for Information Systems*, *13*(2), 88-115.

Laros, F. J., & Steenkamp, J. B. E. (2005). Emotions in consumer behavior: a hierarchical approach. *Journal of business Research*, *58*(10), 1437-1445.

Larsen, R. J., & Ketelaar, T. (1989). Extraversion, neuroticism and susceptibility to positive and negative mood induction procedures. *Personality and Individual Differences*, *10*(12), 1221-1228.

LaTour, S. A., & Peat, N. C. (1979). Conceptual and methodological issues in consumer satisfaction research. *Advances in consumer research*, *6*(1), 431-437.

Lazarus, R S, (1966). *Psychological Stress and the Coping Proces* (pp.249-60). New York: McGraw-Hill.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.

Lazarus, R. S. (1991). Cognition and motivation in emotion. *American Psychologist*, *46*(4), 352-367.

LeDoux, J. (2007). Unconscious and conscious contributions to the emotional and cognitive aspects of emotions: a comment on Scherer's view of what an emotion is. *Social Science Information*, *46*(3), 395-405.

Lee, S., Ha, S., & Widdows, R. (2011). Consumer responses to high-technology products: Product attributes, cognition, and emotions. *Journal of Business Research*, *64*(11), 1195-1200.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management*, *40*(3), 191-204.

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgement and choice. *Cognition and Emotion*, *14*(4), 473-493.

Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology*, *81*(1), 146-159.

Lerner, J. S., & Tiedens, L. Z. (2006). Portrait of The Angry Decision Maker: How Appraisal Tendencies Shape Anger's Influence on Cognition. *Journal of Behavioral Decision Making*, *19*(2), 115-137.

Lévy, P., Shiho, N., & Yamanaka, T. (2008). Explaining Kansei Design Studies. In *Design and Emotion Conference 2008*.

Lheureux, F. (2009). *Innovation technologique et sécurité routière : modélisation et optimisation de l'acceptation des systèmes d'aides à la conduite automobile*. Thèse de doctorat de l'Université de Provence, École doctorale 356 « Cognition, langage, éducation », EA 849 « Psychologie sociale des comportements et des cognitions ».

Loken, B. (2006). Consumer psychology: Categorization, Inferences, Affect, and Persuasion. *Annual review of psychology*, (1), 453-485.

Lowenstein, G., & Lerner, J. (2003). The role of emotion in decision making. In Davidson, R., Godmith, H.,Scherer, K. (Ed.),*The Handbook of effective science*. Oxford: Oxford University Press.

Luomala, H. T., & Laaksonen, M. (1997). Mood-regulatory self-gifts: Development of a conceptual framework. *Journal of Economic Psychology*, *18*(4), 407-434.

Macdonald, A. S. (1998). Developping a qualitative sense. In N. Stanton (Ed.), *Human Factors in Consumer Products* (pp. 175-190). London : Taylor & Francis.

Mackie, D. M., & Worth, L. T. (1989). Processing deficits and the mediation of positive affect in persuasion. *Journal of personality and social psychology*, *57*(1), 27.

Mahlke, S. (2008). *User Experience of Interaction with Technical Systems*. VDM Verlag.

Mandryk, R. L., Inkpen, K. M., & Calvert, T. W. (2006). Using psychophysiological techniques to measure user experience with entertainment technologies. *Behaviour & Information Technology*, *25*(2), 141-158.

Martinez, L. M. F., Zeelenberg, M., & Rijsman, J. B. (2011). Behavioural consequences of regret and disappointment in social bargaining games. *Cognition & Emotion*, *25*(2), 351-359.

Mayer, J. D., Gaschke, Y. N., Braverman, D. L., & Evans, T. W. (1992). Mood-congruent judgment is a general effect. *Journal of Personality and Social Psychology*, *63*(1), 119.

McKinney, V., & Yoon, K. (2002). The measurement of web-customer satisfaction: an expectation and disconfirmation approach. *Information systems research*, *13*(3), 296-315.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology* (Vol. 11). Cambridge, MA: MIT press.

Melone, N. P. (1990). A theoretical assessment of the user-satisfaction construct in information systems research. *Management Science*, 76-91.

Mick, D. G., & DeMoss, M. (1990). Self-gifts: Phenomenological insights from four contexts. *Journal of Consumer Research*, 322-332.

Moon, J.-W., & Kim, Y.-G. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management*, *38*(4), 217-230.

Morand, P., & Manceau, D. (2009). *Pour une nouvelle vision de l'innovation*. Rapport officiel, Paris, La documentation Française.

Nesse, R. M. (2006). Evolutionary explanations for mood and mood disorders. *The American Psychiatric Publishing Textbook of Mood Disorders*, 159-175.

Norman, D. A. (2004). *Emotional design: Why we love (or hate) everyday things*. New York: Basic Civitas Books.

Nysveen, H., Pedersen, P. E., & Thorbjørnsen, H. (2005). Intentions to use mobile services: antecedents and cross-service comparisons. *Journal of the Academy of Marketing Science*, *33*(3), 330-346.

Oatley, K., & Johnson-Laird, P. N. (1987). Towards a cognitive theory of emotions. *Cognition and Emotion*, *1*(1), 29-50.

Oliver, R. L. (1977). Effect of expectation and disconfirmation on postexposure product evaluations: An alternative interpretation. *Journal of Applied Psychology*, *62*(4), 480.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 460-469.

Oliver, R. L. (1981). Measurement and evaluation of satisfaction processes in retail settings. *Journal of retailing*, *57*, 25-48.

Oliver, R. L., Rust, R. T., & Varki, S. (1997). Customer delight: foundations, findings, and managerial insight. *Journal of Retailing*, *73*(3), 311-336.

Ortony, A., Clore, G. L., & Collins, A. (1990). *The cognitive structure of emotions*. Cambridge University Press.

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, *18*(4), 315-341.

Pekrun, R., Götz, T., Titz, W., & Perry, R. P. (2002). Positive emotions in education. In In E. Frydenberg (Ed.), *Beyond coping: Meeting goals, visions, and challenges* (pp. 149-173). Oxford: University Press.

Pham, M. T. (2004). The logic of feeling. *Journal of Consumer Psychology*, *14*(4), 360-369.

Pham, M. T. (2007). Emotion and rationality: A critical review and interpretation of empirical evidence. *Review of General Psychology*, *11*(2), 155.

Phillips, D. M., & Baumgartner, H. (2002). The Role of Consumption Emotions in the Satisfaction Response. *Journal of Consumer Psychology (Lawrence Erlbaum Associates)*, *12*(3), 243-252.

Picci, P., & Battistelli, A. (2009). Motivational antecedents of individual innovation. *Processes of Emergence of Systems and Systemic Properties: Towards a General Theory of Emergence, Singapore: World Scientific*, 163-180.

Pizam, A., & Milman, A. (1993). Predicting satisfaction among first time visitors to a destination by using the expectancy disconfirmation theory. *International Journal of Hospitality Management*, *12*(2), 197-209.

Plutchik, R. (1980). *Emotion, a psychoevolutionary synthesis*. Harper & Row New York.

Premkumar, G., & Bhattacherjee, A. (2008). Explaining information technology usage: A test of competing models. *Omega*, *36*(1), 64-75.

Raghunathan, Rajagopal, & Pham, M. T. (1999). All negative moods are not equal: Motivational influences of anxiety and sadness on decision making. *Organizational Behavior and Human Decision Processes*, *79*(1), 56-77.

Raghunathan, R., Pham, M. T., & Corfman, K. P. (2006). Informational Properties of Anxiety and Sadness, and Displaced Coping. *Journal of Consumer Research*, *32*(4), 596-601.

Ratneshwar, S., Glen Mick, M., and Huffman, C. (2011).*The Why of Consumption: Contemporary Perspectives on Consumer Motives, Goals, and Desires*. 36-58. New York: Routledge.

Richins, M. L. (2008). Consumption emotions. In Schifferstein, H. and Hekkert, P., (eds.). *Product Experience* (p. 399-422). San Diego: Elsevier.

Roca, J. C., Chiu, C. M., & Martínez, F. J. (2006). Understanding e-learning continuance intention: An extension of the Technology Acceptance Model. *International Journal of Human-Computer Studies*, *64*(8), 683-696.

Roehrich, G. (2004). Consumer innovativeness: concepts and measurements. *Journal of Business Research*, *57*(6), 671-677.

Rogers, E. M. (2003). *Diffusion of Innovations, 5th Edition*. New York: Free Press.

Roseman, I., & Evdokas, A. (2004). Appraisals cause experienced emotions: Experimental evidence. *Cognition and Emotion*, *18*(1), 1-28.

Roseman, I. J. (1984). Cognitive determinants of emotion: A structural theory. *Review of Personality & Social Psychology*, 5, 11-36.

Roseman, I. J. (1991). Appraisal determinants of discrete emotions. *Cognition & Emotion*, *5*(3), 161-200.

Roseman, Ira J. (2001). A model of appraisal in the emotion system: Integrating theory, research, and applications. In Klaus R. Scherer, A. Schorr, & T. Johnstone (éd.), *Appraisal processes in emotion: Theory, methods, research.* (p. 68-91). New York, NY US: Oxford University Press.

Roseman, Ira J. (2008). Motivations and emotivations: Approach, avoidance, and other tendencies in motivated and emotional behavior. In A. J. Elliot (éd.), *Handbook of approach and avoidance motivation.* (p. 343-366). New York, NY US: Psychology Press.

Roseman, Ira J., Wiest, C., & Swartz, T. S. (1994). Phenomenology, behaviors, and goals differentiate discrete emotions. *Journal of Personality and Social Psychology*, *67*(2), 206-221.

Rosenberg, E. L. (1998). Levels of analysis and the organization of affect. *Review of General Psychology*, *2*(3), 247-270.

Rust, R. T., & Oliver, R. L. (2000). Should we delight the customer? *Journal of the Academy of Marketing Science*, *28*(1), 86-94.

Saadé, R. G., & Kira, D. (2006). The emotional state of technology acceptance. *Issues in Informing Science & Information Technology*, *3*, 529-540.

Sander, D., & Scherer, K. R. (2009). *Traité de psychologie des émotions*. Paris: Dunod.

Santos, J., & Boote, J. (2003). A theoretical exploration and model of consumer expectations, post-purchase affective states and affective behaviour. *Journal of Consumer Behaviour*, *3*(2), 142-156.

Sbai, N., Dubois, M. & Kouabenan, R. (2010). Etude de l'interaction Humain-Technologie : comment mesurer les émotions de l'utilisateur ? *Ergo'IA, Innovation, Interactions, Qualité de vie* : Biarritz, France, 13-15 octobre.

Scherer, K. R. (1984). On the nature and function of emotion: A component process approach.In K. R. Scherer and P. Ekman (Eds), *Approaches to emotion* (pp. 293-317). Hillsdale, Nj: Erlbaum.

Scherer, K. R. (1999). Appraisal theory. In T. Dalgleish (Ed.) *Handbook of cognition and emotion*, (pp.637-663). Chichester: Wiley.

Scherer, K. R. (2001). Appraisal considered as a process of multilevel sequential checking. *Appraisal processes in emotion: Theory, methods, research*, *92*, 120.

Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social science information*, *44*(4), 695-729.

Schmidt, S., Tinti, C., Levine, L. J., & Testa, S. (2010). Appraisals, emotions and emotion regulation: An integrative approach. *Motivation and emotion*, *34*(1), 63-72.

Schumpeter, J. A. (1934). *The theory of economic development: an inquiry into profits, capital, credit, interest, and the business cycle*. Transaction Books.

Schwarz, N. (1990). *Feelings as information: informational and motivational functions of affective states.* Guilford Press.

Schwarz, N., Bless, H., & Bohner, G. (1991). Mood and persuasion: Affective states influence the processing of persuasive communications. *Advances in experimental social psychology*, *24*, 161-199.

Schwarz, N., & Clore, G. L. (1988). How do I feel about it? The informative function of affective states. In K. Fiedler & J. P. Forgas (Eds.), *Affect, cognition, and social behavior* (pp. 44-62). Toronto: Hogrefe International.

Schwarz, N., & Clore, G. L. (2003). Mood as information: 20 years later. *Psychological Inquiry*, *14*(3-4), 296-303.

Schwarz, Norbert, & Clore, G. L. (1983). Mood, Misattribution, and Judgments of Well-Being: Informative and Directive Functions of Affective States. *Journal of Personality & Social Psychology*, *45*(3), 513-523.

Shütte, S. (2002). Integrating Kansei Engineering Methodology in Product Development. *Linköping Studies in Science and Technology, Sweden*.

Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, *48*(4), 813-838.

Spreng, R. A., MacKenzie, S. B., & Olshavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *The Journal of Marketing*, 60(3), 15-32.

Steen, M., Manschot, M., & De Koning, N. (2011). Benefits of co-design in service design projects. *International Journal of Design*, *5*(2), 53-60.

Sun, H., & Zhang, P. (2008). An exploration of affect factors and their role in user technology acceptance: Mediation and causality. *Journal of the American society for information science and technology*, *59*(8), 1252-1263.

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information systems research*, *6*(2), 144-176.

Tcherkassof, A., Bollon,T., Dubois, M., Pansu, P., & Adam, J. M. (2007). Facial expressions of emotions: A methodological contribution to the study of spontaneous and dynamic emotional faces. *European Journal of Social Psychology*, 37, pp.1325-1345.

Terrade, F., Pasquier, H., Reerinck-Boulanger, J., Guingouain, G., & Somat, A. (2009). L'acceptalibilité sociale: la prise en compte des déterminants sociaux dans l'analyse de l'acceptabilité des systèmes technologiques. *Le Travail Humain*, *72*(4), 383-395.

Thong, J. Y., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, *64*(9), 799-810.

Thüring, M., & Mahlke, S. (2007). Usability, aesthetics and emotions in human–technology interaction. *International Journal of Psychology*, *42*(4), 253-264.

Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, *81*(6), 973.

Tracy, J. L., & Robins, R. W. (2007). Emerging insights into the nature and function of pride. *Current Directions in Psychological Science*, *16*(3), 147-150.

Trevino, L. K., & Webster, J. (1992). Flow in Computer-Mediated Communication Electronic Mail and Voice Mail Evaluation and Impacts. *Communication research*, *19*(5), 539-573.

Tse, D. K., Nicosia, F. M., & Wilton, P. C. (1990). Consumer satisfaction as a process. *Psychology and Marketing*, *7*(3), 177-193.

Tse, D. K., & Wilton, P. C. (1988). Models of consumer satisfaction formation: an extension. *Journal of marketing research*, 204-212.

Vallerand, R.J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. Advances in experimental social psychology, 29, 271-360.

Zanna (Ed.), *Advances in experimental social psychology* (pp. 271 - 360). New York: Academic Press.

Van de Ven, N., Zeelenberg, M., & Pieters, R. (2011). The envy premium in product evaluation. *Journal of Consumer Research*, *37*(6), 984-998.

Van Tilburg, W., & R. Igou, Eric. (2011). On boredom: Lack of Challenge and meaning a distinct boredom experiences. *Motivation and Emotion*, *36*(2), 181-194.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information systems research*, *11*(4), 342-365.

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *Mis Quarterly*, 115-139.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Venkatesh, V., & Speier, C. (1999). Computer Technology Training in the Workplace: A Longitudinal Investigation of the Effect of Mood. *Organizational Behavior and Human Decision Processes*, *79*(1), 1-28.

Venkatesh, Viswanath, Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, *27*(3), 425-478.

Verma, H. V. (2003). Customer outrage and delight. *Journal of Services Research*, *3*(1), 119-133.

Vohs, K. D., Baumeister, R. F., & Loewenstein, G. (2007). *Do emotions help or hurt decision making?: a hedgefoxian perspective*. Russell Sage Foundation Publications.

Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective well-being. *Social Behavior and Personality: an international journal*, *31*(5), 431-451.

Watson, D., & Naragon, K. (2009). Positive Affectivity: The Disposition to Experience Positive Emotional States. In C. R. Snyder (Eds), *Oxford Handbook of positive psychology* (Second Edition, pp. 437-446). New York: Oxford University Press.

Weary, G., & Jacobson, J. A. (1997). Causal uncertainty beliefs and diagnostic information seeking. *Journal of Personality and Social Psychology*, *73*(4), 839.

Weiner, B. (1980). A cognitive (attribution)-emotion-action model of motivated behavior: An analysis of judgments of help-giving. *Journal of Personality and Social Psychology*, *39*(2), 186-200.

Weiner, Bernard. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, *92*(4), 548-573.

Westbrook, R. A., & Oliver, R. L. (1991). The dimensionality of consumption emotion patterns and consumer satisfaction. *Journal of consumer research*, 84-91.

Westbrook, R. A., & Reilly, M. D. (1983). Value-percept disparity: an alternative to the disconfirmation of expectations theory of consumer satisfaction. *Advances in consumer research*, *10*(1), 256-261.

Whitlark, D. B., Geurts, M. D., & Swenson, M. J. (1993). New product forecasting with a purchase intention survey. *Journal of Business Forecasting Methods and Systems*, *12*, 18-18.

Whitney, E. (2004). *Medieval science and technology*. Greenwood Press.

Wilson, T. D., & Klaaren, K. J. (1992). Expectation whirls me round: The role of affective expectations on affective experiences. *Review of personality and social psychology*, *14*, 1- 31.

Wilson, T. D., Lisle, D. J., Kraft, D., & Wetzel, C. G. (1989). Preferences as expectation-driven inferences: effects of affective expectations on affective experience. *Journal of Personality and Social Psychology*, *56*(4), 519.

Wixom, B. H., & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information systems research*, *16*(1), 85-102.

Wood, S. L., & Moreau, C. P. (2006). From Fear to Loathing? How Emotion Influences the Evaluation and Early Use of Innovations. *Journal of Marketing*, *70*(3), 44-57.

Wright, W. F., & Bower, G. H. (1992). Mood effects on subjective probability assessment. *Organizational behavior and human decision processes*, *52*(2), 276-291.

Yang, C. C. (2011). Identification of customer delight for quality attributes and its applications. *Total Quality Management*, *22*(1), 83-98.

Yi, M. Y., & Hwang, Y. (2003). Predicting the use of web-based information systems: Self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal of Human-Computer Studies*, *59*(4), 431-449.

Yi, Y. (1990). A critical review of consumer satisfaction. *Review of marketing*, *4*, 68-123.

Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining Internet Banking Behavior: Theory of Reasoned Action, Theory of Planned Behavior, or Technology Acceptance Model? *Journal of Applied Social Psychology*, *40*(5), 1172-1202.

Zeelenberg, M, & Pieters, R. (2006). Feeling is for doing: A pragmatic approach to the study of emotions in economic behavior. *Social psychology and economics*, 117-137.

Zeelenberg, M., Nelissen, R. M. A., Breugelmans, S. M., & Pieters, R. (2008). On emotion specificity in decision making: Why feeling is for doing. *Judgment and Decision Making*, *3*(1), 18-27.

Zeelenberg, Marcel, Dijk, W. W. van, Manstead, A. S. R., & Pligt, J. van der. (2000). On bad decisions and disconfirmed expectancies: The psychology of regret and disappointment. *Cognition & Emotion*, *14*(4), 521-541.

Zeelenberg, Marcel, Dijk, W. W. V., S.R.Manstead, A., & Pligt, J. D. (1998). The Experience of Regret and Disappointment. *Cognition & Emotion*, *12*(2), 221-230.

Zillmann, D. (1988). Mood management: Using entertainment to full advantage. *Communication, social cognition, and affect*, 147-171.

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Appendices are organized in two parts. In a first part, the material used in each study is presented. In the second part, we present the results tables.

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MATERIALS APPENDIX

STUDY 1

Appendix 1. Participants' instruction

Appendix 2. Expectations induction and Product description

Appendix 3. Questionnaire 1

Appendix 4. Questionnaire 2

Participants instruction

Bonjour,

Mon nom est Naoil Sbai. Je vous remercie d'avoir accepté cette rencontre.

Comme expliqué au préalable, je souhaite recueillir votre avis concernant un nouveau produit : un lecteur de livres électroniques.

Cette rencontre va se dérouler en 3 temps :

1) Dans un premier temps, je vais vous demander de **lire une fiche descriptive** du produit et de **répondre à un court questionnaire**. L'objectif de ce questionnaire sera de recueillir vos attentes quant à l'utilisation de ce lecteur de livres électroniques et tout particulièrement de savoir quels sentiments vous pensez expérimenter lors de l'usage de ce dispositif de livres électroniques.

2) Dans un 2ème temps, vous **découvrirez par vous-même ce lecteur de livres numériques**. N'hésitez donc pas à essayer différentes choses. Vous aurez à votre disposition un mode d'emploi si vous le souhaitez.

Pendant l'utilisation de ce dispositif, je vous demanderai de penser à haute voix et d'indiquer tout ce qui vous vient à l'esprit. Ne vous censurez pas, n'hésitez pas à dire tout ce qui vous passe par la tête.

3) Enfin, dans un 3ème temps, vous **compléterez un questionnaire final**. L'objectif de ce questionnaire sera de recueillir votre opinion globale vis-à-vis de ce lecteur de livres numériques. Avez-vous des questions avant de commencer ?

Expectations induction

- Control conduction

Pas d'informations supplémentaires

- Positive Expectations Condition

«C'est un appareil formidable. Il offre un réel confort de lecture, comparable à un vrai livre. La navigation est très agréable, très intuitive et la vitesse d'une page à l'autre est très rapide. Tout a été conçu pour que le plaisir de la lecture reste intact.»

- Negative Expectations Condition

« C'est un appareil moyen. La lecture n'est pas aussi confortable qu'avec un vrai livre. L'écran fatigue un peu les yeux. La navigation est jugée peu agréable, peu intuitive et la vitesse d'une page à l'autre assez lente. C'est dommage, le plaisir de la lecture est altéré.

Product Description

Ce lecteur de livres électroniques permet de stocker jusqu'à 13 000 ouvrages avec une carte mémoire supplémentaire, d'écouter de la musique et d'afficher des fichiers image ou photo.
Ecran E Ink® semblable à du papier. Plusieurs tailles de police et fonction zoom.
Poids : 260 grammes

- Type de batterie : batterie lithium-ion rechargeable
- Autonomie (lecture d'eBooks EPUB) : environ 6 800 pages
- Durée de charge : 4 heures via USB, 2 heures avec un chargeur secteur en option

- Fonctions audio/vidéo Formats texte lus : BBeB Book ou epub (avec ou sans DRM), fichiers TXT, RTF et PDF ; audio : MP3 et AAC (sans DRM) ; photo (en noir et blanc) : JPEG, GIF, PNG et BMP

Date : /04/2010	**Nom** :	**Prénom** :

Vous venez de lire la fiche descriptive de ce nouveau produit.
Imaginez-vous, maintenant, utilisant ce lecteur de livres électroniques.

Indiquez l'intensité avec laquelle vous pensez ressentir les émotions ci-dessous lors de l'usage de ce lecteur de livres électroniques
(Cochez la case qui correspond le plus à votre opinion sur une échelle allant de totalement non à totalement oui.)

Lors de l'usage du lecteur de livres électroniques, je m'attends à me sentir…	Totalement non	Plutôt non	Moyennement	Plutôt oui	Totalement oui
Calme	☐	☐	☐	☐	☐
Content	☐	☐	☐	☐	☐
Nerveux	☐	☐	☐	☐	☐
Inspiré	☐	☐	☐	☐	☐
Enthousiaste	☐	☐	☐	☐	☐
Surpris	☐	☐	☐	☐	☐
Serein	☐	☐	☐	☐	☐
Embarrassé	☐	☐	☐	☐	☐
Ravi	☐	☐	☐	☐	☐
Stimulé	☐	☐	☐	☐	☐
Etonné	☐	☐	☐	☐	☐
Optimiste	☐	☐	☐	☐	☐
En colère	☐	☐	☐	☐	☐
Fasciné	☐	☐	☐	☐	☐
Frustré	☐	☐	☐	☐	☐
Anxieux	☐	☐	☐	☐	☐
Déçu	☐	☐	☐	☐	☐
Stupéfait	☐	☐	☐	☐	☐
Gêné	☐	☐	☐	☐	☐
Tendu	☐	☐	☐	☐	☐
Amusé	☐	☐	☐	☐	☐

Date : /04/2010	**Nom** :	**Prénom** :

Vous venez d'utiliser le lecteur de livres électroniques.
Nous souhaitons recueillir, maintenant, votre opinion générale concernant cet appareil.
Merci de répondre le plus <u>sincèrement</u> et <u>spontanément</u> possible aux questions qui suivent.

<u>Votre ressenti émotionnel lors de l'usage du lecteur de livres électroniques</u>
Indiquez l'intensité avec laquelle vous avez ressenti les émotions ci-dessous lors de l'usage du dispositif de livres électroniques.
(Cochez la case qui correspond le plus à votre opinion sur une échelle allant de totalement non à totalement oui.)

Lors de l'usage du lecteur de livres électroniques, je me suis senti…	Totalement non	Plutôt non	Moyennement	Plutôt oui	Totalement oui
Calme	☐	☐	☐	☐	☐
Content	☐	☐	☐	☐	☐
Nerveux	☐	☐	☐	☐	☐
Inspiré	☐	☐	☐	☐	☐
Enthousiaste	☐	☐	☐	☐	☐
Surpris	☐	☐	☐	☐	☐
Serein	☐	☐	☐	☐	☐
Embarrassé	☐	☐	☐	☐	☐
Ravi	☐	☐	☐	☐	☐
Stimulé	☐	☐	☐	☐	☐
Etonné	☐	☐	☐	☐	☐
Optimiste	☐	☐	☐	☐	☐
En colère	☐	☐	☐	☐	☐
Fasciné	☐	☐	☐	☐	☐
Frustré	☐	☐	☐	☐	☐
Anxieux	☐	☐	☐	☐	☐
Déçu	☐	☐	☐	☐	☐
Stupéfait	☐	☐	☐	☐	☐

Gêné	☐	☐	☐	☐	☐
Tendu	☐	☐	☐	☐	☐
Amusé	☐	☐	☐	☐	☐

Sentiments généraux vis-à-vis du lecteur de livres électroniques

(Pour chacune des propositions ci-dessous, cochez la case qui correspond le plus à votre opinion sur une échelle allant de totalement non à totalement oui.)

Je pense qu'apprendre à utiliser ce produit…	Totalement non	Plutôt non	Moyennement	Plutôt oui	Totalement oui
est facile	☐	☐	☐	☐	☐
demande beaucoup d'effort	☐	☐	☐	☐	☐
nécessite peu de connaissance	☐	☐	☐	☐	☐
nécessite beaucoup de temps	☐	☐	☐	☐	☐

Je pense que ce lecteur de livres électroniques…	Totalement non	Plutôt non	Moyennement	Plutôt oui	Totalement oui
est agréable à utiliser	☐	☐	☐	☐	☐
a un côté ludique	☐	☐	☐	☐	☐
offre un bon confort de lecture	☐	☐	☐	☐	☐
va me permettre de lire plus de livres	☐	☐	☐	☐	☐
peut être utile dans le cadre de mes études et/ou de mon travail	☐	☐	☐	☐	☐
peut être utile pendant mes vacances	☐	☐	☐	☐	☐

Par rapport à ce que vous attendiez avant d'utiliser ce produit…	Beaucoup moins bien qu'attendu	Un peu moins bien qu'attendu	Assez bien par rapport à ce que vous attendiez	Un peu mieux qu'attendu	Beaucoup mieux qu'attendu
la rapidité de navigation est	☐	☐	☐	☐	☐
le confort d'utilisation est	☐	☐	☐	☐	☐
le plaisir d'utilisation est	☐	☐	☐	☐	☐
la facilité d'utilisation est	☐	☐	☐	☐	☐
cette expérience est	☐	☐	☐	☐	☐

Globalement, diriez vous que…	Totalement non	Plutôt non	Moyennement	Plutôt oui	Totalement oui
mon sentiment à l'égard de ce produit est très favorable	☐	☐	☐	☐	☐
ce lecteur de livres électroniques me plaît beaucoup	☐	☐	☐	☐	☐
je suis content d'avoir découvert ce produit lors de cette étude	☐	☐	☐	☐	☐

Maintenant, imaginez que vous disposiez gratuitement de ce lecteur de livres électroniques. Indiquez dans quelle mesure vous l'utiliseriez.
(Pour chacune des questions ci-dessous, cochez la case qui correspond le plus à votre opinion sur une échelle allant de totalement non à totalement oui.)

Si vous disposiez gratuitement de ce lecteur de livres électroniques…	Très certainement	Probablement	Peut-être	Probablement pas	Certainement pas
est-ce que vous l'utiliseriez ?	☐	☐	☐	☐	☐
est-ce que vous l'utiliseriez pour lire des documents de travail ?	☐	☐	☐	☐	☐
est-ce que vous l'utiliseriez pour lire vos livres préférés ?	☐	☐	☐	☐	☐
est-ce que vous l'utiliseriez lors de vos déplacements quotidiens ?	☐	☐	☐	☐	☐
est-ce que vous l'utiliseriez pendant les vacances ?	☐	☐	☐	☐	☐

- Si ce produit était disponible sur le marché à un prix acceptable, est-ce que vous l'achèteriez ? *(Cochez la case qui correspond le plus à votre opinion.)*

Très certainement	Probablement	Peut-être	Probablement pas	Certainement pas
☐	☐	☐	☐	☐

- Quel serait votre fréquence globale d'utilisation ? *(Cochez la case qui correspond le plus à votre opinion.)*

Jamais	De temps en temps	Très fréquemment	Tout le temps
☐	☐	☐	☐

- Est-ce que vous recommanderiez ce produit à vos ami(e)s ? *(Cochez la case qui correspond le plus à votre opinion.)*

Très certainement	Probablement	Peut-être	Probablement pas	Certainement pas
☐	☐	☐	☐	☐

Les Nouvelles Technologies et Vous

(Pour chacune des propositions ci-dessous, cochez la case qui correspond le plus à votre opinion sur une échelle allant de totalement non à totalement oui.)

	Totalement non	Plutôt non	Moyennement	Plutôt oui	Totalement oui
J'aime acheter des produits nouveaux et différents	☐	☐	☐	☐	☐
Je tiens à être parmi les premiers à acheter les nouveaux produits	☐	☐	☐	☐	☐
J'essaie les nouveaux produits avant mes amis	☐	☐	☐	☐	☐

Parmi les appareils de la liste suivante, lesquels utilisez-vous ? Cochez la ou les cases correspondante(s)	Au moins une fois par jour	Au moins une fois par semaine	Au moins une fois par mois
Console de jeux	☐	☐	☐
Téléphone mobile	☐	☐	☐
Téléphone Smartphone	☐	☐	☐
Ordinateur portable	☐	☐	☐
Notebook / Netbook	☐	☐	☐
Internet mobile	☐	☐	☐
PDA (Assistant personnel)	☐	☐	☐
GPS voiture	☐	☐	☐
GPS mobile	☐	☐	☐
Appareil photo	☐	☐	☐
Caméra numérique	☐	☐	☐

Pratique de la lecture

- Combien de livres lisez-vous en moyenne par mois ?……

- Quel type de livre préférez-vous ? (*Cochez la case ou les cases correspondante(s)*)

☐ Mémoires et Biographies ☐ Classique ☐Théâtre

☐ Romans et Nouvelles ☐ Policier & Thriller ☐ Humour

☐ Fantastique et Science Fiction ☐ Poésie ☐ BD

☐Autres
(Précisez)……

- Quel est le dernier livre que vous avez lu ?.....

- Lisez-vous des magazines ? ☐Oui ☐Non

Si oui, le(s)quel(s) ?
.....

- Lisez-vous un journal quotidien ou hebdomadaire ? ☐Oui ☐Non
Si oui, le(s)quel(s) ?
.....

Renseignements complémentaires

- Vous êtes ☐un homme ☐une femme

- Votre âge est de …… ans

- Quels est votre situation professionnelle actuelle ?……

- Si vous êtes étudiant, précisez dans quel domaine…….

- Souhaitez-vous participer à d'autres études ? ☐Oui ☐Non

Si oui, indiquez lisiblement votre numéro de téléphone et votre adresse email :

Téléphone :
……..

Adresse email :
……

Merci de votre participation

STUDY 2

Appendix 5. Emotion Inductions_Amusement

Appendix 6. Emotion Inductions_Fear

Appendix 7. Emotion Inductions_Anger

Appendix 8. Emotion Inductions_Control

Appendix 9. Product Evaluation

Appendix 10. Hedonic and less hedonic products

Appendix 11. Emotion Inductions Check

Etude en Psychologie Sociale et Cognitive sur la Mémoire Différée

Bonjour. Tout d'abord, merci de participer à cette étude.

Il s'agit dans cette étude de vous **remémorer** et de **décrire un événement personnel.** Nous nous intéressons spécifiquement à la qualité des détails rappelés par les personnes.

Tentez maintenant de vous **rappeler un événement spécifique agréable de jeu ou de loisir ou un moment où vous avez entendu une blague**, **un moment où avez eu envie de rire et de plaisanter.** Remémorez vous un instant spécifique et non pas un événement général.
Visualisez d'abord cette scène pendant 1 à 2 minutes et décrivez la ensuite de la manière la plus détaillée possible (environ 10 minutes).

Etude en Psychologie Sociale et Cognitive sur la Mémoire Différée

Bonjour. Tout d'abord, merci de participer à cette étude.

Il s'agit pour vous de vous **remémorer** et de **décrire un événement personnel.** En effet, nous nous intéressons spécifiquement à la qualité des détails rappelés par les personnes.

Tentez maintenant de vous **rappeler un événement spécifique où vous avez perçu la présence d'une menace ou un risque pour vous-même ou autrui et où vous avez ressenti le besoin de fuir ou de vous protéger**.
Remémorez vous un instant spécifique et non pas un événement général.
Visualisez d'abord cette scène pendant 1 à 2 minutes et décrivez la ensuite de la manière la plus détaillée possible (environ 10 minutes).

Etude en Psychologie Sociale et Cognitive sur la Mémoire Différée

Bonjour. Tout d'abord, merci de participer à cette étude.

Il s'agit dans cette étude de vous **remémorer** et de **décrire un événement personnel.** Nous nous intéressons spécifiquement à la qualité des détails rappelés par les personnes.

Tentez maintenant de vous **rappeler un événement spécifique où vous vous êtes senti outragé (offusqué) personnellement ou moralement et où vous avez eu envie de vous vous opposer à la personne à l'origine de cet événement dans le but de la punir, de faire valoir vos droits ou le respect de votre personne.**
Remémorez-vous un instant spécifique et non pas un événement général.
Visualisez d'abord cette scène pendant 1 à 2 minutes et décrivez la ensuite de la manière la plus détaillée possible (environ 10 minutes).

Etude en Psychologie Sociale et Cognitive sur la Mémoire Différée

Bonjour. Tout d'abord, merci de participer à cette étude.

Il s'agit dans cette étude de vous **remémorer** et de **décrire un événement personnel.** Nous nous intéressons spécifiquement à la qualité des détails rappelés par les personnes.

Tentez maintenant de vous **rappeler un événement anodin de votre vie : la dernière fois où vous avez lavé votre linge.**
Visualisez d'abord cette scène pendant 1 à 2 minutes et décrivez la ensuite de la manière la plus détaillée possible (environ 10 minutes).

Merci de répondre de manière spontanée et sincère au questionnaire suivant.

Mon opinion vis-à-vis de ce produit

(Cochez la case qui correspond le mieux à votre opinion)

Indiquez dans quelle mesure vous êtes d'accord avec chacune des propositions qui vous sont présentées (*sur une échelle allant de 1 « Pas du tout d'accord » à 9 « Tout à fait d'accord* »)

Globalement diriez-vous que…	**Pas du tout d'accord** 1	2	3	4	5	6	7	8	**Tout à fait d'accord** 9
Vous trouvez ce produit attractif	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ce produit vous plaît beaucoup	☐	☐	☐	☐	☐	☐	☐	☐	☐
Votre sentiment à l'égard de ce produit est favorable	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vous aimeriez bien utiliser ce produit	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vous êtes séduit par ce produit	☐	☐	☐	☐	☐	☐	☐	☐	☐

Vous et les nouvelles technologies

Globalement…	**Pas du tout d'accord**	2	3	4	5	6	7	8	**Tout à fait d'accord**
J'aime acheter et tester de nouveaux produits	☐	☐	☐	☐	☐	☐	☐	☐	☐
Je tiens à être parmi les premiers à acheter les nouveaux produits	☐	☐	☐	☐	☐	☐	☐	☐	☐
J'essaie toujours les nouveaux produits avant mes amis	☐	☐	☐	☐	☐	☐	☐	☐	☐

Version hédonique du produit

Phileas

Découvrir notre planète par le jeu

Phileas est un globe terrestre de nouvelle génération doté d'un écran numérique.

Phileas est une nouvelle manière de découvrir notre planète. Phileas offre une expérience divertissante à vivre seul, en famille ou entre amis grâce à de nombreux jeux pour explorer notre planète tout en s'amusant. Une véritable invitation au voyage.

Version utiltaire du produit

Phileas

La géographie facile

Phileas est un globe terrestre de nouvelle génération doté d'un écran numérique.

Phileas est conçu pour l'apprentissage de la géographie (continent, pays, capital...). Connecté à Google Earth, Phileas permet d'explorer notre planète d'un simple mouvement de doigts. Phileas est intuitif et simple d'utilisation.

Questionnaire - Etude sur la mémoire différée

Merci de répondre *spontanément et rapidement* aux questions ci-dessous.

1. Comment vous êtes vous senti lors du rappel de votre événement personnel ? *(Entourez le chiffre traduisant le mieux votre ressenti.)*

Je n'ai ressenti aucune émotion 0 1 2 3 4 5 6 ***j'ai ressenti des émotions intenses***

2. Voici à présent différents ressentis. Indiquez ce vous avez ressenti de manière plus précise (sur une échelle allant de 0 « pas du tout » à 6 « tout à fait »)

- **Colère** : *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Amusement :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Peur :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Tristesse :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Dégoût :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Confiance :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*

3. Aviez-vous envie de...

- **Sourire :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Plaisanter** : *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **De fuir l'événement :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*

4. Globalement, l'événement que vous avez décrit était….

• **Plaisant**	1	2	3	4	5	6	7	**Déplaisant**
• **Prévisible**	1	2	3	4	5	6	7	**Inattendu**
• **Contrôlable (maîtrisable)**	1	2	3	4	5	6	7	**Incontrôlable**
• **Compréhensible**	1	2	3	4	5	6	7	**Incompréhensible**
• **Agréable**	1	2	3	4	5	6	7	**Désagréable**
• **Sûr**	1	2	3	4	5	6	7	**Menaçant**

STUDY 3

Appendix 12. Emotion Inductions_Amusement

Appendix 13. Emotion Inductions_Satisfaction

Appendix 14. Emotion Inductions_Control

Appendix 15. Questionnaires 1 & 2

Merci de lire attentivement le scenario ci-dessous. Lors de la lecture de ce scénario, tentez de vous mettre dans la peau du personnage principal afin de vivre la situation de la même manière que lui et de ressentir les mêmes sentiments que lui, tels que décrits dans ce scénario.

Imaginez à présent que vous êtes dans un café en train de manger un sandwich. Même si vous avez des choses à faire, vous ne pouvez pas vous empêcher de suivre la conversation de la table à côté. Vous tentez de vous concentrer sur vos cours mais vous n'arrivez pas résister à la tentation et voulez savoir ce qui fait tant rire vos voisins. Vous tendez alors l'oreille pour mieux entendre...

« L'été dernier, j'étais chez ma sœur qui organisait un dîner avec tous ses amis. Elle faisait une très grande soirée et tout le monde était très bien habillé. Elle avait même invité quelques uns de ses collègues de travail. Nous étions tous dans le jardin en train de boire un verre quand au bout d'une heure, je m'excuse pour aller aux toilettes. Lorsque j'y suis, qu'est-ce-que je vois en train de flotter dans la cuvette -un énorme caca, le plus grand jamais vu, même pas de papier ou quoi que ce soit mais seulement cet énorme caca.

Je tente de tirer la chasse d'eau mais je n'arrive pas à l'évacuer. Cette chose fait des rotations sur elle-même mais c'est tout. Je pense pendant quelques secondes à sortir et laisser cette chose derrière moi mais je ne pouvais pas, car j'avais déjà dit à tout le monde où j'allais –à tous les amis de ma sœur. Oui tout le monde savait où j'étais. J'aurais mieux fait de dire que j'allais passer un appel. Maintenant, j'étais obligé de régler ça.

Pendant que le réservoir se remplit de nouveau, je jure en silence que si cette chose s'en va, je réaliserai une bonne action dès le lendemain. Au même moment, quelqu'un frappe à la porte et je commence à paniquer - « une petite minute !» criais-je tout en tirant la chasse d'eau. Le caca tourne de nouveau sur lui-même - « allez, allez s'il te plaît, oust !». Mais non, il ne s'en va pas et flotte toujours à la surface de la cuvette.

Je commence alors à me dire que, peut-être, le seul moyen serait de prendre cette chose et de la jeter par la fenêtre, mais ma sœur habite au rez-de-chaussée et tous les invités étaient dans le jardin. J'étais donc coincé.
Je tire à nouveau la chasse d'eau mais il est toujours là, sous mes yeux. Puis une idée me vient à l'esprit- « peut-être devrais-je me laver les cheveux » pour justifier tout ce temps passé dans les toilettes. « Encore une petite minute » lançais-je « je suis en train de prendre une petite douche ». Après quelques essais, je tire encore la chasse d'eau et là le miracle se produit, cette chose disparait enfin, complètement de ma vie… ».

A l'écoute de cette histoire, vous n'arrivez pas à contenir votre fou rire…

Merci de lire attentivement le scenario ci-dessous. Lors de la lecture de ce scénario, tentez de vous mettre dans la peau du personnage principal afin de vivre la situation de la même manière que lui et de ressentir les mêmes sentiments que lui, tels que décrits dans ce scénario.

Imaginez à présent que vous avez passé toute la journée à l'université et que vous n'avez pas eu le temps de déjeuner ce midi. A la fin de la journée, lors de votre dernier cours, vous entendez votre estomac gargouillé. Vous ne pensez plus qu'à manger un bon et délicieux repas. Vous savez, d'ailleurs, exactement où vous allez manger et ce que vous allez prendre.

Dès que le cours se termine, vous vous rendez directement dans votre restaurant préféré qui se trouve tout près du campus. Vous commandez vos plats préférés pour les emporter à la maison. A votre arrivée, vous disposez tous les plats sur la table de la salle à manger et humez l'odeur, que vous appréciez. Vous commencez à goûter quelques-uns de ces plats et vous vous dites que « c'est délicieux ! ». Vous trouvez ces plats familiers très réconfortants. Les plats sont cuisinés comme vous aimez et plus vous mangez et plus vous vous sentez content et comblé. Après quelques bouchées, vous vous sentez rassasié et continuez à penser que tous ces mets sont vraiment délicieux. Vous appréciez réellement ce repas.

A la fin du dîner, vous vous sentez entièrement relaxé. Votre corps est intégralement reposé. Confortablement installé dans votre fauteuil préféré, vous posez vos mains sur votre ventre, souriez, et inspirez profondément. Vous fermez les yeux et appréciez complètement ce moment. Vous êtes entouré d'un sentiment de confort et de sérénité. Vos muscles sont totalement relaxés et vous êtes à la fois bien et oisif. Vous n'avez plus envie de bouger ou de faire quoi que ce soit d'autre. Vous constatez que vous avez tout ce dont vous avez besoin- un fauteuil confortable et chaleureux ainsi qu'un estomac rassasié de votre nourriture préférée.

Vous vous reposez confortablement et repensez à votre journée. Vous vous dites que tout s'est bien passé aujourd'hui – une belle journée, agréable et sans stress. Le temps était plaisant, vos cours se sont bien passés et votre dîner était vraiment bon. Toujours en vous sentant serein et relaxé, vous pensez aux choses qui vont bien dans votre vie, vous êtes content et rassasié. Toujours dans cet état de relaxation, vous savez que vous allez bien dormir ce soir.

Merci de lire attentivement le scenario ci-dessous. Lors de la lecture de ce scénario, tentez de vous mettre dans la peau du personnage principal afin de vivre la situation de la même manière que lui et de ressentir les mêmes sentiments que lui, tels que décrits dans ce scénario.

Imaginez à présent que vous êtes en train de laver votre linge. Comme vous n'avez pas fait de lessive depuis un petit moment, vous avez de nombreuses choses à laver : des vêtements, des serviettes et des draps.
Dans un premier temps, vous commencez par trier votre linge et faites différentes piles de linge. Une fois ce travail terminé, vous placez votre linge dans la machine à laver et sélectionnez le mode « pleine charge ». Après avoir choisi la lessive appropriée pour votre linge et mesuré la quantité nécessaire, vous versez votre lessive dans le lave-linge. Pour finir, vous choisissez le programme de lavage adapté et démarrez votre machine.

Après une heure de lavage, votre lessive est terminée. Le temps que la porte de la machine à laver se déverrouille, vous vous assurez que votre sèche-linge est bien vide.
Une fois la porte déverrouillée, vous sortez un à un les vêtements du lave-linge. Vous les secouez un petit peu pour les défroisser et les disposez dans le sèche-linge. Pour terminer, vous versez l'assouplissant dans le sèche-linge, réglez la durée nécessaire et démarrez le séchage.

Pendant que votre linge est en train de sécher, vous chargez à nouveau votre machine à laver avec les vêtements restants. Comme vous avez déjà lavé les draps et les serviettes lors de votre première machine, il ne vous reste plus que les vêtements à laver. Comme il s'agit de vêtements assez délicats, vous modifiez le programme de lavage et lancez à nouveau votre lave-linge.

Quelques minutes plus tard, le séchage est terminé. Vous ouvrez la porte du sèche-linge et vous vous assurez que votre linge est bien sec. Comme tout semble sec, vous sortez les vêtements du sèche-linge et les placez dans votre panier à linge. Ensuite, après vous être assuré d'avoir complètement vidé votre sèche-linge, vous transférez vos vêtements, tout juste lavés, dans le sèche-linge. Une fois que tous les vêtements sont disposés dans le sèche-linge, vous modifiez le réglage, fermez la porte, et mettez la machine en route.

Pendant que vos vêtements sont en train de sécher, vous vous rendez dans la salle à manger et posez votre panier à linge sur la table. Vous faites un petit peu de place car la table est encombrée. Vous commencez alors à plier votre linge et réalisez deux piles : une pile avec les serviettes et une pile composée de draps. Enfin, vous allez dans votre chambre pour ranger votre linge à son emplacement habituel…

Merci de répondre de manière *spontanément* et *sincèrement* aux questions ci-dessous.

1. **Comment vous êtes vous senti à la lecture de ce scénario ?** *(Entourez le chiffre traduisant le mieux votre ressenti.)*

Je n'ai ressenti aucune émotion 0 1 2 3 4 5 6 ***j'ai ressenti des émotions intenses***

2. **Voici à présent différents ressentis. Indiquez ce vous avez ressenti de manière plus précise** (sur une échelle allant de 0 « pas du tout » à 6 « tout à fait »)

- **Colère** : *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Peur :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Tristesse :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Amour :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Dégoût :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Satisfaction** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Amusement :** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Joie** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*
- **Désir** *Pas du tout d'accord* 0 1 2 3 4 5 6 *Tout à fait d'accord*

Je suis **□ un homme** **□ une femme**

J'ai …… ans

Je suis étudiant(e) en…… en…… année

Merci de votre participation

Bonjour.

Nous vous remercions de participer à cette **étude en Sciences Humaines et Sociales** (UPMF). Nous réalisons cette étude en **collaboration avec l'école supérieure de Marketing de Grenoble** (IAE).

Il s'agit pour vous de participer à plusieurs **recherches indépendantes** (sur la mémoire, le jugement et les habitudes de consommation)

Cette étude est entièrement **anonyme e**t dure environ **30 min.**

Questionnaire N°1

Nous vous remercions à présent de bien vouloir remplir le questionnaire suivant.
Il n'y a pas de bonne ou de mauvaise réponse : c'est votre opinion qui nous intéresse.
Veuillez répondre le plus **sincèrement** et le plus **spontanément** possible.

Pour chaque proposition, sélectionnez la réponse de votre choix en entourant l'un des dix chiffres (de **1** *pas du tout* à **9** *tout à fait*).

Evaluation du produit

- *Globalement, diriez-vous que…*

	PAS DU TOUT (1)								TOUT A FAIT (9)
1. Vous trouvez ce produit **attractif**	1	2	3	4	5	6	7	8	9
2. Ce produit vous **plaît beaucoup**	1	2	3	4	5	6	7	8	9
3. Votre sentiment à l'égard de ce produit est **défavorable**	1	2	3	4	5	6	7	8	9
4. Vous êtes **séduit** par ce produit	1	2	3	4	5	6	7	8	9

- *Si ce produit était disponible sur le marché à un prix acceptable…*

	CERTAINEMENT PAS (1)								TRES CERTAINEMENT (9)
5. est-ce que vous l'**achèteriez** ?	1	2	3	4	5	6	7	8	9
6. est-ce que vous **recommanderiez** ce produit à vos ami(e)s ?	1	2	3	4	5	6	7	8	9

Vous et les produits innovants

- *Globalement, diriez-vous que vous…*

	PAS DU TOUT (1)								TOUT A FAIT (9)
7. aimez **acheter** et **tester de nouveaux produits**	1	2	3	4	5	6	7	8	9
8. tenez à être parmi les **1ers à acheter** les nouveaux produits	1	2	3	4	5	6	7	8	9
9. essayez les nouveaux produits **avant vos amis**	1	2	3	4	5	6	7	8	9
10. êtes **enthousiaste** à l'idée d'acheter de nouveaux produits	1	2	3	4	5	6	7	8	9
11. **demandez conseil à vos amis** avant d'acheter de nouveaux produits	1	2	3	4	5	6	7	8	9

Questionnaire N°2

Nous allons à présent vous poser quelques questions concernant le scénario que vous avez lu précédemment.
Merci de répondre le plus spontanément possible aux différentes questions en entourant le chiffre correspondant à votre réponse.

1. **Pendant la lecture du scénario**, comment vous êtes vous senti ?

- **Je n'ai ressenti aucune émotion (0)** **J'ai ressenti des émotions intenses (8)**

0 1 2 3 4 5 6 7 8

- **Je me suis senti calme (0)** **Je me suis senti stimulé (8)**

0 1 2 3 4 5 6 7 8

2. **Voici à présent différents ressentis.** Indiquez ce vous avez ressenti, de manière plus précise, pendant la lecture du scénario.

PAS DU TOUT (0) **TOUT A FAIT (8)**

- **Colère** 0 1 2 3 4 5 6 7 8
- **Peur :** 0 1 2 3 4 5 6 7 8
- **Tristesse :** 0 1 2 3 4 5 6 7 8
- **Amour :** 0 1 2 3 4 5 6 7 8
- **Dégoût :** 0 1 2 3 4 5 6 7 8
- **Satisfaction :** 0 1 2 3 4 5 6 7 8
- **Amusement :** 0 1 2 3 4 5 6 7 8
- **Joie :** 0 1 2 3 4 5 6 7 8
- **Désir** : 0 1 2 3 4 5 6 7 8
- **Gaieté** : 0 1 2 3 4 5 6 7 8
- **Satisfaction** 0 1 2 3 4 5 6 7 8

3. **Comment évaluez-vous ce scénario en général ?**

- **Plaisant** 1 2 3 4 5 6 7 8 9 **Déplaisant**
- **Prévisible** 1 2 3 4 5 6 7 8 9 **Inattendu**
- **Contrôlable (maîtrisable)** 1 2 3 4 5 6 7 8 9 **Incontrôlable**
- **Compréhensible** 1 2 3 4 5 6 7 8 9 **Incompréhensible**
- **Sûr (sécurisant)** 1 2 3 4 5 6 7 8 9 **Menaçant**
- **Nouveau** 1 2 3 4 5 6 7 8 9 **Familier**
- **Incertain** 1 2 3 4 5 6 7 8 9 **Certain**

4. A quel degré avez-vous ressenti le besoin/l'envie…

- de vous retrouver dans **environnement familier** ?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- d'être dans un **environnement confortable** ?

TOUT A FAIT (9)

PAS DU TOUT (1) . 5 6 7 8 9

- de vous retrouver dans un **environnement sécurisant** ?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- d'être en **compagnie** de vos **amis** ou de votre **famille** ?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- de vous **distraire** ?

PAS DU TOUT (1) **TOU** **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- de **vivre un moment de partage** avec vos amis ou votre entourage proche

PAS DU TOUT (1) **TOU** **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- de vous sentir **proche** ou d'être **proche physiquement** de **l'être aimé/désiré**?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- de **plaisanter/rire** avec votre **entourage** ?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- de **prendre soin de vous** dans le but de vous **sentir séduisant(e)**?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

- de **partager un moment intime** avec l'être aimé/désiré?

PAS DU TOUT (1) **TOUT A FAIT (9)**

1 2 3 4 5 6 7 8 9

5. Informations générales

- **Je suis** □ **un homme** □ **une femme**
- **J'ai …… ans Je suis étudiant(e) en…… en…… année**

Merci de votre participation !

STUDY 4

Appendix 16. Questionnaire

Etude A-M

Bonjour.

Nous vous remercions de participer à cette étude en Sciences Humaines et Sociales (UPMF).

Nous réalisons cette étude en collaboration avec l'école supérieure de Marketing de Grenoble (IAE).

Il s'agit pour vous de participer à deux recherches indépendantes (l'une sur la mémoire et l'autre sur l'évaluation de produits). Cette étude est entièrement anonyme et dure environ 20 min.

Si vous décidez de participer à cette étude, merci de considérer cette étude sérieusement et d'y allouer toute votre attention.

Des données authentiques peuvent avoir de la valeur et peuvent être instructives, mais de mauvaises données n'apportent que de la confusion.

Il n'y a bien sûr pas de "bonne" ou de "mauvaise" réponse. La meilleure réponse est celle que vous donnerez spontanément

Au nom de toute l'équipe, merci de votre participation!

Elsa Waxin & Naoil Sbai

upmf Grenoble
Université Pierre-Mendès-France
Sciences sociales & humaines

Page 1

Etude A-M

***1. Etude sur la Mémoire**

Avant qu'une idée ne soit considérée comme scientifique, elle doit être soigneusement testée. Pour cette raison, nous avons besoin de vous.

Il s'agit dans cette étude de vous remémorer et de décrire une expérience passée. Nous vous demandons de vous rappeler un événement spécifique:

"un événement agréable de jeu ou de loisir associé à un sentiment de gaieté et de légèreté et accompagné d'une envie de rire et/ou de plaisanter".

Tentez de vous rappeler cette expérience de la manière la plus authentique possible et de vous immerger autant que possible dans les sentiments que vous avez ressenti à ce moment. Nous nous intéressons spécifiquement à la qualité des détails rappelés par les personnes.

Remémorez vous un instant spécifique et non pas un événement général. Visualisez d'abord cette scène pendant 1 minute et décrivez la ensuite de la manière la plus détaillée possible (environ 5 minutes).

Merci,

Elsa

Nous allons à présent vous poser quelques questions concernant le rappel de l'évènement.

Merci de répondre de manière spontanée aux différentes questions en sélectionnant le chiffre correspondant à votre réponse.

Pendant le rappel de l'évènement, comment vous êtes vous senti ?

Pour chaque proposition, sélectionnez la réponse de votre choix en entourant l'un des neuf chiffres (de 0 pas du tout à 8 tout à fait)

***2. J'ai ressenti des émotions intenses**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***3. Je me suis senti stimulé**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

Page 2

Etude A-M

Voici à présent différents ressentis. Indiquez ce que vous avez ressenti, de manière plus précise, pendant le rappel de l'évènement.

Pour chaque proposition, sélectionnez votre réponse en cliquant sur le chiffre de votre choix (de 0 pas du tout à 8 tout à fait).

***4. Colère**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***5. Peur**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***6. Tristesse**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***7. Dégoût**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***8. Satisfaction**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***9. Amusement**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***10. Joie**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***11. Gaieté**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***12. Contentement**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

Page 3

Etude A-M

***13. Qu'avez-vous envie de faire MAINTENANT?**

Merci de lister TOUTES les choses / actions/ activités que vous avez envie de faire à cet INSTANT PRECIS (20 maximum)

Merci de répondre de façon honnête et spontanée.

Etude sur l'évaluation de produit.

Nous vous remercions de participer à cette étude réalisée conjointement avec une entreprise de conception de produits.

Nous souhaitons recueillir votre avis concernant un produit.

Merci de lire la fiche descriptive et de répondre au questionnaire correspondant.

Je vous remercie de votre participation,

Naoil Sbai

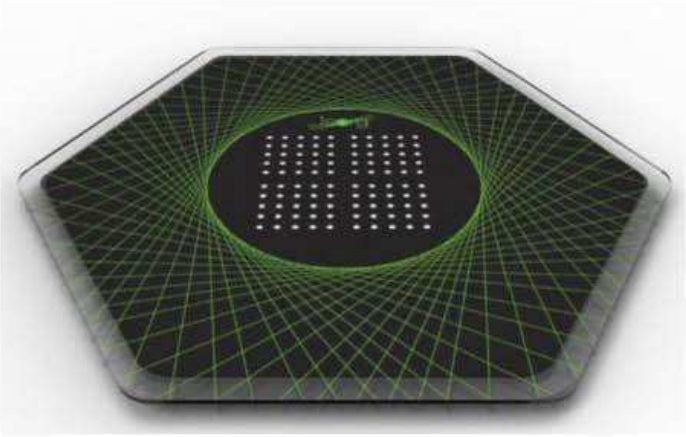
Page 4

Etude A-M

Magic Pad est une tablette de jeu multimédia 3D sans contact, conçue pour jouer à plusieurs.

Un jeu est inclu dans la tablette: Magic Ping Pong.

Avec cette tablette, il est possible de jouer en famille ou entre amis par le simple déplacement de la main au dessus de la surface.



A présent, nous vous remercions de remplir le questionnaire suivant.

Il n'y a pas de bonne ou de mauvaise réponse : c'est votre opinion qui nous intéresse.

Veuillez répondre le plus sincèrement et le plus spontanément possible.

Pour chaque proposition, sélectionnez la réponse de votre choix en cliquant sur le chiffre de votre choix (de 1 pas du tout à 9 tout à fait)

Globalement, diriez-vous que...

***14. Vous trouvez ce produit attractif**

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

15. Votre sentiment à l'égard de ce produit est défavorable

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

16. Ce produit vous plaît beaucoup

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

17. Vous êtes séduit par ce produit

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

Si le produit était disponible sur le marché à un prix acceptable... (1 pas du tout ; 9 tout à fait)

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Etude A-M

18. Est-ce que vous l'achèteriez ?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

19. Est-ce que vous recommanderiez ce produit à vos ami(e)s ?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

20. Combien seriez-vous prêt à payer pour cette tablette?

○ Rien
○ Moins de 100 euro
○ Entre 100 et 200 euro
○ 200 euro et plus
○ Je ne sais pas

Vous et les produits innovants

Globalement, diriez-vous que vous... (1 pas du tout ; 9 tout à fait)

21. ... aimez acheter et tester de nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

22. ... tenez à être parmi les 1ers à acheter les nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

23. ... essayez les nouveaux produits avant vos amis

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

24. ... êtes enthousiaste à l'idée d'acheter de nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

25. ... demandez conseil à vos amis avant d'acheter de nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

Informations générales

26. Je suis

○ un homme ○ une femme

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Etude A-M

***27. Mon âge**

***28. Je suis étudiant(e) en**

***29. Mon année d'étude**

30. Merci d'indiquer votre adresse email pour le tirage au sort

Merci de votre participation!

Pour toute question, merci de me contacter à l'adresse suivante: naoil.sbai@etu.upmf-grenoble.fr

Page 7

Etude S-L

Bonjour.

Nous vous remercions de participer à cette étude en Sciences Humaines et Sociales (UPMF).

Nous réalisons cette étude en collaboration avec l'école supérieure de Marketing de Grenoble (IAE).

Il s'agit pour vous de participer à deux recherches indépendantes (l'une sur la mémoire et l'autre sur l'évaluation de produits). Cette étude est entièrement anonyme et dure environ 20 min.

Si vous décidez de participer à cette étude, merci de considérer cette étude sérieusement et d'y allouer toute votre attention.

Des données authentiques peuvent avoir de la valeur et peuvent être instructives, mais de mauvaises données n'apportent que de la confusion.

Il n'y a bien sûr pas de "bonne" ou de "mauvaise" réponse. La meilleure réponse est celle que vous donnerez spontanément

Au nom de toute l'équipe, merci de votre participation!

Elsa Waxin & Naoil Sbai

Page 1

Etude S-L

upmf Grenoble
Université Pierre-Mendès-France
Sciences sociales & humaines

***1. Etude sur la Mémoire**

Avant qu'une idée ne soit considérée comme scientifique, elle doit être soigneusement testée. Pour cette raison, nous avons besoin de vous.

Il s'agit dans cette étude de vous remémorer et de décrire une expérience passée. Nous vous demandons de vous rappeler une expérience spécifique :

"Une expérience de bien-être et de confort. Un moment où vous avez ressenti l'envie de vous prélasser et d'apprécier le moment présent".

Tentez de vous rappeler cette expérience de la manière la plus authentique possible et de vous immerger autant que possible dans les sentiments que vous avez ressenti à ce moment. Nous nous intéressons spécifiquement à la qualité des détails rappelés par les personnes.

Remémorez vous un instant spécifique et non pas un événement général. Visualisez d'abord cette scène pendant 1 minute et décrivez la ensuite de la manière la plus détaillée possible (environ 5 minutes).

Merci,

Elsa

Page 2

Etude S-L

Nous allons à présent vous poser quelques questions concernant le rappel de l'évènement.

Merci de répondre de manière spontanée aux différentes questions en sélectionnant le chiffre correspondant à votre réponse.

Pendant le rappel de l'évènement, comment vous êtes vous senti ?

Pour chaque proposition, sélectionnez la réponse de votre choix en entourant l'un des neuf chiffres (de 0 pas du tout à 8 tout à fait)

***2. J'ai ressenti des émotions intenses**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***3. Je me suis senti stimulé**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

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Etude S-L

Voici à présent différents ressentis. Indiquez ce que vous avez ressenti, de manière plus précise, pendant le rappel de l'évènement.

Pour chaque proposition, sélectionnez votre réponse en cliquant sur le chiffre de votre choix (de 0 pas du tout à 8 tout à fait).

***4. Colère**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***5. Peur**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***6. Tristesse**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***7. Dégoût**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***8. Satisfaction**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***9. Amusement**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***10. Joie**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***11. Gaieté**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

***12. Contentement**

○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8

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Etude S-L

***13. Qu'avez-vous envie de faire MAINTENANT?**

Merci de lister TOUTES les choses / actions/ activités que vous avez envie de faire à cet INSTANT PRECIS (20 maximum)

Merci de répondre de façon honnête et spontanée.

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Etude S-L

Etude sur l'évaluation de produit.

Nous vous remercions de participer à cette étude réalisée conjointement avec une entreprise de conception de produits.

Nous souhaitons recueillir votre avis concernant un produit.

Merci de lire la fiche descriptive et de répondre au questionnaire correspondant.

Je vous remercie de votre participation,

Naoil Sbai

Lightzone est un nouveau luminaire à LED, conçu pour l'habitat.

Ce luminaire intègre des LED lumineuses dans différentes couleurs pour diffuser une lumière confortable contrôlée présentant une homogénéité des couleurs et de la luminosité.

Ce luminaire offre également des possibilités de gradation de lumière.

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Etude S-L

A présent, nous vous remercions de remplir le questionnaire suivant.

Il n'y a pas de bonne ou de mauvaise réponse : c'est votre opinion qui nous intéresse.

Veuillez répondre le plus sincèrement et le plus spontanément possible.

Pour chaque proposition, sélectionnez la réponse de votre choix en cliquant sur le chiffre de votre choix (de 1 pas du tout à 9 tout à fait)

Globalement, diriez-vous que...

***14. Vous trouvez ce produit attractif**

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

15. Votre sentiment à l'égard de ce produit est défavorable

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

16. Ce produit vous plaît beaucoup

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

17. Vous êtes séduit par ce produit

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

Si le produit était disponible sur le marché à un prix acceptable... (1 pas du tout ; 9 tout à fait)

18. Est-ce que vous l'achèteriez ?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

19. Est-ce que vous recommanderiez ce produit à vos ami(e)s ?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

20. Combien seriez-vous prêt à payer pour ce luminaire?

○ Rien

○ Moins de 100 euro

○ Entre 100 et 200 euro

○ 200 euro et plus

○ Je ne sais pas

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Etude S-L

Vous et les produits innovants

Globalement, diriez-vous que vous... (1 pas du tout ; 9 tout à fait)

21. ... aimez acheter et tester de nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

22. ... tenez à être parmi les 1ers à acheter les nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

23. ... essayez les nouveaux produits avant vos amis

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

24. ... êtes enthousiaste à l'idée d'acheter de nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

25. ... demandez conseil à vos amis avant d'acheter de nouveaux produits

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9

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Etude S-L

Informations générales

26. Je suis

- un homme
- une femme

***27. Mon âge**

***28. Je suis étudiant(e) en**

***29. Mon année d'étude**

30. Merci d'indiquer votre adresse email pour le tirage au sort

Merci de votre participation!

Pour toute question, merci de me contacter à l'adresse suivante: naoil.sbai@etu.upmf-grenoble.fr

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RESULTS APPENDIX

Study 1

Appendix 17. Positive Emotions Scale

Appendix 18. Negative Emotions Scale

Appendix 19. Manipulation Checks

Appendix 20. Disconfirmation of expectations

Appendix 21. Emotional Responses

Appendix 22. Regression Analysis on Attitude

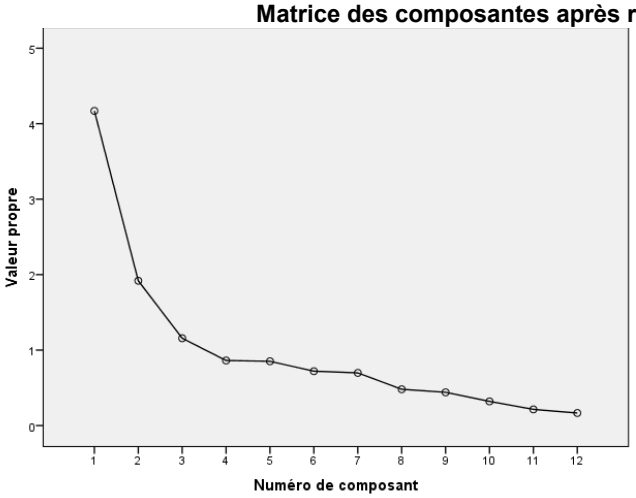
Appendix 23. Regression Analysis on Usage Intention

Selection of positive expectations items

Indice KMO et test de Bartlett

Mesure de précision de l'échantillonnage de Kaiser-Meyer-Olkin.		,677
Test de sphéricité de Bartlett	Khi-deux approximé	226,105
	ddl	66
	Signification de Bartlett	,000

Matrice des composantes après rotation[a]



	Composante		
	1	2	3
Enthousiaste	,711	,230	,030
Ravi	,700	,393	,188
Content	,696	,144	,363
Optimiste	,674	-,143	,154
Stimulé	,668	,429	-,039
Inspiré	,604	,225	-,188
Stupéfait	,143	,808	,088
Fasciné	,284	,685	,248
Surpris	,129	,678	-,402
Calme	,027	-,047	,861
Serein	,089	,059	,783
Amusé	,202	,445	,497

Méthode d'extraction : Analyse en composantes principales.

Méthode de rotation : Varimax avec normalisation de Kaiser.

a. La rotation a convergé en 5 itérations.

Statistiques de fiabilité

Alpha de Cronbach	Nombre d'éléments
,801	6

Statistiques d'item

	Moyenne	Ecart-type	N
Content questionnaire1	3,83	,746	54
Inspiré questionnaire1	3,26	1,049	54
Enthousisate questionnaire1	3,96	,868	54
Ravi questionnaire1	3,74	,828	54
Stimulé questionnaire1	3,74	,894	54
Optimisite questionnaire1	3,59	,858	54

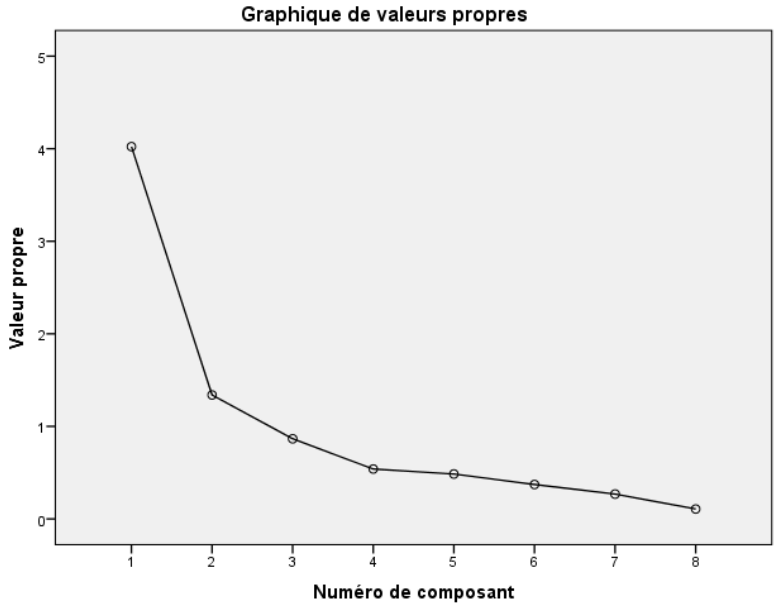
Statistiques de total des éléments

	Moyenne de l'échelle en cas de suppression d'un élément	Variance de l'échelle en cas de suppression d'un élément	Corrélation complète des éléments corrigés	Alpha de Cronbach en cas de suppression de l'élément
Content questionnaire1	18,30	10,439	,608	,762
Inspiré questionnaire1	18,87	9,813	,458	,800
Enthousisate questionnaire1	18,17	9,915	,596	,761
Ravi questionnaire1	18,39	9,676	,692	,740
Stimulé questionnaire1	18,39	9,563	,644	,749
Optimisite questionnaire1	18,54	10,933	,398	**,804**

Selection of negative expectations items

Indice KMO et test de Bartlett

Mesure de précision de l'échantillonnage de Kaiser-Meyer-Olkin.		,763
Test de sphéricité de Bartlett	Khi-deux approximé	210,324
	ddl	28
	Signification de Bartlett	,000



Matrice des composantes après rotation[a]

	Composante	
	1	2
Nerveux	,804	-,053
Embarrassé	,753	,200
Colère	,572	,080
Frustré	,321	,776
Anxieux	,854	,045
Déçu	-,069	,889
Gêné	,753	,300
Tendu	,933	,121

Méthode d'extraction : Analyse en composantes principales.

Méthode de rotation : Varimax avec normalisation de Kaiser.

a. La rotation a convergé en 3 itérations.

Statistiques de fiabilité

Alpha de Cronbach	Nombre d'éléments
,895	5

Statistiques d'item

	Moyenne	Ecart-type	N
Nerveux	2,11	1,066	55
Embarrassé	2,05	1,096	55
Anxieux	1,98	,991	55
Gêné	1,89	1,012	55
Tendu	1,87	1,037	55

Statistiques de total des éléments

	Moyenne de l'échelle en cas de suppression d'un élément	Variance de l'échelle en cas de suppression d'un élément	Corrélation complète des éléments corrigés	Alpha de Cronbach en cas de suppression de l'élément
Nerveux	7,80	12,533	,718	,878
Embarrassé	7,85	12,682	,666	,890
Anxieux	7,93	12,735	,759	,869
Gêné	8,02	13,055	,684	,885
Tendu	8,04	11,665	,895	,837

Manipulation Checks

- Positive Expectations

Descriptives

AttentesDelight

		N	Moyenne	Ecart-type	Erreur standard	Intervalle de confiance à 95% pour la moyenne		Minimum	Maximum	Variance inter-composantes
						Borne inférieure	Borne supérieure			
Attentes Positives		28	3,9929	,58066	,10973	3,7677	4,2180	2,80	5,00	
Contrôle		28	3,4071	,59250	,11197	3,1774	3,6369	2,20	4,60	
Total		56	3,7000	,65206	,08714	3,5254	3,8746	2,20	5,00	
Modèle	Effets fixes			,58661	,07839	3,5428	3,8572			
	Effets aléatoires				,29286	-,0211	7,4211			,15924

Test d'homogénéité des variances

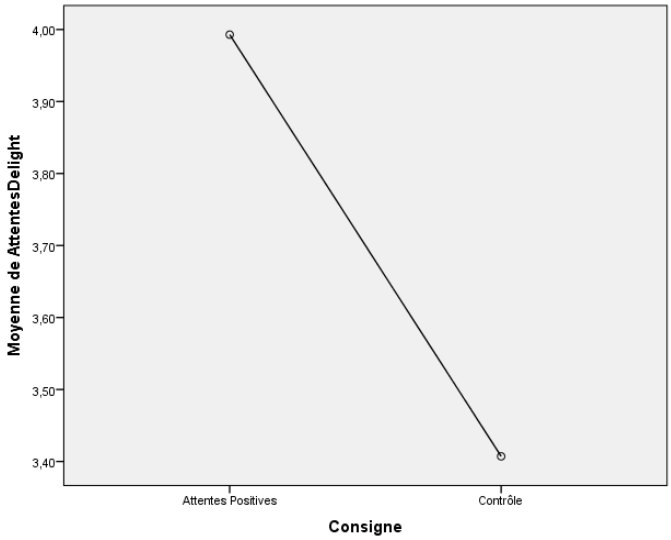
AttentesDelight

Statistique de Levene	ddl1	ddl2	Signification
,077	1	54	,782

ANOVA à 1 facteur

AttentesDelight

	Somme des carrés	ddl	Moyenne des carrés	F	Signification
Inter-groupes	4,803	1	4,803	13,957	,000
Intra-groupes	18,582	54	,344		
Total	23,385	55			



- Negative Expectations

Descriptives

AttentesNégatives

		N	Moyenne	Ecart-type	Erreur standard	Intervalle de confiance à 95% pour la moyenne		Minimum	Maximum	Variance inter-composantes
						Borne inférieure	Borne supérieure			
Attentes Positives		28	**1,8500**	**,82664**	,15622	1,5295	2,1705	1,00	4,00	
Contrôle		28	**2,0875**	**,91304**	,17255	1,7335	2,4415	1,00	3,80	
Total		56	1,9688	,87124	,11642	1,7354	2,2021	1,00	4,00	
Modèle	Effets fixes			,87091	,11638	1,7354	2,2021			
	Effets aléatoires				,11875	,4599	3,4776			,00111

Test d'homogénéité des variances

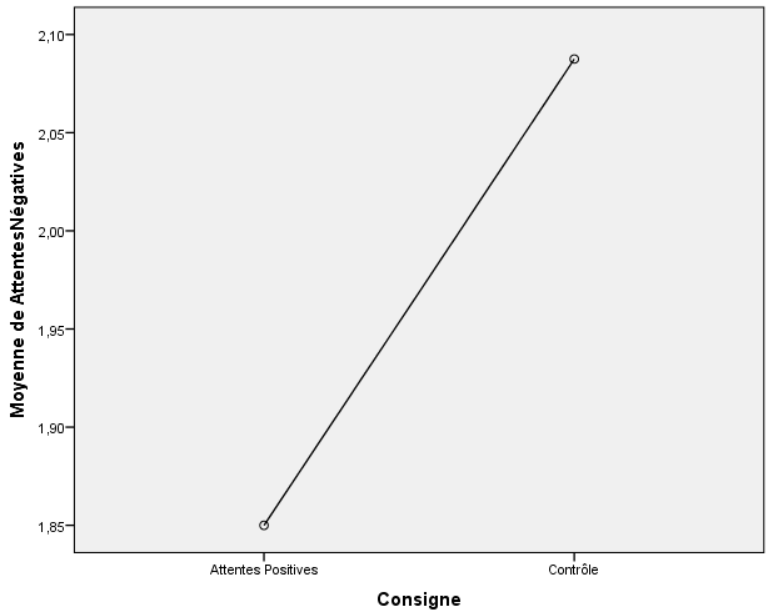
AttentesNégatives

Statistique de Levene	ddl1	ddl2	Signification
,731	1	54	,396

ANOVA à 1 facteur

AttentesNégatives

	Somme des carrés	ddl	Moyenne des carrés	F	Signification
Inter-groupes	,790	**1**	,790	**1,041**	**,312**
Intra-groupes	40,958	**54**	,758		
Total	41,748	55			



Disconfirmation of expectations

Tests des effets inter-sujets

Variable dépendante: Disconfimation of Expectations

Source	Somme des carrés de type III	ddl	Moyenne des carrés	D	Sig.
Modèle corrigé	6,855[a]	4	1,714	3,652	,011
Ordonnée à l'origine	69,299	1	69,299	147,651	,000
Sexe	2,641	1	2,641	5,627	,021
Consigne	2,361	1	2,361	5,031	,029
Reader	1,669	1	1,669	3,556	,065
Consigne * Reader	1,530	1	1,530	3,261	,077
Erreur	23,936	51	,469		
Total	493,667	56			
Total corrigé	30,792	55			

a. R deux = ,223 (R deux ajusté = ,162)

Emotional responses in function of the condition and the E-book version

- Positive and negative emotions

3. Condition * E-Book Version

Variable dépendante	Consigne	Version sony reader	Moyenne	Erreur standard	Intervalle de confiance à 95%	
					Borne inférieure	Limite supérieure
Security	Attentes Positives	PR-500	3,502[a]	,201	3,098	3,907
		Touchedition	3,357[a]	,213	2,928	3,786
	Contrôle	PR-500	3,850[a]	,209	3,429	4,271
		Touchedition	3,805[a]	,210	3,383	4,227
Anxiety	Attentes Positives	PR-500	2,048[a]	,215	1,615	2,481
		Touchedition	2,072[a]	,228	1,613	2,531
	Contrôle	PR-500	1,802[a]	,224	1,351	2,252
		Touchedition	1,930[a]	,225	1,478	2,382
Delight	Attentes Positives	PR-500	3,677[a]	,207	3,262	4,093
		Touchedition	2,669[a]	,219	2,228	3,109
	Contrôle	PR-500	3,702[a]	,215	3,269	4,135
		Touchedition	3,597[a]	,216	3,163	4,031
Excitement	Attentes Positives	PR-500	3,581[a]	,232	3,114	4,048
		Touchedition	3,053[a]	,246	2,559	3,548
	Contrôle	PR-500	3,258[a]	,242	2,772	3,744
		Touchedition	3,338[a]	,242	2,851	3,826
Anger	Attentes Positives	PR-500	1,219[a]	,131	,954	1,483
		Touchedition	1,179[a]	,139	,899	1,459
	Contrôle	PR-500	1,321[a]	,137	1,046	1,596
		Touchedition	1,158[a]	,137	,883	1,434
Disappointment	Attentes Positives	PR-500	2,409[a]	,284	1,837	2,982
		Touchedition	2,900[a]	,301	2,294	3,506
	Contrôle	PR-500	2,119[a]	,296	1,524	2,715
		Touchedition	2,330[a]	,297	1,732	2,927

a. Les covariables apparaissant dans le modèle sont évaluées pour les valeurs suivantes : CSP = 5,89, Age = 34,85, Sexe = 1,40, Innovativité = 2,5636.

- Delight

Tests des effets inter-sujets

Variable dépendante: Delight

Source	Somme des carrés de type III	ddl	Moyenne des carrés	D	Sig.
Modèle corrigé	11,162[a]	4	2,790	5,360	,001
Ordonnée à l'origine	95,330	1	95,330	183,103	,000
Sexe	3,149	1	3,149	6,048	,017
Consigne	2,464	1	2,464	4,733	,034
Reader	4,250	1	4,250	8,162	,006
Consigne * Reader	2,858	1	2,858	5,490	,023
Erreur	26,553	51	,521		
Total	696,000	56			
Total corrigé	37,714	55			

a. R deux = ,296 (R deux ajusté = ,241)

Attitude

Variables introduites/supprimées[a]

Modèle	Variables introduites	Variables supprimées	Méthode
1	AttentesNégatives, Delight, FacilitéUsage, AttentesDelight, UtilitéPerçue[b]	.	Entrée

a. Variable dépendante : Attitude

b. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	,765[a]	,586	,544	,49319

a. Valeurs prédites : (constantes), AttentesNégatives, Delight, FacilitéUsage, AttentesDelight, UtilitéPerçue

ANOVA[a]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	17,185	5	3,437	14,130	,000[b]
	Résidu	12,162	50	,243		
	Total	29,347	55			

a. Variable dépendante : Attitude

b. Valeurs prédites : (constantes), AttentesNégatives, Delight, FacilitéUsage, AttentesDelight, UtilitéPerçue

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	-1,111	,756		-1,470	,148
	FacilitéUsage	,474	,133	,337	3,551	,001
	UtilitéPerçue	,209	,086	,275	2,440	,018
	Delight	,315	,105	,357	3,008	,004
	AttentesDelight	,276	,113	,246	2,439	,018
	AttentesNégatives	,044	,078	,052	,563	,576

a. Variable dépendante : Attitude

Usage Intention

Variables introduites/supprimées[a]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Livre, Innovativité, AttentesNégatives, FacilitéUsage, UtilitéPerçue, AttentesDelight, Sexe, Delight, Attitude[b]	.	Entrée

a. Variable dépendante : IntentionUsage

b. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	,864[a]	,746	,695	,50728

a. Valeurs prédites : (constantes), Livre, Innovativité, AttentesNégatives, FacilitéUsage, UtilitéPerçue, AttentesDelight, Sexe, Delight, Attitude

ANOVA[a]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	33,974	9	3,775	14,669	,000[b]
	Résidu	11,580	45	,257		
	Total	45,553	54			

a. Variable dépendante : IntentionUsage

b. Valeurs prédites : (constantes), Livre, Innovativité, AttentesNégatives, FacilitéUsage, UtilitéPerçue, AttentesDelight, Sexe, Delight, Attitude

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	-,973	1,017		-,956	,344
	FacilitéUsage	,071	,158	,040	,448	,656
	UtilitéPerçue	,511	,098	,538	5,229	,000
	Delight	,026	,125	,023	,206	,838
	Sexe	,055	,179	,029	,305	,762
	AttentesDelight	,089	,136	,063	,652	,517
	AttentesNégatives	,026	,084	,025	,312	,756
	Attitude	,452	,158	,363	2,855	,006
	Innovativité	,189	,091	,161	2,091	,042
	Livre	,057	,036	,136	1,581	,121

a. Variable dépendante : IntentionUsage

Study 2

Appendix 24. Manipulation Checks

Appendix 25. Influence of Emotions on Desirability

Manipulation Checks

Descriptives

		N	Moyenne	Ecart-type	Erreur standard	Intervalle de confiance à 95% pour la moyenne		Minimum	Maximum
						Borne inférieure	Borne supérieure		
Echelle Utilitaire	Utilitaire	55	4,6636	1,12651	,15190	4,3591	4,9682	2,00	6,50
	Hédonique	27	4,0185	1,47727	,28430	3,4341	4,6029	1,00	6,50
	Total	82	4,4512	1,28046	,14140	4,1699	4,7326	1,00	6,50
Echelle Hédonique	Utilitaire	56	5,0357	1,15938	,15493	4,7252	5,3462	2,00	7,00
	Hédonique	26	5,1346	1,03497	,20297	4,7166	5,5526	3,00	7,00
	Total	82	5,0671	1,11600	,12324	4,8219	5,3123	2,00	7,00

Test d'homogénéité des variances

	Statistique de Levene	ddl1	ddl2	Signification
Echelle Utilitaire	2,871	1	80	,094
Echelle Hédonique	,300	1	80	,585

ANOVA à 1 facteur

		Somme des carrés	ddl	Moyenne des carrés	F	Signification
Echelle Utilitaire	Inter-groupes	7,537	1	7,537	4,813	,031
	Intra-groupes	125,268	80	1,566		
	Total	132,805	81			
Echelle Hédonique	Inter-groupes	,174	1	,174	,138	,711
	Intra-groupes	100,707	80	1,259		
	Total	100,881	81			

Desirability

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	1,494	,032		46,501	,000
	C2 (-1, 0, -1, 2)	-,051	,028	-,135	-1,809	,072
	C3 (-1, 2, -1, 0)	-,044	,028	-,116	-1,563	,120
	Produit	,045	,032	,098	1,403	,162
	C2xProduit	-,061	,028	-,162	-2,172	,031
	C3xProduit	,082	,028	,220	2,952	,004

a. Variable dépendante :ln Desirabilité

Variables exclues[a]

Modèle		Bêta dans	t	Sig.	Corrélation partielle	Statistiques de colinéarité
						Tolérance
1	C1 (0, 1, 0, -1)	.[b]	.	.	.	,000
	C1xProduit	.[b]	.	.	.	,000

a. Variable dépendante :ln Desirabilité

b. Valeurs prédites dans le modèle : (constantes), C3xProduit, C2, Produit, C2xProduit, C3

Study 3

Appendix 26. Manipulation Checks

Appendix 27. Impact of Specific Emotions on Desirability

Appendix 28. Comfort Scale Reliability

Appendix 29. Mediation Analyses

Manipulation Checks

Amusement versus Control

ANOVA à 1 facteur

Amusement

	Somme des carrés	ddl	Moyenne des carrés	F	Signification
Inter-groupes	117,022	2	58,511	10,426	,000
Intra-groupes	521,936	93	5,612		
Total	638,958	95			

Satisfaction vs amusement

ANOVA à 1 facteur

		Somme des carrés	ddl	Moyenne des carrés	F	Signification
Amusement	Inter-groupes	117,022	2	58,511	10,426	,000
	Intra-groupes	521,936	93	5,612		
	Total	638,958	95			
Satisfaction	Inter-groupes	190,563	2	95,281	15,842	,000
	Intra-groupes	559,344	93	6,014		
	Total	749,906	95			

Satisfaction vs Control

ANOVA à 1 facteur

Satisfaction

	Somme des carrés	ddl	Moyenne des carrés	F	Signification
Inter-groupes	190,563	2	95,281	15,842	,000
Intra-groupes	559,344	93	6,014		
Total	749,906	95			

Tableau de bord

Scénario		Satisfaction	Amusement
Neutre	Moyenne	2,81	2,84
	N	32	31
	Ecart-type	2,845	2,647
Amusement	Moyenne	2,28	5,52
	N	32	33
	Ecart-type	2,517	1,970
Satisfaction	Moyenne	5,50	3,87
	N	32	32
	Ecart-type	1,901	2,459
Total	Moyenne	3,53	4,10
	N	96	96
	Ecart-type	2,810	2,593

Impact of specific emotions on desirability

	CODE DES CONTRASTES
Uma : Amusement vs. Control (k1)	-1 0 1 0 0 0
Uma : Satisfaction vs. Control (K2)	0 0 -1 0 1 0
Thermopod: Satisfaction vs. Control (K3)	0 0 0 -1 0 1
Thermopod: Amusement vs. Control (K4)	0 -1 0 1 1 1
K5	K1 * K2

Pour les modèles avec la variable dépendante Désirabilité, les variables suivantes sont des constantes ou comportent des corrélations manquantes : K5. Elles seront supprimées de l'analyse.

Variables introduites/supprimées[a]

Modèle	Variables introduites	Variables supprimées	Méthode
1	0 -1 0 1 0 0, 0 0 -1 0 1 0, -1 0 1 0 0 0, 0 0 0 -1 0 1[b]	.	Entrée

a. Variable dépendante : Désirabilité

b. Toutes variables requises saisies.

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.	Statistiques de colinéarité	
		A	Erreur standard	Bêta			Tolérance	VIF
1	(Constante)	4,608	,173		26,588	,000		
	K1	,682	,341	,221	1,999	,049	,758	1,320
	K2	,591	,347	,189	1,705	,091	,758	1,320
	K3	,979	,348	,313	2,811	,006	,750	1,333
	K4	1,021	,348	,326	2,930	,004	,750	1,333

a. Variable dépendante : Désirabilité

Diagnostics de colinéarité

Modèle	Dimension	Valeur propre	Index de conditionnement	Proportions de la variance				
				(Constante)	K1	K2	K3	K4
1	1	1,500	1,000	,00	,00	,00	,25	,25
	2	1,493	1,002	,00	,25	,25	,00	,00
	3	1,000	1,225	1,00	,00	,00	,00	,00
	4	,507	1,720	,00	,75	,75	,00	,00
	5	,500	1,732	,00	,00	,00	,75	,75

a. Variable dépendante : Désirabilité

ANOVA[a]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	45,677	4	11,419	3,921	,006[b]
	Résidu	267,954	92	2,913		
	Total	313,631	96			

a. Variable dépendante : Désirabilité

b. Valeurs prédites : (constantes), K1, K2, K3, K4

Comfort Scale

Statistiques d'item

	Moyenne	Ecart-type	N
EnvironnementFamilier	4,54	2,513	97
EnvironnementConfort	5,58	2,362	97
EnvironnementSécu	4,65	2,521	97

Statistiques de total des éléments

	Moyenne de l'échelle en cas de suppression d'un élément	Variance de l'échelle en cas de suppression d'un élément	Corrélation complète des éléments corrigés	Carré de la corrélation multiple	Alpha de Cronbach en cas de suppression de l'élément
EnvironnementFamilier	10,23	20,927	,637	,455	,859
EnvironnementConfort	9,19	19,319	,818	,676	,688
EnvironnementSécu	10,11	19,893	,696	,571	,804

Mediation Analyses

➢ Recreational Product

Step 1. Impact of induced emotions on the recreational product desirability (amusement vs. Control)

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Induced emotions	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Uma

c. Toutes variables requises saisies.

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	T	Sig.	95,0% % intervalles de confiance pour B	
		A	Erreur standard	Bêta			Borne inférieure	Limite supérieure
1	(Constante)	4,960	,242		20,498	,000	4,473	5,447
	Induced emotions	-,627	,295	-,296	-2,128	,039	-1,221	-,034

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Uma

Step 2. Impact of induced emotions on the recreational desire

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Induced emotions[c]	.	Entrée

a. Variable dépendante : DesireEnjoy

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Uma

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R Produit = Uma (sélectionné)	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	,421[a]	,177	,159	2,37336

a. Valeurs prédites : (constantes), induced emotions

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	56,876	1	56,876	10,097	,003[c]
	Résidu	264,743	47	5,633		
	Total	321,618	48			

a. Variable dépendante : DesireEnjoy

b. Sélection exclusive des observations pour lesquelles Produit = Uma

c. Valeurs prédites : (constantes), induced emotions

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	4,823	,339		14,222	,000
	0 -1 1	-1,313	,413	-,421	-3,178	,003

a. Variable dépendante : DesireEnjoy

b. Sélection exclusive des observations pour lesquelles Produit = Uma

Step 3. Impact of recreational desire on the recreational product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	DesireEnjoy[c]	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Uma

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = Uma (sélectionné)			
1	,492[a]	,243	,226	1,54307

a. Valeurs prédites : (constantes), DesireEnjoy

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	35,832	1	35,832	15,049	,000[c]
	Résidu	111,910	47	2,381		
	Total	147,741	48			

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Uma

c. Valeurs prédites : (constantes), DesireEnjoy

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	3,354	,472		7,106	,000
	DesireEnjoy	,334	,086	,492	3,879	,000

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Uma

Step 4. Impact of induced emotions on the recreational product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Induced emotions, DesireEnjoy[c]	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Uma

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R Produit = Uma (sélectionné)	R-deux	R-deux ajusté	Erreur standard de l'estimation
1	,502[a]	,252	,220	1,54973

a. Valeurs prédites : (constantes), induced emotions, DesireEnjoy

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	37,265	2	18,632	7,758	,001[c]
	Résidu	110,477	46	2,402		
	Total	147,741	48			

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Uma

c. Valeurs prédites : (constantes), induced emotions, DesireEnjoy

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	3,499	,510		6,861	,000
	DesireEnjoy	,303	,095	,447	3,180	,003
	Induced emotions	-,230	,297	-,109	-,773	,444

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Uma

➢ Welfare Product

Step 1. Impact of induced emotions on the welfare product desirability (satisfaction vs. Control)

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Induced emotions	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Themopod

c. Toutes variables requises saisies.

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.	95,0% % intervalles de confiance pour B	
		A	Erreur standard	Bêta			Borne inférieure	Limite supérieure
1	(Constante)	4,250	,234		18,138	,000	3,778	4,722
	Induced emotions	1,000	,287	,457	3,485	,001	,422	1,578

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Themopod

Step 2. Impact of induced emotions on the welfare desire

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Induced emotions	.	Entrée

a. Variable dépendante : Desireconfortlog

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Themopod

c. Toutes variables requises saisies.

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.	95,0% % intervalles de confiance pour B	
		A	Erreur standard	Bêta			Borne inférieure	Limite supérieure
1	(Constante)	1,508	,070		21,404	,000	1,366	1,650
	Induced emotions	,278	,086	,429	3,224	,002	,104	,452

a. Variable dépendante : Desireconfortlog

b. Sélection exclusive des observations pour lesquelles Produit = Themopod

Step 3. Impact of welfare desire on the welfare product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Desireconfortlog[c]	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Themopod

c. Toutes variables requises saisies.

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.	95,0% % intervalles de confiance pour B	
		A	Erreur standard	Bêta			Borne inférieure	Limite supérieure
1	(Constante)	1,996	,714		2,798	,007	,560	3,433
	Desireconfort log	1,495	,447	,443	3,347	,002	,596	2,393

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Themopod

Step 4. Impact of induced emotions on the welfare product desirability (satisfaction vs. Control)

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Desireconfortlog, induced emotions	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Themopod

c. Toutes variables requises saisies.

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.	95,0% % intervalles de confiance pour B	
		A	Erreur standard	Bêta			Borne inférieure	Limite supérieure
1	(Constante)	2,516	,795		3,165	,003	,914	4,118
	Induced emotions	,685	,310	,313	2,208	,032	,060	1,310
	Desireconfortlog	1,133	,498	,322	2,275	,028	,129	2,136

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Themopod

Study 4

Appendix 30. Manipulation Checks

Appendix 31. Desirability Scale Reliability

Appendix 32. Impact of Specific Emotions on Desirability

Appendix 33. Mediation Analyses

Tableau croisé Produit * Induction

Effectif

		Induction		Total
		Amusement	Satisfaction	
Produit	ProduitSatisfaction	26	29	55
	Produitamusement	28	29	57
Total		54	58	112

112 étudiants (24 hommes) M_{age} = 20,27, SD = 3,11

Manipulation Checks

Tests des effets intra-sujets

Mesure: MEASURE_1

Source		Somme des carrés de type III	ddl	Moyenne des carrés	D	Sig.
Emotion	Sphéricité supposée	,365	1	,365	,101	,752
	Greenhouse-Geisser	,365	1,000	,365	,101	,752
	Huynh-Feldt	,365	1,000	,365	,101	,752
	Borne inférieure	,365	1,000	,365	,101	,752
Emotion * Induction	Sphéricité supposée	123,865	1	123,865	34,180	,000
	Greenhouse-Geisser	123,865	1,000	123,865	34,180	,000
	Huynh-Feldt	123,865	1,000	123,865	34,180	,000
	Borne inférieure	123,865	1,000	123,865	34,180	,000
Erreur(Emotion)	Sphéricité supposée	398,631	110	3,624		
	Greenhouse-Geisser	398,631	110,000	3,624		
	Huynh-Feldt	398,631	110,000	3,624		
	Borne inférieure	398,631	110,000	3,624		

Desirability Scale

Matrice de corrélation

		Attractif	Défavorable	Séduit	Plaît
Corrélation	Attractif	1,000	,597	,828	,774
	Défavorable	,597	1,000	,652	,589
	Séduit	,828	,652	1,000	,903
	Plaît	,774	,589	,903	1,000

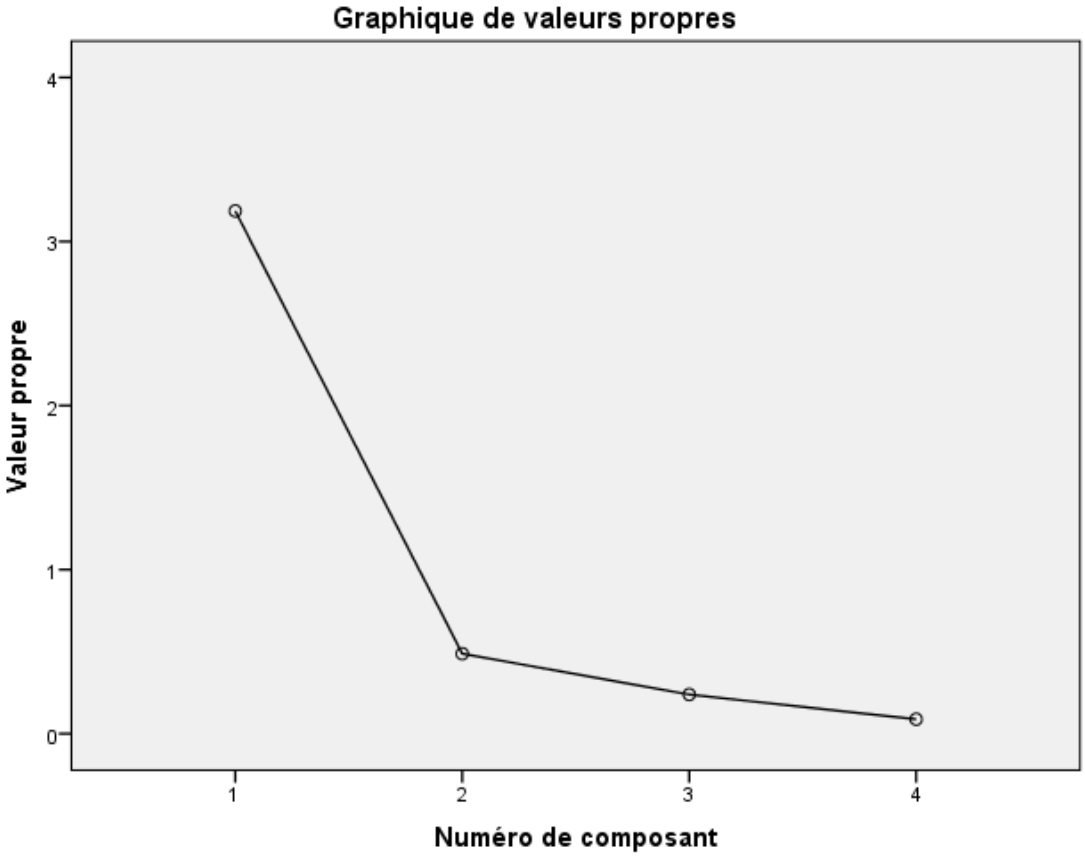
Indice KMO et test de Bartlett

Mesure de précision de l'échantillonnage de Kaiser-Meyer-Olkin.		,805
Test de sphéricité de Bartlett	Khi-deux approximé	365,877
	ddl	6
	Signification de Bartlett	,000

Variance totale expliquée

Composante	Valeurs propres initiales			Extraction Sommes des carrés des facteurs retenus		
	Total	% de la variance	% cumulés	Total	% de la variance	% cumulés
1	3,186	79,652	79,652	3,186	79,652	79,652
2	,487	12,185	91,837			
3	,239	5,967	97,804			
4	,088	2,196	100,000			

Méthode d'extraction : Analyse en composantes principales.



Matrice des coefficients des coordonnées des composantes

	Composante
	1
Attractif	,283
Défavorable	,245
Séduit	,300
Plaît	,290

Méthode d'extraction : Analyse en composantes principales.
Méthode de rotation : Varimax avec normalisation de Kaiser.
Scores composante.

Statistiques de fiabilité

Alpha de Cronbach	Alpha de Cronbach basé sur des éléments normalisés	Nombre d'éléments
,904	,906	2

Impact of specific emotions on desirability

Tests des effets inter-sujets

Variable dépendante: Désirabilité

Source	Somme des carrés de type III	ddl	Moyenne des carrés	D	Sig.
Modèle corrigé	91,823[a]	7	13,118	3,960	,001
Ordonnée à l'origine	12,057	1	12,057	3,640	,059
Sexe	3,653	1	3,653	1,103	,296
âge	,833	1	,833	,251	,617
Filière	6,406	1	6,406	1,934	,167
EchelleInnovativité	9,110	1	9,110	2,750	,100
Induction	1,190	1	1,190	,359	,550
Produit	41,331	1	41,331	12,478	,001
Induction * Produit	32,346	1	32,346	9,765	,002
Erreur	327,925	99	3,312		
Total	2582,000	107			
Total corrigé	419,748	106			

a. R deux = ,219 (R deux ajusté = ,164)

Tests des effets inter-sujets

Variable dépendante: Désirabilité

Source	Somme des carrés de type III	ddl	Moyenne des carrés	D	Sig.
Modèle corrigé	76,625[a]	3	25,542	7,611	,000
Ordonnée à l'origine	2195,608	1	2195,608	654,246	,000
C1	16,252	1	16,252	4,843	,030
C2	23,257	1	23,257	6,930	,010
C1 * C2	,000	0	.	.	.
Erreur	355,730	106	3,356		
Total	2624,000	110			
Total corrigé	432,355	109			

a. R deux = ,177 (R deux ajusté = ,154)

Mediation analyses

➢ Recreational Product

Step 1. Impact of induced emotions on the recreational product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	C1	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Produitamusement

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = Produitamusement (sélectionné)			
1	,328[a]	,108	,092	1,87065

a. Valeurs prédites : (constantes), C1

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	23,257	1	23,257	6,646	,013[c]
	Résidu	192,463	55	3,499		
	Total	215,719	56			

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

c. Valeurs prédites : (constantes), C1

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	3,276	,347		9,430	,000
	InductionC1	-1,278	,496	-,328	-2,578	,013

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

Step 2. Impact of induced emotions on the recreational desire

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	InductionC1[c]	.	Entrée

a. Variable dépendante : Désir Recreational

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Produitamusement

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = Produitamusement (sélectionné)			
1	,593[a]	,351	,340	1,508

a. Valeurs prédites : (constantes), InductionC1

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	67,765	1	67,765	29,790	,000[c]
	Résidu	125,112	55	2,275		
	Total	192,877	56			

a. Variable dépendante : Désir Recreational

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

c. Valeurs prédites : (constantes), InductionC1

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	1,069	,280		3,817	,000
	InductionC1	-2,181	,400	-,593	-5,458	,000

a. Variable dépendante : Désir Recreational

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

Step 3. Impact of recreational desire on the recreational product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Désir Recreational[c]	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Produitamusement

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = Produitamusement (sélectionné)			
1	,452[a]	,205	,190	1,76623

a. Valeurs prédites : (constantes), Désir Recreational

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	44,143	1	44,143	14,150	,000[c]
	Résidu	171,577	55	3,120		
	Total	215,719	56			

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

c. Valeurs prédites : (constantes), Désir Recreational

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	2,880	,359		8,023	,000
	Désir Recreational	,478	,127	,452	3,762	,000

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

Step 4. Impact of induced emotion on the recreational product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	InductionC1, Désir Recreational[c]	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = Produitamusement

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = Produitamusement (sélectionné)			
1	,458[a]	,210	,181	1,77624

a. Valeurs prédites : (constantes), InductionC1, Désir Recreational

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	45,348	2	22,674	7,187	,002[c]
	Résidu	170,371	54	3,155		
	Total	215,719	56			

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

c. Valeurs prédites : (constantes), InductionC1, Désir Recreational

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	2,827	,371		7,620	,000
	Désir Recreational	,420	,159	,397	2,646	,011
	InductionC1	-,361	,584	-,093	-,618	,539

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produitamusement

➢ Welfare Product

Step 1. Impact of induced emotions on the recreational product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Désirabilité[c]	.	Entrée

a. Variable dépendante : InductionC2

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = ProduitSatisfaction

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = ProduitSatisfaction (sélectionné)			
1	,301[a]	,091	,073	,485

a. Valeurs prédites : (constantes), Désirabilité

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	1,196	1	1,196	5,077	,029[c]
	Résidu	12,012	51	,236		
	Total	13,208	52			

a. Variable dépendante : InductionC2

b. Sélection exclusive des observations pour lesquelles Produit = ProduitSatisfaction

c. Valeurs prédites : (constantes), Désirabilité

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	,115	,195		,588	,559
	Désirabilité	,082	,036	,301	2,253	,029

a. Variable dépendante : InductionC2

b. Sélection exclusive des observations pour lesquelles Produit = ProduitSatisfaction

Step 2. Impact of induced emotions on the welfare desire

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Désir Welfare[c]	.	Entrée

a. Variable dépendante : InductionC2

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = ProduitSatisfaction

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = ProduitSatisfaction (sélectionné)			
1	,710[a]	,505	,495	,358

a. Valeurs prédites : (constantes), Désir Welfare

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	6,920	1	6,920	54,020	,000[c]
	Résidu	6,789	53	,128		
	Total	13,709	54			

a. Variable dépendante : InductionC2

b. Sélection exclusive des observations pour lesquelles Produit = ProduitSatisfaction

c. Valeurs prédites : (constantes), Désir Welfare

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	,091	,076		1,192	,238
	Désir Welfare	,158	,021	,710	7,350	,000

a. Variable dépendante : InductionC2

b. Sélection exclusive des observations pour lesquelles Produit = ProduitSatisfaction

Step 3. Impact of welfare desire on the welfare product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Désirabilité[c]	.	Entrée

a. Variable dépendante : Désir Welfare

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = ProduitSatisfaction

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = ProduitSatisfaction (sélectionné)			
1	,555[a]	,308	,295	1,902

a. Valeurs prédites : (constantes), Désirabilité

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	82,271	1	82,271	22,739	,000[c]
	Résidu	184,522	51	3,618		
	Total	266,792	52			

a. Variable dépendante : Désir Welfare

b. Sélection exclusive des observations pour lesquelles Produit = ProduitSatisfaction

c. Valeurs prédites : (constantes), Désirabilité

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	-,580	,765		-,759	,452
	Désirabilité	,677	,142	,555	4,769	,000

a. Variable dépendante : Désir Welfare

b. Sélection exclusive des observations pour lesquelles Produit = ProduitSatisfaction

Step 4. Impact of induced emotion on the welfare product desirability

Variables introduites/supprimées[a,b]

Modèle	Variables introduites	Variables supprimées	Méthode
1	Désir Welfare, InductionC2[c]	.	Entrée

a. Variable dépendante : Désirabilité

b. Les modèles sont basés uniquement sur les observations pour lesquelles Produit = ProduitSatisfaction

c. Toutes variables requises saisies.

Récapitulatif des modèles

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation
	Produit = ProduitSatisfaction (sélectionné)			
1	,575[a]	,331	,304	1,54963

a. Valeurs prédites : (constantes), Désir Welfare, InductionC2

ANOVA[a,b]

Modèle		Somme des carrés	ddl	Moyenne des carrés	D	Sig.
1	Régression	59,452	2	29,726	12,379	,000[c]
	Résidu	120,067	50	2,401		
	Total	179,519	52			

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produit Satisfaction

c. Valeurs prédites : (constantes), Désir Welfare, InductionC2

Coefficients[a,b]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		A	Erreur standard	Bêta		
1	(Constante)	3,822	,347		11,030	,000
	InductionC2	-,812	,622	-,220	-1,306	,198
	Désir Welfare	,587	,138	,716	4,241	,000

a. Variable dépendante : Désirabilité

b. Sélection exclusive des observations pour lesquelles Produit = Produit Satisfaction