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The Relationship between Consumer Experience and Consumer Computer Self-Efficacy: An Exploratory Research

par

Hasna Agourram

Sciences de la gestion

(Option Marketing)

Sous la direction de

Sylvain Sénécal, Ph. D. et Pierre-Majorique Léger, Ph. D.

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Résumé

Ce mémoire par articles étudie le construit d'auto-efficacité technologique (AET) dans un contexte d'expérience utilisateur. L'AET est un construit très utilisé dans la littérature en technologie de l'information. Une recension de la littérature a permis de constater que l'administration de l'échelle de mesure du AET ne s'effectue pas toujours au même moment lors d'une collecte de données; certains chercheurs mesurent l'AET avant l'utilisation d'une nouvelle technologie et d'autres le mesurent après. Or, selon la théorie de la perception de soi (Bem, 1972), qui stipule qu'un consommateur arrive à mieux définir sa perception après avoir observé son comportement lors d'une expérience, il est fort probable que la mesure d'AET évolue au fil du temps (du Pré-Tâche au Post-Tâche). Cela laisse à penser que le moment auquel l'AET est mesuré puisse influencer les résultats de ces études. Ce mémoire étudie cette évolution en plus d'explorer la relation entre AET et la satisfaction du consommateur. Enfin, ce mémoire évalue également la capacité de l'AET à prédire l'émotion perçue du consommateur.

Pour répondre à nos questions de recherche, une étude en laboratoire a été menée auprès de 26 participants. Les résultats montrent que l'AET évolue dans le temps et en fonction des expériences vécues. De plus, l'AET des participants et leur degré de satisfaction sont liés positivement. Enfin, nous avons constaté que l'AET après l'expérience (« Post-Tâche ») explique mieux les émotions des participants que l'AET avant l'expérience (« Pré-Tâche).

Ce mémoire conclue qu'il est fortement suggéré de considérer l'AET comme un état d'esprit. D'un point de vue managérial, nos résultats suggèrent que l'AET d'un consommateur peut s'améliorer si on lui donne l'occasion de tester le produit et d'expérimenter des fonctionnalités simples. Plus l'AET des consommateurs est élevé, plus ils adopteront et utiliserons le produit.

Mots Clés : auto-efficacité · auto-efficacité technologique · satisfaction · émotion auto-déclarée · complexité de la tâche perçue

Summary

This thesis by articles focuses on the computer self-efficacy (CSE) construct in a user experience context. CSE is a construct that is widely used in information technology literature. Through a review of the literature, we have noticed that the administration of the CSE measurement scale does not always occur at the same time in a data collection; some researchers measure CSE before the experience (e.g., using a new technology) and others measure it afterwards. However, according to the theory of self-perception (Bem, 1972), which stipulates that a consumer is able to better define his perception after having observed his behavior during an experiment, it is highly probable that the measure of CSE evolves over time (i.e., from Pre-Task to Post-Task). This suggests that the moment at which CSE is measured might influence the results of these studies. This thesis examines this evolution in addition to exploring the relationship between CSE and consumer satisfaction. Finally, this thesis also assesses the capacity of CSE to predict the perceived emotion of the consumer.

To answer our research questions, a laboratory study was conducted with 26 participants. The results show that the CSE evolves over time and according to experiences. In addition, the participants' CSE and their degree of satisfaction are positively related. Finally, we found that CSE after the experiment (Post-Task CSE) better explains the participants' emotions than the CSE measured before the experiment (Pre-Task CSE).

This thesis concludes that it is strongly suggested to consider CSE as a state of mind. From a managerial point of view, our results suggest that consumers with low CSE can improve their CSE, which in turn would increase their adoption and use of apps, if the apps are easy to use.

Keywords: self-efficacy · computer self-efficacy · satisfaction · self-reported emotion · perceived task complexity

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List of abbreviations

Abbreviation	Definition of the term
AE	Auto-Efficacité
AET	Auto-Efficacité Technologique
CSE	Computer Self-Efficacy
TSE	Technology Self-Efficacy
HSE	High Self-Efficacy
LSE	Low Self-Efficacy
TC	Task Complexity

Preface

The authors of the present article-based thesis decided to write it in English upon receiving proper approval from the management of the Master of Science program. The consent of the co-authors for both articles was obtained and the HEC Montréal Research Ethics Committee granted its approval to conduct this experiment on July 2018. The first article of this thesis studies the relationship between the consumer's Computer Self-Efficacy and his/her degree of satisfaction. The article investigates whether the consumer's CSE impacts his/her satisfaction. The second article focuses on the influence of the experience on consumers' CSE perception. More specifically, we seek to explore whether CSE evolves over time in support to Bem's (1972) self-perception theory. In addition, we examine the effects of CSE on the self-reported emotion of the consumers by examining the relationship between Pre-Task CSE and consumer emotions and Post-Task CSE and consumer emotions. The first paper was submitted and accepted for Presentation at the 2019 International HCI Conference, which will take place in Orlando on July 2019. The second paper will be submitted to AIS Transactions on Human Computer Interaction.

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Moreover, I would like to thank all the Tech3lab team for helping me in the realization of my research project and data collection. I know it was a long and stressful process, so your patience was truly appreciated. I am also very grateful to my laboratory colleagues, for showing me a constant support throughout this project. In addition, I would like to express my gratitude to the Natural Sciences and Engineering Research Council of Canada (NSERCC) and Prompt Innov for funding my research.

Finally, I wish to thank my family who believed in me and trusted me in my choices throughout my academic career. Their support, love, and encouragement are indescribable.

Introduction

The world of Information Technology (IT) is evolving in an unpreceded speed. The scope of Internet (Ke & Jiang, 2018; Hong, Thong, and Tam 2006; Leung, 2010), the speed of data transmission (Reichenbacher, 2004; Wagner, 2005; Hoppe, Joiner, & Milrad, 2003), as well as the affordability of IT (Fawcett et al., 2007; Closs, Goldsby, & Clinton, 1997) are some of the many factors that motivate organizations to use IT in order to facilitate and reengineer their business processes. The processes that supports the Marketing departments in these organizations make no exception (McKinney, Yoon, & Zahedi, 2002; Szymanski & Hise, 2000; Evanschitzky et al., 2006; Todd, 1995; Venkatesh, 2000; Yi & Hwang, 2003).

Within the consumer behavior and information technology acceptance literature, IT and marketing researchers seek to identify individual differences that impact online consumer behavior. For example, Venkatesh, Morris, David, and Davis (2003) suggest four key moderators (experience, gender, age and voluntariness) that have been used in empirical models and theories of individual IT acceptance. Some of these theories are the Theory of Reasoned Action (Ajzen & Fishbein, 1980), the Motivational Model (Davis, Bagozzi, & Warshaw, 1992), and the Innovation Diffusion Theory (Rogers, 1962). Marketing researchers have focused on other variables such as consumer demographics (e.g., age), the product itself, and the nature of the Task (see for example, Laroche, Cleveland & Browne, 2004; Katona & Mullers, 1955; Simonson & Tversk, 1992). Other studies included individual factors, such as consumer perceptions, beliefs, attitudes, and satisfaction to investigate their moderating effects in online consumer behavior (see Duncan & Olshavsky, 1982; Abukhzam & Lee, 2010; Bansal, Irving & Taylor, 2004). This research falls within this last area of research and focuses on one specific consumer belief; the Computer Self-Efficacy belief.

The concept of self-efficacy (SE), originally developed from Bandura's Social Cognitive Theory (1986), is defined as people's beliefs in their capabilities to produce desired effects through their own actions (Bandura, 1977). Bandura (1986) suggests that people who possess a high degree of self-efficacy (HSE) would make efforts to perform

a Task, and overcome the difficulties they may encounter in performing these Tasks, more than those who have a low degree of self-efficacy (LSE).

Research in marketing has explored the impact of self-efficacy (SE) on many outcomes, such as consumer's motivations (Barrick & Mount, 1991) and, choices and efforts within a brand choice context (see Hu, Huhmann, & Hyman, 2007). Several studies have shown that SE play an important role on future intentions and the daily life of consumers (see for example, Marrakas et al., 1996; Gist, 1987; Gist & Mitchell, 1992; Schunk, 2015). Consumers activities that require little cognitive effort or that are part of consumers' routine or habitual behavior (e.g., fill their bottles at a drinking trough) do not prompt self-reminders of capability (Garlin & McGuiggan, 2002). On the other hand, there are sometimes situations where consumers encounter activities or Tasks that require a greater effort (i.e., demanding) from consumers (e.g., the first time usage of an automatic/ high-tech water dispenser). In this type of situations, where the activity or Task is perceived as innovative, consumers SE beliefs may be re-evaluated (i.e., consumers may begin to question their beliefs about their SE perceptions).

One type of self-efficacy is computer self-efficacy (CSE), which has been defined as one's belief in his/her abilities to complete an IT based Task successfully (Compeau & Higgins, 1995). Over the past two decades, many scholars have used the concept of CSE as a major factor in consumer information technology usage. In McCrae (1996) study, the author identified several antecedents of CSE, some of which relate to a consumer's environment (e.g., situation support) and others to the consumer himself (e.g., emotional arousal). In ropes with this, Agarwal & Prasad (1998) found that individual differences, such as CSE (Compeau & Higgins, 1995; Venkatesh & Davis, 1989) influence how consumers perceive and use IT. Specifically, researchers found that CSE has a significant impact on consumer's behavioral intention to use IT (Venkatesh et al., 2003), and eventual computer use (Thatcher & Perrewe, 2002). Moreover, in examining the influence of CSE on computer usage, it was found in Compeau, Higgins, and Huff (1999) longitudinal study that CSE has a strong predictive capability on consumer use. The authors found that CSE influence individual's behavioral reactions to information technology and purchase decision-making process.

However, and despite this popularity of CSE construct, our literature review reveals that researchers who use CSE in their models, either measure it before the experimentation or after the experimentation. Others do not even indicate when the measure was taken (see for example, Ortiz de Guinea & Webster, 2015; Teo, 2016; Weinstein & Mullings, 2012). However, and based the very popular Bem's (1972) self-perception theory where he argues that people come to fully identify their perception only after living the experiences. Therefore, and building on Bem's (1972) self-perception theory, we undertook an experiment in order to discover if indeed CSE evolves from Pre-Task and Post-Task. In other words, we wanted to see if consumers do fully define their CSE after performing IT Tasks. We also seek to understand the relationship between CSE and other perceptual variables, such as a consumer's perception about their degree of satisfaction and emotions. In fact, Bem's (1972) theory suggests that people can infer their perceptions and emotional responses by observing their own behaviors. This implies that after confronting a reality that differs from our expectations, we might then alter our beliefs accordingly. We foresee that CSE may differ the Pre-Task and Post-Task stages.

1.1 Research Objectives

One major objective of this research is to investigate the impact of IT Tasks on participant's CSE by analyzing its measure before and after the tasks. We also seek to determine the impact of the evolution of CSE on participant's satisfaction, and finally we would like to investigate the relationship between a consumer's self-reported emotions with respect to his/her Pre-Task and Post-Task CSE.

We argue that overall, consumers with High Post-Task CSE are more likely to express a high degree of satisfaction after completing the IT Tasks than consumers with Low Post-Task CSE. More specifically, when consumers' CSE goes up (from Pre-Task CSE to Post-Task CSE), they are likely to be satisfied and when CSE decreases (from Pre-Task CSE to Post-Task CSE), consumers are not likely to be satisfied. We also argue that IT Tasks will alter consumers' perception about their CSE. Finally, we claim that

consumer Post-Task CSE predicts better the validity of the measure of consumer emotion than consumer Pre-Task CSE.

1.2 Potential Contributions and Implications

From a methodological and theoretical perspective, we contribute to existing knowledge in marketing and IT by bringing up the importance of knowing that when people experiment IT Tasks, their corresponding CSE may vary from the Pre-Task to Post-Task stages. Ignoring this evolution of CSE over time may jeopardize the research outcomes and results.

We also drew many managerial implications. First, organizations, which develop applications that support customer self-service in order to increase their service autonomy need to keep in mind that consumers' CSE may vary. Some people would have High CSE and others Low CSE. Our study indicates that consumers with High CSE are likely to use the new applications because they believe in their ability to successful use the new application to complete the IT Tasks. For Low CSE consumers, our research show that their CSE may change when they try simple IT applications. The simpler the IT Tasks they execute, the more they build their CSE progressively. Once they build High CSE, we can offer them to execute tasks that are more complex.

Although in our study we focused on consumers, our findings may extend to organizations' workforce. For instance, organizations that develop business information systems are always faced with the challenge to motivate their employees to use the new systems and technology. There may be employees who have High CSE and others who have Low CSE. The fact that High CSE leads to satisfaction is a good reason to make these organizations think of ways to enhance CSE to those who have Low CSE (Bhattacherjee, 2001; Cenfetelli, Benbasat & Al-Natour, 2005; Hsu, Kraemer, & Dunkle, 2006; Lin, Wu, & Tsai, 2005; Thong, Hong, & Tam, 2006). The Higher the CSE, the more satisfied the employees would be and the more the later are satisfied the more likely they would accept and use the system. We suggest that further research should be done in the context of employees where such variations in CSE may influence job satisfaction.

1.3 Information about the articles

The objective of the first article is to explore the relationship between the evolution over time of the participants' CSE and their degree of satisfaction. The first article was submitted and accepted for a Presentation at a scientific conference in July 2019 at HCI International 2019. The experimental design phase as well as the Pre-tests have been carried out in the summer of 2018 by the student under an undergraduate research grant (NSERC). The data collection was completed on June 2018 and the results were produced during a first phase of analysis (preliminary analysis). The objectives of the second article are: first, to investigate the impact of IT Tasks on consumers' CSE; and second, to investigate the relationship between the consumer's self-reported emotions with respect to the Pre-Task and Post-Task CSE. The results of the second article were produced in a second phase of the analysis. The second article will be submitted to Journal of Transactions on Human-Computer Interaction.

Summary of the first article

Scholars and researchers are becoming more interested in research that focuses on the consumers' interaction with mobile technology as information technology providers are striving to develop innovative devices to attract more consumers. Consumer's technology self-efficacy (TSE) has been largely used in the literature. It is widely believed that consumers who report High TSE are likely to successfully complete technology-based Tasks to achieve particular outcomes. However, little research investigates the relationship between the degree of TSE and consumer overall satisfaction. Based on the self-perception theory (Bem, 1972), we aim to investigate the relationship between satisfaction and consumers who see their TSE increase from Pre-Task to Post-Task, and the relationship between satisfaction and consumers who see their TSE decrease from Pre-Task to Post-Task. Our results suggest that consumers with High Post-Task TSE are more satisfied than those with Low Post-Task TSE. We also found that a high number of participants whose TSE increase from Pre-Task TSE to Post-Task TSE are more satisfied than those whose TSE decrease from Pre-Task TSE to Post-Task TSE. One major implication of this work is that TSE could be added as a determinant to consumer satisfaction.

Summary of the second article

The computer self-efficacy (CSE) construct has gained prominence in the social science literature, mainly in marketing, Information Systems (IS), and Human-Computer Interaction (HCI). We have noticed that scholars who use CSE in their research models measure its value either in the Pre-Task or the Post-Task questionnaire. Other scholars do not even mention the moment at which the measure was taken. This poses a problem when we consider Bem's (1972) self-perception theory in which he argues that an individual come to fully identify his/her perception after being emerged in an experimentation and observing his/her behavior. In other words, people's claims about their perceptions become stronger once they perform IT Tasks. In this article, we aim to investigate the extent to which IT Tasks may influence a consumer's perception about his/her CSE. The second objective of the study is to investigate the relationship between consumer self-reported emotions with respect to consumers' Pre-Task CSE (perception prior to the Task) and Post-Task CSE (perception after the Task, thus at the end of the experience). Twenty-six people participated in the study. They performed four technology-based Tasks in a controlled timing context. The result shows that the consumer Pre-Task CSE and Post-Task CSE have been altered by the IT Tasks. In other words, CSE is not stable over time. People come to identify their perception about CSE after experimenting IT Tasks. Moreover, the results show that consumers' self-reported emotion are better explained by their Post-Task CSE than the Pre-Task CSE. We contribute the existing knowledge by informing scholars who use CSE in their research to pay attention to the possible evolution of CSE measure from Pre-Task to Post-Task which may lead to significant impact on the research outcomes. Our results also bring practical insights to managers in that their IT applications they are trying to push to their consumers shall be simple to use. This simplicity may convert Low CSE consumers into High CSE consumers, which in turns might make them adopt their products.

Contributions and tasks performed in the research process

The table below shows my contribution at each step of the research process.

Table 1: Contributions to the responsibilities of the research project.

Steps	**Contribution and tasks performed**
Definition of the partner requirements	Translate the organization's need into scientific research questions – 50% ● Define research questions in articles ● The rest of the team contributed to this step by gathering the business needs of the partner (Vidéotron) and achieving consensus on the research objectives.
Literature Review	Communicate directly with the partner to determine the operationalization of stimuli and constructs – 20% ● Choice of stimuli for all Tasks ● The rest of the research team was primarily in direct contact with the partners to determine the measures that would be collected and the stimuli used. Conduct the literature review to determine the constructs tested in the field of psychology and cognition -100% Define the measurement tools used to test the constructs -60%

Experimental design	Preparing and developing the « CER » application - 80% ● Document any changes in the experimental design and report to the « CER » ● The rest of the team helped develop the consent and compensation forms Design the experimental protocol - 70% Conduct Pre-tests to refine the experimental design: Measurement tools used, sequence of Tasks, choice of stimuli -70% Help set up the room of the data collection – 60%
Recruitment	Develop the recruitment questionnaire – 100% Recruitment of participants : solicit, contact, participant scheduling – 50% Compensation responsible – 50% Design the experience binder for participant tracking – 50%
Pretests and data collection	In charge of operations during data collection – 70% Technical support and help to assistants for any problem with the collection room – 50%
Data extraction and transformation	Extraction and Preparation of physiological, psychometric, cognitive and emotional data in order to allow for statistical analysis – 100% Extraction and transformation of markers to ensure synchronization of measurement tools – 100%

Data Analysis	A coaching/ training in statistical analysis and access to statistical software allowed me to learn how to perform some of my analyzes. Statistical analyzes – 80% ● Descriptive statistics, analysis of explicit results and interpretation of the results. ● The laboratory statistician aided me in the actual running of the statistics and performed more complex statistical tests with SAS/ SPSS ● My supervisors and the statistician gave vital feedback throughout the whole process
Writing	Contribution in writing articles – 100% ● My research directors guided me and provided constructive comments throughout the writing to enhance the quality of the articles.

1.4 Structure of this thesis

The remaining parts of the thesis is structured as follows. In chapter two, we present the first article that was accepted for publication in the proceeding of the 21st International Conference on Human-Computer Interaction (HCI). This article explores the relationship between consumer technology self-efficacy and consumer satisfaction. In the third chapter, we present the second article that will be submitted for publication to Journal of Transactions on Human-Computer Interaction (THCI), and which explores the impact of the It Tasks on Computer Self-efficacy and the relationship between consumer self-reported emotion with respect to consumer computer self-efficacy before and after the experience. Finally, the fourth chapter summarizes the research questions and the results of both articles as well as the research limits, contributions, future research calls, and my personal takeaways from my research experience.

Chapter 2: First Article [1]

The Relationship between Technology Self-Efficacy Beliefs and Consumer Satisfaction. A Consumer Experience Perspective

Hasna Agourram[1], Juliana Alvarez[1], Sylvain Sénécal[1], Sylvie Lachize[2], Julie Gagné[2], and Pierre-Majorique Léger[1]
[1] HEC Montréal, Tech3Lab, 3000 Chemin de la Côte-Sainte-Catherine, Montréal, QC H3T 2A7, Canada
hasna.agourram@hec.ca
[2] Vidéotron, 612 Rue St-Jacques, Montréal, QC H3C 1C8, Canada

Abstract
Scholars and researchers are becoming more interested in research that focus on the consumers' interaction with mobile technology as information technology providers are striving to develop innovative devices to attract more consumers. Consumer self-efficacy and specifically Technology Self-Efficacy (TSE) has been largely used to Predict consumer's Task success and consumer's acceptance of technology. In other words, we assume that consumers who report High TSE are likely to succeed technology-based Tasks and are likely to accept and use technology. However, little research investigates the relationship between Pre- and Posts-Task self-perceived TSE and its relationship with consumer satisfaction. Based on the theory on self-perception, we aim to fill in this gap. First, we explore the relationship between TSE and consumer satisfaction. Second, we investigate on one hand the relationship between satisfaction and individuals whose TSE increase after the consumer test, and on the other hand, the relationship between satisfaction and individuals whose TSE decrease at the end of the consumer test. Theoretical contributions to HCI literature and practical implications to HCI practitioners are discussed.

Keywords: Consumer Experience; Satisfaction, Self-efficacy, Technology Self-Efficacy.

[1] Agourram,H.; Alvarez, J.; Sénécal, S.; Gagné, J.; Lachize, S.; Léger, P.-M.. « The Relationship between Technology Self-Efficacy Beliefs and Consumer Satisfaction. A Consumer Experience Perspective » In International Conference on HCI in Business, Government, and Organizations (2019). Springer, Cham

1. Introduction

Self-efficacy is defined as people's beliefs in their capabilities to produce desired effects by their own actions (Bandura, 1977). One type of self-efficacy is Technology Self-Efficacy (TSE), which has been defined as "an individual's belief in his or her ability to use a computer effectively" (Bandura, 1977). The TSE construct has been used extensively to predict consumers' Task effectiveness and technology acceptance (Simmering, Posey, & Piccoli, 2009). The rationale is that when an individual believes he has the ability to successfully perform a Task using a technology (High TSE), he will engage and make all efforts to successfully complete the Task using the technology. He considers failures as challenges and believes that failures are usually dues to lack of experience and technological knowledge or skills that can be accessed or acquired easily (Bandura, 1977).

Over the past decades, TSE has gained prominence in the social science literature, particularly in Information Systems (IS) and Human Computer Interaction (HCI) research as scholars use it as a predictor of consumers' responses (e.g., attitude and behaviors) towards a technology (Compeau & Higgins, 1995). However, no or very little research has been conducted to investigate relationship between TSE and consumer satisfaction. Understanding this relationship leads to many managerial implications. For example, when a specific technology is deployed in an organization, managers are more concerned with the outcomes (consumers' satisfaction) towards the technology and are rarely concerned with why some consumers are more satisfied with the technology than others. If the TSE and satisfaction are correlated, then managers might want to explore ways to enhance TSE for Low TSE consumers.

In order to address this gap in the literature, an experiment involving twenty-six consumers was conducted. Prior to the experimental Task, consumers reported their TSE. Then, they performed a Task, which consisted of interacting with an electronic device. Finally, they were asked to report their Post-Task TSE. Results suggest that consumers with High TSE are more satisfied than consumers with Low TSE.

Our findings add knowledge to existing research on consumer experience by exploring the relationship between consumer Technology Self-Efficacy and satisfaction. Technology Self-Efficacy can be added as a determinant to consumer satisfaction in IT implementation, acceptance and success models. Our findings may help these organizations ensure a High degree of consumer satisfaction in regards to the new technology.

2. Theoretical Background and Hypotheses

2.1 Satisfaction

From psychology perspective, consumer satisfaction "has been considered as the sum of one's feelings or attitudes toward a variety of factors affecting the situation" (Legris, Ingham, & Collerette, 2003, p.192). From an information technology perspective, consumer satisfaction is considered as one of the most important measure of IS success (Urbach & Muller, 2011). It is one of the essential factors, which researchers need to take into consideration when studying technology usage (Isaac et al., 2017). Delone and McLean included consumer satisfaction as a major construct in their updated model of IS success (Delone & McLean, 2003). Delone and McLean (2003) argue that when consumers are satisfied with a technology, this technology is considered to be beneficial and therefore leads to some success (Delone & McLean, 2003). Sharma and Baoku (2013) added that the understanding of consumer satisfaction is vital to the success of business on the Web (Sharma & Baoku, 2013).

2.2 Self-Perception, Self-Efficacy, and Technology Self-Efficacy

Self-efficacy is defined as people's beliefs in their capabilities to produce desired effects by their own actions (Bandura, 1977). It is the expression of beliefs of individuals related to their own capability to perform a certain behavior (Bandura, 1977, Gencturk, Gokcek, & Gunes, 2010). Bandura argues that people with High self-efficacy consider Tasks as challenges (Bandura, 1994). The more challenging the Task is, the more they get engaged. Bandura also argues that these people not only complete their Task, but they also ensure the Task is completed with a High degree of effectiveness (Bandura, 1994).

Self-Efficacy is also fueled by the degree of skills of the individual who can be either Low in self-efficacy or High in self-efficacy in specific disciplined. The self-efficacy scale developed by Bandura is a psychometric tool often deployed in UX testing. The Self-efficacy scale is assessed based on two concepts: the capacity and the confidence personally perceived by the consumer – the "I can do" (Bandura, 2006) which influence a third construct, the motivation – the "I will do" (Bandura, 1978). Moreover, according to the self-efficacy literature, consumer's dissatisfaction occurs when the consumer lack confidence about the goal he wishes to attain (Locke, 1986; Latham & Brown, 2006).

We have noticed a strong interest of IT researchers towards TSE (Feng et al., 2018; Gan & Balakrishnan, 2017; Hwang, Lee, & Shin, 2016; Kitchens, Dobolyi, & Abbasi, 2018; Nguyen, Ta, & Prybutok, 2018; Penarroja et al., 2019; Shun, Tu, & Wang, 2011). The Technology Self-efficacy is defined as "an individual's belief in his or her ability to use a computer effectively" (Simmering, Poser, & Piccoli, 2009, p.101). The concept has been used extensively to predict consumer's use and acceptance of technology (Davis, 1989; Laver et al., 2011; Chen, 2014). The idea is that when an individual believes he or she has the ability in successfully perform a Task using a technology, he or she will engage and makes all efforts to successfully complete the Task. He or she sees failures as challenges and believes that failure is usually due to lack of experience and skills that can be easily acquired.

Moreover, Bem's (1972) theory on self-perception suggests that people can infer their attitudes and self-perceptions by observing their own behaviors. This theory adds much to our understanding of how people learn from their own experiences and the consequences of this learning on their perceptions (Bem, 1972). Bem (1972) claims that individuals come to "know" their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behaviors and/or the circumstances in which these behaviors occur (Bem, 1972). Based on this theory and by using Technology Self-Efficacy as an example of self-perception, we are interested in consumer technology self-efficacy before the Task (Pre-TSE) and consumer Technology Self- Efficacy after the Task (Post-TSE).

We develop two hypotheses to investigate the relationship between Pre- and Posts-Task self-perceived TSE particularly in relation to consumer satisfaction. The first hypothesis focuses on investigating the overall relationship between consumers Post-TSE and satisfaction. We argue that consumers with High Post-TSE are more likely to express a High degree of satisfaction after completing the Task than consumers with Low Post-TSE. Furthermore, this study goes deeper than just exploring the relationship between consumer TSE beliefs and satisfaction. The second hypothesis is based on Bem's (1972) theory. The author claims that self-perception is likely to be altered by the experience (Task). We focus this time on the variation process of consumer's TSE and argue that when consumers' TSE goes up (from Pre-TSE to Post-TSE), they are likely to be satisfied and when TSE decreases (from Pre-TSE to Post-TSE), the consumers are not likely to be satisfied.

We hence posit that:

Hypothesis 1: Consumers with High Post-TSE will likely be more satisfied than consumers with Low Post-TSE.

Hypothesis 2: Consumers whose Post-TSE is greater than the Pre-TSE are likely be more satisfied than those whose Post-TSE decrease from the Pre-TSE.

3. Method

To test our hypothesis, we conducted a home device configuration study. Subjects were asked to setup a new version of a home entertainment system to a TV in an experimental living room. The Ethics Committee of our institution approved this study and each participant received a gift card to participate in this study.

3.1 Participants

During the recruitment of participant, several criteria were considered. All individuals wishing to participate in the study were asked to answer a short self-completed questionnaire so that the research team could learn about their skills and knowledge of electronic and audio-visual devices. The objective of this recruitment was to have participants whose ages ranged from 20 to 70 years, a balance between genders (13 men

and 13 women) as well as between participant's IT knowledge and skills; Are the participants able to install or configure their devices on their own, on their own but with some help, do someone else around them doing it for them or are they request a technician to do it for themselves? The sample was selected to ensure that we could include and test different potential consumer profiles; thirteen participants with Low TSE, who do not possess experience in using information technology-based Tasks and thirteen participants with High TSE, who have good experience with IT. Herewith, we wanted to create some variance among the participants according to the consumer's ability to use technologies.

3.2 Procedure

The experiment room has been installed to reproduce a living room. The participants sat in a chair facing a television. They had at their disposal a table with all the materials that could help them complete the required configuration Tasks: i.e. a spouse's note (contextualization), a remote control, a leaflet that referred to a website or an application as well as a computer or a smartphone.

In general, the basic configuration of common devices that we use on a day–to-day basis, such as an audio-visual material, are perceived as being unambiguous and easily achievable by most people. However, configuring Tasks may affect a wide range of people. For this reason, in the experimental protocol, we select different Tasks, which were likely to vary in their difficult to achieve across our sample. Each participant was asked to configure a smart device by performing four different configuring Tasks: (1) tuning; (2) synchronization of the remote control with the device; (3) remote commands execution, and (4) search and launch of device content.

3.3 Apparatus and Psychometric Measures

As part of the consumer test, in total, participants were asked to complete Pre and Post questionnaires including the Pre-TSE and Post-TSE. Finally, in order to measure consumer satisfaction, we used a validated measurement scales to assess the participants' satisfaction towards the technology used. This Post-questionnaire allowed participant to evaluate the usability of the technology in relation to their degree of satisfaction.

4. Results

4.1 Satisfaction Level according to Consumer's Self-Efficacy

The first objective of this research was to explore the relationship between TSE and consumer satisfaction. In order to analyze the effects of consumers' Post-TSE on satisfaction (i.e., the dependent variable), we did a linear regression (2-tailed p-value). We separated the consumers in two groups using the Post-TSE as a binary variable (High Post-TSE and Low Post-TSE) with a median split. When crossing the results between consumers' satisfaction scores and their self-efficacy reported measures, results show a significant difference in the satisfaction level between consumers having a Low Post-TSE and consumers with a High Post-TSE, with a p-value of <.0001. In other words, the results shown in Table 1 indicate that consumers with High Post-TSE seem to be more satisfied about their experience than consumers with Low Post-TSE when completing configuration-Tasks. Thus, H1 is validated. Consumers with High Post-TSE were more satisfied than consumers who reported Low Post-TSE.

Table 1. Consumer's satisfaction according to their Post-reported TSE.

Dependent Variable	Effect	Nbr Obs	Estimate	StdErr	DF	T-Value	P-Value
Satisfaction	Post-TSE	56	1.0833	0.1996	78	5.43	<.0001

In the second objective, which was based on Bem's theory (1972), we focused on the variation process of consumer's TSE. In order to analyze the variation of consumers' Pre- and Post-TSE with regard to satisfaction and to test the second hypothesis, we used the Wilcoxon signed-rank test (one-tailed p-value) and found a statistically significant result with a p-value of 0.047. When comparing consumers whose Technology Self-Efficacy (TSE) goes up (i.e., 17 participants) to those whose TSE goes down (i.e., 4 participants), the results shown in Table 2 indicate that participants whose TSE goes up (i.e., Higher Post-TSE than Pre-TSE), report a Higher degree of satisfaction than those whose TSE goes down. Thus, our second hypothesis is validated.

Table 2. Sample means and median of satisfaction (p=0.047)

TSE Variation	Number of Participants	Means	Median
Down	4	4.75	4.8333
Up	17	6.5490	6.6667

5. Discussion

In summary, this research aims to investigate how self-efficacy is related to the consumer satisfaction. The first objective of this research was to explore the relationship between TSE and consumer satisfaction. Our results suggest that consumers with High Post-TSE are more satisfied than those with Low Post-TSE. Thus, our first hypothesis is validated. The second objective of this research is to explore the relationship between the variation of the degree of TSE from Pre- and Post-TSE and Satisfaction We found out that a High number of participants whose TSE increase from Pre-TSE to Post-TSE are more satisfied than those whose TSE decrease from Pre-TSE to Post-TSE.

As we mentioned earlier, satisfaction is the expression of the sum of many feelings. A very High number of participants who have High TSE have expressed satisfaction after completing the Task. This result can be explained by many factors. First, the participants associate their satisfaction with their ability to complete the Task regardless of the Task itself. These people express pride and satisfaction because they prove their ability to succeeding the Task. The beauty of the TSE belief is that when the Task is easy to use and consumer friendly, the Task might take less time to complete but satisfaction will always maintain High. On the other hand, when the Task is complex and not consumer friendly, according to Brandon people with High TSE challenge themselves and make all possible efforts to bypass the Task complexity and obstacles in order to complete the Task (Salyzyn, 2005). At the same time, these people feel again satisfied with their work.

The Task simplicity is a major factor that can explain the second result. As a matter of facts, when people found out that the Task was simple and did not require much effort to complete, they felt confident on their ability to succeed IT-based Tasks and this has been translated in their degree of satisfaction. On the other hand, people who found out that the Task was complex have lost confidence on their ability to handle IT Tasks.

5.1 Theoretical Contributions

Our findings contribute to knowledge in IT and HCI (Birk et al., 2015; John, 2013; Yi & Hwang, 2003; Kujala et al., 2011; Rajeswari & Anantharaman, 2005) by exploring the relationship between consumer's Technology Self-Efficacy and consumer satisfaction. We found out that Technology Self-Efficacy could be added as a determinant to consumer satisfaction in IT implementation, acceptance and success models. .

5.2 Managerial Implications

Our results bring many managerial implications. First, from marketing perspectives and in an effort to reduce operating costs or servicing consumers, many organizations turn to self-service. Self-Service Technology (SST) is defined as "technological interfaces that enable consumers to produce a service independent of direct service employee involvement" (Meuter et al., 2000, p.50). In other words, organizations try to convince their consumers to use this type of technology as an alternative to service representative service (Considine & Cormican, 2016). Our results bring support to these organizations and suggest that these organizations may offer consumer SST only to consumers who have High TSE. The use of SST aims to meet the need for greater autonomy issued by consumers. Practically speaking, they can distribute TSE questionnaires to all their consumers and select only those who rank High in TSE. It would be a waste of time to offer technology to people who have Low to very Low TSE. Second, organizations that develop business information systems are always faced with the challenge to motivate their employees to use the new systems and technology. There may be employees who have High TSE and others who have Low TSE. The fact that High TSE leads to satisfaction is a good reason to make these organizations think of ways to enhance TSE to those who have Low TSE. The Higher the TSE the more satisfied consumers would be and the more consumers are satisfied the more likely they would accept and use the system.

5.3 Limitations and Future Research

This research Presents limits and opportunities for future research. First, the control variables of the recruitment process, such as consumer IT experience, could have been further explore. In fact, since we have chosen to collect information on only two groups of people, consumers with High TSE and consumers with Low TSE, we did not consider consumers with average TSE beliefs; consumers who are neither High nor Low in TSE. We encourage further research to consider these individuals in order to find a trend in between these three categories and meaningful relationships. Second, in this research we measured consumer satisfaction only once after completing the consumer test. We wish we could have measured consumer satisfaction after completing each of the four Tasks. This way, we would have investigated the impact or the relationship between the Task itself and consumer satisfaction.

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Chapter 3: Second Article [2]

When should consumer computer self-efficacy be measured?

Hasna Agourram[1], Juliana Alvarez[1], Sylvain Sénécal[1], Sylvie Lachize[2], Julie Gagné[2], and Pierre-Majorique Léger[1]
[1] HEC Montréal, Tech3Lab, 3000 Chemin de la Côte-Sainte-Catherine, Montréal, QC H3T 2A7, Canada
hasna.agourram@hec.ca
[2] Vidéotron, 612 Rue St-Jacques, Montréal, QC H3C 1C8, Canada

Abstract

Computer self-efficacy (CSE) which is defined as consumers' perceived ability to successfully complete a Task using information technology, has largely been used in Marketing and IT research. Scholars measure the CSE construct at different moments (Pre- and Post-Task) and implicitly assume that the measured value is stable over time. However, and based on Bem's (1972) self-perception theory, CSE may evolve over time because the consumer comes to fully define his/her CSE after performing Tasks and observing his/her behavior. In order to explore the behavior of CSE over time, we conducted an experiment that included 26 participants. These consumers were asked to complete four IT Tasks that differ in terms of their degree of complexity. The results indicate that CSE evolves over time. Consumers who had Low CSE in the Pre-Task, rank High CSE in the Post-Task and those whose CSE was High in Pre-Task kept their CSE High in the Post-Task. We also tested the implications of our finding in predicting the validity of variables such as consumer's emotion after completing the IT Tasks. The results suggest that consumer emotions are better explained by the Post-Task CSE than Pre-Task CSE. Theoretical and managerial implications are discussed later in this document as well as our research limitation and future research.

Keywords: Consumer Experience, Self-efficacy, Computer Self-Efficacy, Self-Perception Theory, Self-Reported Emotion.

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1. Introduction

A large body of research was conducted on consumers' characteristics (Warren & Campbell, 2012; Liu et al., 2018; Guadagno & Burger, 2007; Mahmood, Bagchi, & Ford, 2004; Sestir & Green, 2010; Douglas et al., 2010; Anik & Norton, 2012). One of these characteristics is Self-Efficacy (SE), which emerged in the Social Cognitive Theory (Bandura, 1986). The author defines self-efficacy as "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p.391). One type of SE is Computer Self-Efficacy (CSE), which has been defined as "a judgement of one's capability to use a computer" (Compeau, 1995, p.192). CSE has been largely used in the literature (Yang & Cheng, 2009; Dabholkar, 1996; Ellen, Bearden, & Sharma, 1991; Decker, 1998; Hasan, 2003; Hoffman & Novak, 1996; Ratten, 2013; Cassidy & Eachus, 2002; Hsu & Chiu, 2004; Holden & Rada, 2011; Scott & Walczak, 2009). However, in existing research, scholars measure CSE either before the experimentation (Rex & Roth, 2014) or after the experimentation (Wang, Xu & Chan, 2014). Some do not even mention when the measure was taken (Weinstein & Mullins, 2012). However and based on Bem's (1972) self-perception theory where he argues that people come to fully identify their perception only after living the experiences, it is probable that the measure of CSE prior to the experimentation will be different than the measure of CSE after the experimentation. This research investigates whether CSE changes from the Pre-Task to Post-Task stages. The result shows that the Pre-Task CSE and Post-Task CSE have been altered by the IT Tasks. In other words, CSE is not stable over time. Consumers come to identify their perception about CSE after they experimented the IT Tasks. Moreover, the results show that consumers' self-reported emotions are better explained by their Post-Task CSE than the Pre-Task CSE. We contribute the existing knowledge by informing scholars who use CSE in their research to pay attention to the possible evolution of CSE measure from Pre-Task to Post-Task which may lead to significant impact on the research outcomes. Our results also bring practical insights to managers concerning the design of their IT applications in relation to their customers' level of CSE (e.g., IT apps that managers are trying to push to their customers shall be simple to use).

This simplicity may convert Low CSE consumers into High CSE consumers, which in turns might make them adopt their products.

2. Literature Review

2.1 Self-Perception Theory

Bem's (1972) theory is a prominent self-perception theory. The author argues that, "individuals come to *know* their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behavior and/or the circumstances in which this behavior occurs" (Bem, 1972, p.2). Bem's (1972) theory describes the process in which people, lacking initial attitudes or emotional responses develop them by observing their own behavior and coming to conclusions as to what attitudes must have driven that behavior. Bem's (1972) self-perception theory adds much to our understanding of how people learn from their own experiences and the consequences of this learning for future actions. Bem's (1972) theorizes that perception will influence subsequent actions and behaviors. In the following paragraph, we will illustrate Bem's (1972) theory with two examples.

In the first example, assume that an individual has never rode a bicycle. This individual may develop a perception about biking. He may believe that biking is dangerous because people may get hurt if they fell. The individual may then avoid biking. Assume also that one of his/her friend insisted that the same person tries biking. Her friend may convince her about the possible pleasure he or she may feel after trying. When the individual tries biking, her observation about how biking makes him feel may add more information to her initial perception which would then help her define her/his perception more accurately. The individual combines her initial perception with her observations about real life experience and then come to fully identify her perception. In the second example, let us assume a person has never tried swimming. If we ask to that person whether he like swimming, his answer would be based on his built-in perception about swimming. This person may think that he does not know how to swim, and this may trigger reactions from this person (emotions, feelings and so on). Thus, whatever this person may think or say will be based on stories he has heard from other people about swimming. Many people die in swimming pools. He might believe and build a feeling

on how swimming is dangerous and therefore stay away from it. However, if we ask him to try swimming and if he does, he would observe his behavior, and after trying it out, he may finally say to himself, "Swimming is enjoyable, because it cooled me down, and just makes me feel better". His new perception has been totally changed and based on his observations from trying out swimming.

The action thus determines the attitudes and the feelings (Critcher & Gilovich, 2010). We know who we are and how we feel by observing our behaviors and actions. In sum, behaviors may change a person's perceptions of himself in general (Bailenson & Segoria, 2010; Yee & Bailenson &, 2007). A person comes to fully know his/her perceptions once he/she observes his/her behavior in a living circumstance. If this particular person does not get a chance to actually experience something, which in our case is performing IT Tasks, he/she may not be able to observe his/her behavior in performing IT Tasks and thus, may not build an accurate perception about his experience in executing the IT Tasks.

2.2 Self-Efficacy and Computer Self-Efficacy

Bandura (1986), as an extension of his Social Learning Theory (1960) proposed the Social Cognitive Theory (SCT). It is a learning theory that focuses on modeling, observational learning, and self-efficacy (see Latham & Saari, 1979; Greer, Dudek-Singer, & Gautreaux, 2006; Thatcher & Perrewe, 2002). SCT is based on the notion of interaction between three factors: personal, environmental, and social/ behavioral (Bandura, 1986). Bandura's (1977, 1986) defines self-efficacy (SE) as a personal judgement of "how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982). In other words, SE is a self-perceived belief of someone's *own* competence. The SE construct is assessed based on two concepts: the capacity and the confidence personally perceived by the consumer – the "I can do" (Bandura, 2006) which influence a third construct, the motivation – the "I will do" (Bandura, 1978). Individuals avoid Tasks they perceive as exceeding their capabilities and readily participate in Tasks they believe they are capable of performing (Bandura, 1977). The self-efficacy (SE) scale was developed by Bandura (1977) and later adapted by Compeau (1995) in the IS literature for computer self-efficacy.

Computer self-efficacy (CSE), a domain-specific self-efficacy, reflects a person's perception of his or her ability to carry out a specific computer Task (Petty & Carter, 2011) based on past performance or experience, and the confidence of what could be achieved in the future (Compeau & Higgins, 1995; Simmering et al., 2009). CSE, which was adapted by Compeau (1995), is defined, as an individual's perceived confidence regarding his /her ability to use a computer (Compeau & Higgin, 1995; Cheng & Tsai, 2011).

The rationale behind CSE is that, when an individual believes he/she has the ability to successfully perform a Task using a technology, he/she will engage more extensively and make all possible effort to successfully complete the Task. In view of the above, it appears that these are some of the characteristics of High CSE people. Indeed, people with High CSE are more successful accomplishing technology/computer-related Tasks; they perceive that computers/technologies are easier to use, and are more likely to develop favorable perceptions of a new information technology (Agarwal et al., 2000; Compeau & Higgins, 1995; Igbaria, 1995; Venkatesh, 2000; Venkatesh & Davis, 1996; Wixon & Todd, 2005; Melone, 1990; Doll & Torkzadeh, 1991). On the other hand, individuals with Low SE avoid challenging Tasks. Indeed, "when faced with difficult Tasks, they dwell on their personal deficiencies, on the obstacles they will encounter, and all kinds of adverse outcomes rather than concentrate on how to perform successfully" (Bandura, 1994, p.71). For people with Low CSE, difficult Tasks and situations are beyond their capabilities. Even if they manage to perform Tasks, in some cases, they tend to underestimate their capabilities, because they focus on negative outcomes, thus quickly lose confidence in personal abilities (Bakke & Henry, 2015).

Computer self-efficacy (CSE) translates into physiological and psychological emotions. Emotional responses are associated with thoughts, behavioral responses, feelings and a degree of pleasure or displeasure (i.e., valence) (Cabanac, 2002). Emotions is often defined as a "complex state of feeling that results in psychological changes that influence thought and behavior. Meyers (2008) claims that individual emotion engages physiological arousal, expressive behavior and conscious experience. The main theories of motivation can be grouped into three main categories: physiological, neurological,

and cognitive (Cherry, 2019). Physiological theories suggest that responses within the body are responsible for emotions while neurological theories propose that activity within the brain leads to emotional responses from people. Finally, cognitive theories claim that mental activity, such as thoughts; play an essential role in structuring, building and forming emotions (Myers, 2004; Cannon, 1927; James, 1884).

3. Research Model and Hypotheses

The table below indicates selected studies where the CSE had been measured before, or after the experimentation. It also includes few studies where the moment at which CSE was measured was not mentioned at all. Some of these studies represent case studies or experiments, while others have simply used the CSE scale (i.e., pre- or post-questionnaire).

Table 1. Selected studies in which the CSE construct is measured at different moments in the research

The moment when the CSE construct is measured	Purpose of the selected studies
Before the experience (Pre-Task CSE)	• Identify the relationships that exist among CSE and computer-dependent performance in an introductory computer literacy course (Rex & Roth, 2014). • Examine how student's personal factors can affect their engagement in online learning courses (Pellas, 2014). • Measuring the relationship between CSE and various personal characteristics of beginning IS students (Langford & Reeves, 2016).
After the experience (Post-Task CSE)	• Validate a Chinese translation of the Digital Native Assessment Scale (C-DNAS) (Teo, 2016). • Understanding the continuous use of social network sites:

	a CSE perspective (Wang, Xu & Chan, 2014). • Measurement of CSE in student computer users and its relevance to learning in Higher education (Cassidy & Eachus, 2002).
N/A, no indication of when the construct is measured	• Investigating the antecedents and impact of adoption of technology in the sales force (Weinstein & Mullins, 2012). • Investigating the role of CSE and computer anxiety and attitudes towards student's Internet and reported experience with the Internet (Durndell & Haag, 2002). • Examining the validity of CSE and computer anxiety scales when administered to an Internet sample (Barbeite & Weis, 2004).

The table above indicates few studies that indicate when CSE measure was taken. However, and based on Bem (1972) theory, the CSE measures in Pre-Task and Post-Task may differ in the same study. One of the major objectives of this article is explore this evolution of CSE over time. Figure 1 below summarizes our hypotheses.

We argue that consumers with Low Pre-Task CSE may change their perceptions only after they performed the IT Tasks. In other words, they will come to define their CSE perception after experimenting the technology and observing their behavior. Those who reported a Low Pre-Task CSE, may perceive a Higher Post-Task CSE when the IT Tasks are perceived as being simple (i.e., IT Tasks seem achievable). On the other hand, consumers with High CSE are believed to have High self-confidence and capacity based on (Bandura, 1977, 1994; Pajares, 1996) Self-Efficacy theory. These people tend to believe they will be able to successfully handle specific situations using technology. Bandura (2006) explained that "the most effective way of developing a strong sense of efficacy is through mastery experiences" (Bandura, 2006, p 1). As a matter of fact, people with High CSE see failures as challenges and believe that failures are usually due to lack of experiences. Bandura (1977) claims that people with High SE keep their

degree of SE High as these people always strive to complete the IT Tasks regardless of the degree of the Task complexity. The more difficult the Task is, the more engaged they get. We therefore argue that for High Pre-Task CSE consumers, their Post-Task CSE will not be altered by their perceived Task-complexity.

Hypothesis 1: Pre-Task CSE will moderate the relationship between IT Task Complexity and Post-Task CSE.

> **Hypothesis 1a:** For Low Pre-Task CSE consumers, Low perceived Task Complexity will increase their Post-Task CSE. High perceived Task Complexity will not affect their Post-Task CSE.
>
> **Hypothesis 1b:** For High Pre-Task CSE consumers, perceived Task Complexity will not affect their Post-Task CSE.

In other words, we argue that consumers with Low Pre-Task CSE are more likely to have a Higher Post-Task CSE when the IT Task is perceived as being simple. On the other hand, consumers with High Pre-Task CSE are more likely to have High Post-Task CSE regardless of the perceived complexity of the IT Tasks. Whether the IT Task is simple or complex, consumers with High Pre-Task CSE will still report a High Post-Task CSE.

The second objective of this study is related to the first hypothesis (H1). If CSE evolves over time (i.e., from Pre-Task CSE to Post-Task CSE), this may impact its capacity to predict the validity of other variables which in turns may lead to biased research conclusions. It is very common to capture and explore the participants' emotion in UX research (Hassenzahl & Tractinsky, 2006; Ortiz de Guinea, Titah & Léger, 2014; Charland et al., 2015; Almeida, Dantas & Sénécal, 2015).

We decided to investigate the relationships between Pre-Task CSE and Consumer self-reported emotions and Post-Task CSE and Consumer self-reported emotions. Using the three dimensions (Valence, Arousal and Dominance) of the Self-Assessment Manikin (SAM) scale, we argue that the predictive validity of consumers' self-reported emotions

(i.e., SAM scale) will be stronger and better explain by the Post-Task CSE than that of the Pre-Task CSE.

Hypothesis 2: Consumers' self-reported emotions (valence, arousal, and dominance) about the experience will be better explain by the Post-Task CSE than by Pre-Task CSE.

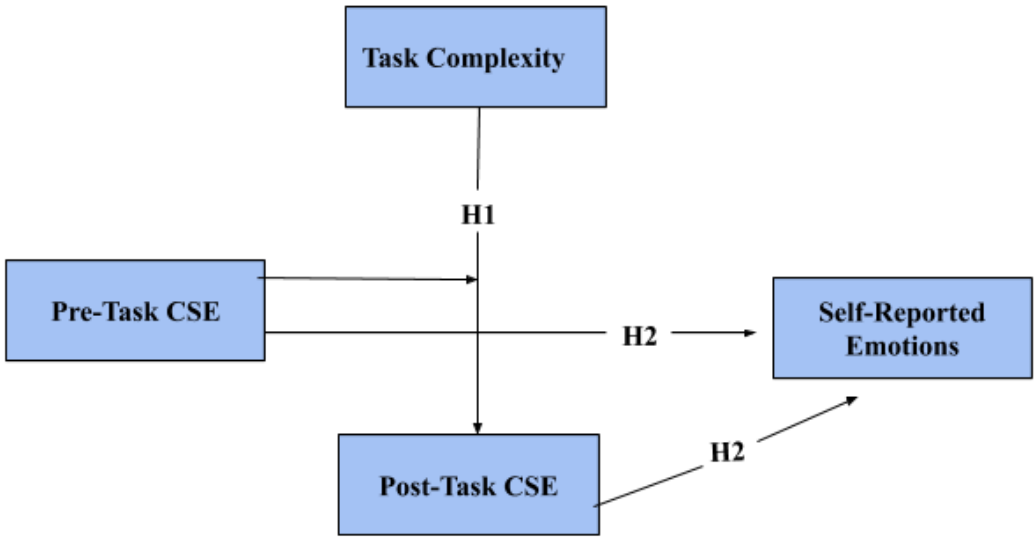

Figure 1. Research Model

4. Method

4.1 Experimental Design and Setup

This research deployed a within-subject experimental design with one factor: Task Complexity (Simple and Complex). To confirm the manipulation of simple and complex IT Tasks, a pretest was conducted with 15 participants, randomly sampled from a population of university students. All participants were asked to complete a short questionnaire anonymously and voluntarily. The questionnaire consisted of four descriptions of different IT Tasks. Participants had to evaluate each IT Task in terms of Task Complexity. Then, we selected from preliminary analyses two simple IT Tasks (e.g., tune a channel) and two complex ones (e.g., control of the volume).

After pre-sorting tasks by their degree of complexity (simple or complex), we conducted a within-subject experiment design with each participant performing four IT Tasks: two simple IT Tasks and two complex IT Tasks using an informational support.

This study builds on a previous analysis of the constraints, challenges and issues in terms of configuration and installation of an electronic consumer appliance, e.g. a TV set. Whether it is a problem of battery or a more complex problem such as configuring a system, we, as consumers, end up facing IT issues at any time of the day. Using the material available, each participant had to perform a series of four tasks in a controlled timing context: (1) Solve a problem with the remote control (battery problem) then tune a specific channel, (2) control the volume of the television, (3) find and read the instructions page to perform a voice command with the remote control, and (4) search for content and choose an episode of their choice and then start playing the episode.

Taking into account the context in which our research is based, this study was inspired by the demands of everyday life to develop general IT Tasks that consumers encounter frequently (i.e., change of volume, language and more). The experiment room has been installed with care to reproducing homely settings (i.e., living room). Sitting in front of a television, each participant had at his/her disposal a table with all the material that could help him/her complete the required configuration-tasks: i.e. a spouse's note (contextualization), a television remote control, and a leaflet that referred to a computer or a mobile application

4.2 Participants

The configuration of audio-visual material is affecting a wide range of consumers, thus several criteria were considered during the recruitment of participants. All individuals wishing to participate in the study were asked to answer a short questionnaire so that the research team could learn about their skills and knowledge of electronic and audio-visual devices. The objective of recruitment was to have participants whose ages ranged from 20 to 70 years, to have a balance between the genders (13 men and 13 women) as well as the level of IT expertise (i.e., skills/ knowledge) and consumer autonomy towards the installation and configuration of electronic and audio-visual equipment. In

order to determine the level of IT expertise as well as the degree of autonomy held by the participants, we asked participants if they install or configure their devices themselves (i.e., high level of autonomy) or, if they do it themselves but with help (i.e., moderate level of autonomy) or, if someone else around them do the installation/configuration for them (i.e., low level of autonomy) or, if they request support from a technician. The objective was to ensure that we could test different potential consumer profiles. During the recruitment process, participants had to complete a Pre-Task questionnaire (Pre-Task CSE). From these participants' self-reports about their computer self-efficacy (CSE), we selected 13 individuals who have a Low CSE (Mean= 0.67) and 13 participants who have a High CSE (Mean= 0.88) We wanted to create some variance among the participants according to the consumer's CSE both at the beginning of the experience (Pre-Task CSE) and at the end of it (Post-Task CSE). Thus, the experiment was conducted with 26 participants (50% male and 50% female, aged 20-70, mean 39.4, StdDev 15.8).

4.3 Procedure

The experience consisted of five interviews and three questionnaires. We conducted one interview, prior to the IT Tasks being undertaken (i.e., Pre-Task interview), and four episodic interviews; one after each task. Moreover, participants were asked to fill in three questionnaires; one Pre-Task questionnaire and two Post-Task questionnaires.

Following a quick introduction on the experimental context (i.e., instructions given to all participants), a short interview (i.e., Pre-Task interview) was conducted at the beginning of the experiment to gather preliminary data, such as participant's previous experiences and knowledge with technology, and their needs and expectations regarding the configuration of an audio-visual material. Moreover, prior to the task, participants were asked to complete a Pre-Task questionnaire in which they evaluate their initial CSE perceptions (Pre-Task CSE). After each task, we conduct an episodic interview in which participants had the opportunity of orally expressing their perceptions of the complexity of each task. Finally, at the end of the consumer test (i.e., after the completion of IT tasks) participants were asked to complete a post-questionnaire (assessing the Post-Task CSE) in which they re-evaluate their CSE perceptions (Post-Task CSE). Once they

completed the Post-Task CSE scale, we asked participants to report their perceived emotions (i.e., Valence, Arousal and Dominance) using an emotion assessment tool; Self-Assessment Manikin scale (post-questionnaire). In addition, we conducted a post-interview that was intended to retrospect over participants' overall experience.

4.4 Measures

The Pre-Task and Post-Task questionnaires measured the consumer's experience under two different scales: Computer Self-Efficacy (CSE) scale (1995) and Self-Assessment Manikin (SAM) scale (1994). First, the CSE scale used in this study has been modify based upon the Generalized Self-Efficacy scale developed Jerusalem and Schwarzer in 1995. These questionnaires used validated measurement scales (Compeau & Higgins, 1995; Schwarzer & Jerusalem &, 1995; Bradley & Lang, 1994). The CSE questionnaire before and after the experiment included six questions [e.g., I remain calm because I rely on my ability] to answer on a scale of 1 (not true) to six (completely true). Second, the Self-Assessment Manikin (SAM) scale is a tool for self-assessment of emotions perceived by the consumer who uses graphical scales, representing cartoon characters expressing three emotional elements: pleasure (i.e., valence), excitement (i.e., arousal) and control (i.e., dominance) (Bradley & Lang, 1994).

Manipulation Check

Moreover, we had the opportunity to look back over participants' approach in completing each task; reviewing how task went (difficulties encountered and accomplishment). In order to achieve this, we used episodic interviews. The use of episodic interview method allowed participants to recall concrete situations and events around the experience (Flick, 2000). Questions were asked to the participant concerning mainly the process carried out. Moreover, the use of episodic interviews allowed to us to identify the participant's *perceived task complexity* towards the configuration and interaction with different electronic devices and the smart TV. Indeed, participants had to evaluate on a scale of 1 (being easy) to 10 (being hard) their perceived difficulty level of completing the task. We used the Wilcoxon signed rank test (2-tailed exact p-value) to compare the difference between each task. As expected, Task 2: Control of the volume (*mean*= 5.4, *median* = 6.5); and Task 4: Search for content (*mean*= 4.2, *median*

= 4.5) are perceived as being more difficult/ complex than Task 1: Tune a channel (*mean*= 2.8, *median* = 3) and Task 3: Perform a voice command (*mean*= 2 *median* = 2).

5. Analysis

The influence of Task Complexity on the Post-Task CSE was tested using a multiple linear regression, *fitting the model according to the least squares* method, which was adjusted on all the participants. To moderate the effect, we introduced an interaction variable consisting of the Pre-Task CSE and the Task Complexity. We then partitioned the data into two groups: the participants, which had Low Pre-Task CSE, and the participants, which had High Pre-Task CSE. The previous model was then tested on the two samples to see if the Task Complexity' effect remained valid for the Low Pre-Task CSE participants and lost its effect for the High Pre-Task CSE participants.

The respective predictive validity of Pre-Task CSE and Post-Task CSE for the three dimensions of the SAM scale was tested using simple linear regression models. Effectively, we compare the two unique measures of the CSE scale (Pre-Task and Post-Task) with the three dimensions of the SAM scale (Valence, Arousal and Dominance). To this end, we adjusted six simple linear regressions with 2-tailed p-value. For each regression, one of the dimensions of the SAM scale was the dependent variable, while the independent variable was either Pre-Task CSE or Post-Task CSE. In other words, we tested the effects of Pre-Task CSE on the valence, arousal and dominance and the effects of Post-Task CSE on the valence, arousal and dominance. All statistical analyses were performed using SAS software (version 9.4).

6. Results

The first hypothesis was that the Pre-Task CSE would moderate the relationship between consumers Task Complexity (TC) and Post-Task CSE (H1), especially for the participants with Low Pre-Task CSE (H1a). In addition, we argue that the TC (i.e., interaction with Pre-Task CSE) will not affect participants with High Pre-Task CSE (H1b). We found that Task Complexity significantly affected Post-Task CSE scores when in interaction with the Pre-Task CSE scores (H1 is supported), β= .11, $t(20)$ =

4.13, $p < .001$. It also significantly affected Post-Task CSE scores when in interaction with the Pre-Task CSE scores for the participants with Low Pre-Task CSE scores (H1a is supported), $\beta = .13$, $t(9) = 3.36$, $p < .001$ (Table 2). In addition, it did not significantly affect Post-Task CSE scores when in interaction with the Pre-Task CSE scores for the participants with High Pre-Task CSE scores (H1b is supported), $\beta = .05$, $t(8) = 1.28$, $p > 0.05$ (Table 3). In the three cases, Pre-Task CSE scores alone did not significantly affect the Post-Task CSE scores, $p > 0.05$.

Table 2. Multiple Linear Regression Model for Post-CSE: Low Pre-Task CSE scores

Variable	Parameter Estimate (B)	Std. Error	t Value	Pr > |t|
Constant	2.4751	1.6465	1.50	0.1670
CSE_Pre	-0.5346	0.4943	-1.08	0.3076
CSE_Pre*PEOU	0.1309	0.0389	3.36	0.0084

Note: R2=0.5663; coeff var =20.9657

Table 3. Multiple Linear Regression Model for Post-CSE: High Pre-Task CSE scores

Variable	Parameter Estimate (B)	Std. Error	t Value	Pr > |t|
Constant	1.7624	3.790	0.46	0.6544
CSE_Pre	0.2378	0.8915	0.27	0.7964
CSE_Pre*PEOU	0.0538	0.0421	1.28	0.2366

Note: R2=0.268898; coeff var =11.37976

The second hypothesis was that consumers' self-reported emotions will be better explain by the Post-Task CSE than the Pre-Task CSE. For the comparison of the predictive validity of the Pre- and Post-Task CSE for the three emotional dimensions, the *β, t-test* and *p* are presented in the following table (Table 4). The Valence and Dominance dimensions are positively correlated with Post-Task CSE. The higher a consumers' Post-

Task CSE, the higher their Valence (β = 0.593, p = 0.001) and Dominance (β = 0.390, p = 0.016). On the other hand, Post-Task CSE is negatively correlated with Arousal. Indeed, the higher a consumers' Post-Task CSE, the lower their Arousal (β = -0.722, p = 0.007). The results show that no statistical relationship exists between consumer self-reported emotion and Pre-Task CSE. Indeed, the Pre-Task CSE explains none of the three emotional dimensions of the SAM scale (i.e., Valence, Arousal and Dominance). Thus, the results confirmed hypothesis 2 in which consumers' self-reported emotions (i.e., the dimensions of valence and dominance) is better explained by their Post-Task CSE, than by the Pre-Task CSE. More specifically, the extent to which consumer's scores on the Post-Task CSE scale are correlated with the consumers' self-reported emotions; a variable that we expected to be correlated with Post-Task CSE measure.

Table 4. Comparison of the Predictive validity of Pre-Task and Post-Task CSE scores for the SAM scale dimensions

	Valence		**Arousal**		**Dominance**	
	Pre	Post	Pre	Post	Pre	Post
β	.097	.593	.237	-.722	.178	.390
2-Tailed Significance	.722	.001	.549	.007	.445	.016
R2	.006	.425	.017	.296	.028	.248

7. Discussion

First, we investigated the impact of the complexity of the IT Tasks on consumer's CSE perceptions. We found that the Task Complexity has influenced the Post-Task CSE and

that the Pre-Task CSE moderated this relationship. This suggest that CSE evolves over time. This result supports Bem's (1972) theory in which it suggested that individuals generally rely upon their observation about their behaviors to infer their perception. This is particularly true for consumers who claimed Low CSE prior to the experience (Pre-Task CSE). Their perception in relation to the complexity of the IT Tasks influences their Post-Task CSE. Indeed, we found that when the IT Task is seen as being not complex, consumers with Low Pre-Task CSE reported a Higher Post-Task CSE. Moreover, and based on Bandura's (1978) social cognitive theory on self-efficacy, we found that consumers with High Pre-Task CSE reported a High Post-Task CSE. For those consumers the Task Complexity has no effect on their Post-Task CSE. Indeed, they still reported High Post-Task CSE regardless of the Task Complexity: simple or complex, and this goes in line with Bandura argument where he says that people with High Self Efficacy persist and make sure they complete the Tasks regardless of possible barriers and obstacles they may encounter. These people according to Bandura (1978) challenge the Tasks and have strong confidence eon their abilities to complete it.

Second, we found that consumer's self-reported emotions are better explained by their Post-Task CSE than the Pre-Task CSE. The predictive validity of Post-Task CSE construct is better and stronger than that of Pre-Task CSE. This finding is extremely important in UX research as emotion is a major variable, which is intensively studied in UX research (see for example, Li, Dong & Chen, 2012; Gajewski et al., 2015; Courtemanche et al., 2017; Ghosh, 2016)

7.1 Methodological and Theoretical Contributions

Our research contributes to existing knowledge in many ways. First, it deepens our understanding about the computer self-efficacy construct. As a matter of facts, scholars need to be aware that CSE may evolve over time for Pre-Task to Post-Task stages and that the relationship between Task Complexity and Post-Task CSE is moderated by consumers Pre-Task CSE. Second, scholars need to be aware that the simpler the IT Tasks consumers execute, the better their CSE becomes which in turns may increase their IT Tasks adoption. Third, scholars who use CSE in their models need to know that the relationship between CSE and other variables in the model may not be correctly

estimated due to the impact of the moment at which CSE was measured. We shall not take for granted that the Pre-Task CSE and Post-CSE may give the same results. Fourth, we added a significant knowledge in that Post-Task CSE predicts better the validity measure of consumer emotion. In other words, Post-Task CSE may better explain consumer emotion than Pre-Task CSE. Finally, we highly recommend considering CSE as a determinant to consumer satisfaction (Cronin & Taylor, 1992; Spreng & Mackoy, 1996; Taylor & Baker, 1994) or as mediating variable between other variables and consumer satisfaction. For example, in the Updated Delone and Mclean IS success model (2003), the authors argue that IT use determines Consumer satisfaction. The more the consumers use the technology, the more satisfied they become. Our results suggest that the Use of IT Tasks alters the consumer's degree of CSE. We propose to update Delone Model by inserting CSE as a mediating variable between Use and Satisfaction.

7.2 Managerial Implications

This research present interesting managerial implications. First, organizations of all types are searching for ways to minimize the cost associated with customer service. The most popular trend today is to develop applications that would enable consumers to receive service autonomously. We suggest that these organizations may want to segment their consumers based on their degree of CSE. All Low CSE consumers may be offered simple Tasks in order to build their CSE progressively and then move to execute Tasks that are more complex. Once these consumers build High CSE, they will not mind executing complex Tasks. In fact the more complex the Tasks are the more engaged High CSE consumers become.

7.3 Limitations and Future Research

This research presents some limits and opportunities for future research. First, as invitations to participate in this study were sent out via emails and panel database, it is possible that those who accepted the invitation could have High and Low levels of CSE. It is highly likely that those who chose not to participate rank very Low in their CSE. we wished we could have attracted this group as well. In other words, it is likely that those

who had High and Low levels of CSE were more motivated to respond to the invitation than those who rank very Low in their CSE.

Another limit of this research concerns the moment consumers reported their emotional state. The measure was taken at the end of the experiment. However, identifying and understanding the consumer's emotional state before starting the experience would have allowed us to explore the relationship between the Pre-Task CSE and Pre-Task emotion. This would allowed us to test different relationships between the Pre-Task and Post-Task stages.

Building further on Bem's (1972) theory, one can extend the theory by adding an emotional component, such as Emotion Experienced (measured by neurophysiological tools) to better understand this change in consumers' CSE perceptions. In fact, adding to our research model consumer's physiological reactions to emotion (i.e., Emotion Experienced) as a mediator variable, may help explain the evolution in time of the CSE construct (e.g., emotional peaks) (see for example, Geng et al., 2013; Georges et al., 2016).

8. Conclusion

This paper adds knowledge to existing research in consumer experience and more specifically in the area of consumer computer self-efficacy (Compeau & Higgins, 1995). The consumer's CSE may be altered by IT Tasks and consumer's emotions are more likely explained by his/her Post-Task CSE. The main base theory if that of Bem's (1972) self-perception theory where the author argues that hand on experience help people complete their perceptions. The finding also suggest that an individual's CSE can increase, which in turns ensure an individual belief in his ability to use IT application's to successful y complete his Tasks. This concussion is extremely beneficial to organizations that seek to increase consumer self-service using technology.

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Conclusion

This thesis tries to answer a number of research questions within the Consumer Experience context. More precisely, we focus on the consumer Computer Self-Efficacy (CSE) construct and tries to explore its dynamics in research. We also try to explore the relationship between this construct with other variables such as Consumer Satisfaction and Self-Reported Emotions. The first article explored the relationship between Consumers Computer Self-Efficacy (CSE) and Consumer Satisfaction. The second article explored additional research questions. We were concerned this time with the impact of the IT Tasks (experience) on the consumer's CSE. Moreover, we investigated the relationship between consumer self-reported emotions with respect to consumers' Pre-Task CSE (perception prior to the Task) and Post-Task CSE (perception after the Task).

The following sections provide more details about the research objectives, their corresponding results, the theoretical and practical contributions as well as the research limitations and potential future research.

Summary of the research objectives and main results

The main objective of this thesis was to investigate the impact of IT Tasks on participant's computer self-efficacy (CSE) by analyzing its measure before and after the tasks. Moreover, our results allowed us to determine the evolution of CSE on participant's satisfaction and to investigate the relationship between a consumer's self-reported emotions with respect to his/her Pre-Task and Post-Task CSE.

The articles seek to provide answers to the following research hypotheses and their corresponding results:

First Article: *The Relationship between Technology Self-Efficacy Beliefs and Consumer Satisfaction. A Consumer Experience Perspective*

A) Explore the relationship between consumer's computer self-efficacy (CSE) and consumer's satisfaction.

Hypothesis 1: Consumers with High Post-Task CSE will likely be more satisfied than consumers with Low Post-Task CSE. **(Supported)**

We found a significant difference in the satisfaction level between consumers having a Low CSE at the end of the experience and those who reported a High CSE after the experience. Consumers with High Post-Task CSE seemed to be more satisfied about their experience and completion of the IT Tasks than consumers with Low Post-Task CSE.

B) Explore the variation line from Pre-Task to Post-Task CSE and consumer satisfaction

Hypothesis 2 : Consumers whose Post-Task CSE is greater than the Pre-Task CSE are likely be more satisfied than those whose Post-Task CSE decrease from the Pre-Task CSE. **(Supported)**

After determining that consumers with a High Post-Task CSE were more satisfied than those with Low Post-Task CSE, we resolved to continue on this path for a better understanding of this finding. As a matter of fact, when comparing consumers whose CSE goes up to those whose CSE goes down, the results indicated that participants whose CSE goes up (i.e., a Higher Post-Task CSE than Pre-Task CSE), reported a Higher degree of satisfaction than those whose CSE goes down (i.e., a Lower Post-Task CSE than Pre-Task CSE).

Second Article: *When should consumer computer self-efficacy be measured?*

A) Investigate the impact of the complexity of IT Task on consumer's Pre- and Post-Task CSE

Hypothesis 1: Perceived Pre-Task CSE will moderate the relationship between Task Complexity and Post-Task CSE. **(Supported)**

Hypothesis 1a: For Low Pre-Task CSE consumers, Low perceived Task complexity will increase their Post-Task CSE. High-perceived Task complexity will not affect their Post-Task CSE. **(Supported)**

Hypothesis 1b: For High Pre-Task CSE consumers, Perceived Task Complexity will not affect their Post-Task CSE. **(Supported)**

First, we found a moderating effect of the Pre-Task CSE variable in the relation between Task Complexity and Post-Task CSE. The findings demonstrated that IT Tasks altered consumers' CSE beliefs. Consumers with Low Pre-Task CSE reported a High Post-Task CSE. The simplicity of the IT Tasks and Bem's theory (1972) explain these results. Indeed, this finding supported Bem's (1972) theory, in which he argues that individuals come to know their perception after observing their behavior in a situation (living an experience). In our case, we found that only after completing the IT Tasks, consumers were in a better position to define their CSE beliefs. Indeed, when the IT Tasks are perceived as being simple (i.e., seem achievable) consumers' CSE perception after the experience increased. We also found that consumers with High Pre-Task CSE continue to have High Post-Task CSE, regardless of the complexity of the IT Tasks (i.e., simple or complex). This result can be explain by Bandura's (1977) theory, in which he claims that people with High Self-Efficacy always strive to complete the IT Tasks regardless of the degree of the Task Complexity. The more difficult the IT Tasks are the more engaged consumers become.

B) Explore the relationship between a consumer's self-reported emotions with respect to his/her Pre- and Post-Task

Hypothesis 2: Self-Reported Emotions will be better explain by the Post-Task CSE than Pre-Task CSE. **(Supported)**

We found that consumer's self-reported emotion is better explained by his/her Post-Task CSE perception. Indeed, the Post-Task CSE has the capacity to better predict the validity of the consumer emotion measure. This finding supports

Bem's (1972) theory in which he claims that people, who lack initial attitudes or emotional responses, develop them by observing their own behaviors.

Contributions

Theoretical Contributions

Our research contributes to existing knowledge in many ways. First, it deepens our understanding about the Computer Self-Efficacy (CSE) construct. Scholars need to be aware that CSE may evolve over time form Pre-Task to Post-Task stages and that it is the Pre-Task CSE that moderates this evolution. Second, scholars need to be aware that the simpler the IT Tasks consumers execute, the better their CSE becomes which in turns may increase their IT Tasks adoption. Third, scholars who use CSE in their models need to know that the relationship between CSE and other variables in the model may not be correctly estimated due to the impact of the moment at which CSE was measured. We shall not take for granted that the Pre-Task CSE and Post-Task CSE may give the same results. Fourth, we added a significant knowledge in that Post-Task CSE predicts better the validity of consumer emotion. In other words, consumer emotion may be better explained by Post-Task CSE than Pre-Task CSE. Finally, we highly recommend considering CSE as a determinant to consumer satisfaction (Cronin & Taylor, 1992; Spreng & Mackoy, 1996; Taylor & Baker, 1994) or as mediating variable between other variables and consumer satisfaction. For example, in the Updated Delone and Mclean IS success model (2003), the authors argue that IT use determines consumer satisfaction. The more the consumers use the technology, the more satisfied they become. Our results suggest that the Use of IT Tasks alters the consumer's degree of CSE. We propose to update Delone Model by inserting CSE as a mediating variable between Use and Satisfaction.

Managerial Implications

This research present interesting managerial implications. First, organizations of all types are searching for ways to minimize the cost associated with customer service. The most popular trend today is to develop applications that would enable consumers to receive service autonomously. We suggest that these organizations may want to segment

their consumers based on their degree of CSE. All Low CSE consumers may be offered simple IT Tasks in order to build their CSE and then move to IT Tasks that are more complex. Once these consumers build High CSE, they will not mind using complex IT Tasks. In fact, the more complex the IT Tasks are the more engaged High CSE consumer's become. On the other hand, organizations that develop business information systems are always faced with the challenge to motivate their employees to use the new systems and technology. There may be employees who have High CSE and others who have Low CSE. The fact that High CSE leads to satisfaction is a good reason to make these organizations think of ways to enhance CSE to those who have Low CSE. The Higher their CSE, the more satisfied the employees would be and the more they are likely to accept and use the system. We suggest that further research should be done in the context of employees where such variations in CSE may influence job satisfaction.

Limitations and Future Research

This research presents limits and opportunities for future research. First, the control variables of the recruitment process, such as consumer experience in IT, could have been further explored. In fact, since we have chosen to collect information on only two groups of people, consumers with High CSE and consumers with Low CSE, we did not consider consumers with an average of CSE beliefs. We encourage further research to consider these individuals in order to explore any relationship trend between this category of people and other variables. Second, we measured consumer satisfaction after consumers completed all the IT Tasks. We could have measured consumer satisfaction after completing each of the four IT Tasks. This way, we would have investigated IT Tasks characteristics and consumer satisfaction. Third, invitations to participate in this study were sent through email and panel database. It is possible that those who had higher levels of CSE were more motivated to respond to the invitation than those who rank very low in CSE. Fourth, this measure of consumer self-reported emotions was taken at the end of the experiment. However, identifying and understanding the consumer's emotional state before starting the experience would have allowed us to explore additional relationships in the Pre-Task stage. Moreover, we could also replicate

our study in the organizational context where consumers are being replaced by employees.

Personal Takeaways from my Research Experiences

This has been my first research study in the Tech3Lab, a leading consumer experience (UX) research laboratory in North America that focuses on UX. I had the incredible opportunity to learn what and how to use the different physiological tools. I was also introduced to the world of neuroscience through the measurement of EEG data during the experiment. Indeed, I learned how capricious this tool is and how easy it is to disrupt its signals, but also how powerful it can be when we can measure them without any disruptions. Finally, I have realized that for the last eighteen months, this research experience has disciplined me and taught me how to become an efficient researcher. I feel prepared and I have a strong belief in my capacity to successfully complete my PhD degree in the same line of research.

If I have any advice to myself, I would probably stress the importance of having a confidence on one's intuition. Trust it more and doubt it less. Another point that is especially important when undertaking a lengthy and complex project such as this one, is having a global vision from the start and ensure to adapt it to new context and variables. Moreover, I shall advise to always seek help when needed. Having an array of different visions commenting your work is what could take it from good to great. Also, do not take criticism personally, what is being judged is the work, not you. In fact, you should be happy with harsh reviews. Always keep in mind the reviewers seek for perfect work not good work. Finally, be creative, it is what will differentiate your work from the rest, in a way, it is your brand. Thus, do not be afraid to let your mind wander, the best ideas and solutions often come when we remove the limitations we put on our thoughts.

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Appendix

Computer Self-Efficacy Scale (CSE)

Pour chacune des conditions, veuillez indiquer par oui ou non si vous auriez été en mesure de compléter les tâches en utilisant le site web.

Si la réponse est non, passez à la prochaine question, sans considération pour l'échelle proposée.

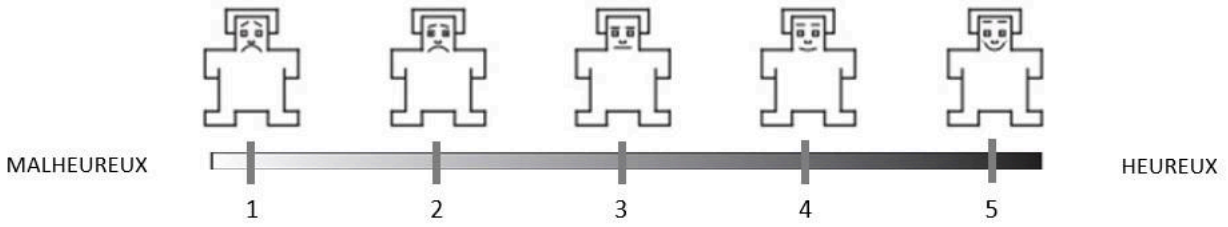
Si la réponse est oui, évaluez votre confiance en décernant un chiffre de 1 à 10, où 1 indique « pas du tout confiant », 5 indique « modérément confiant » et 10 indique « totalement confiant/sûr de soir »

Je pourrai compléter le travail en utilisant le site web

	Pas du tout confiant	-	-	-	-	-	-	-	-	Sûr de soi
...s'il n'y avait personne pour me dire quoi faire	○	○	○	○	○	○	○	○	○	○
si je n'avais jamais utilisé une technologie comme celle-ci avant	○	○	○	○	○	○	○	○	○	○
si je n'avais que les instructions expliquant comment utiliser cette technologie comme référence	○	○	○	○	○	○	○	○	○	○
si j'avais vu quelqu'un d'autre l'utiliser avant de l'essayer moi-même	○	○	○	○	○	○	○	○	○	○
si je pouvais appeler quelqu'un pour m'aider (service à la clientèle) lorsque je me trouve face à un problème	○	○	○	○	○	○	○	○	○	○
si quelqu'un m'avait déjà montré comment l'utiliser	○	○	○	○	○	○	○	○	○	○
s'il n'y avait aucune contrainte de temps pour compléter les tâches de configuration	○	○	○	○	○	○	○	○	○	○

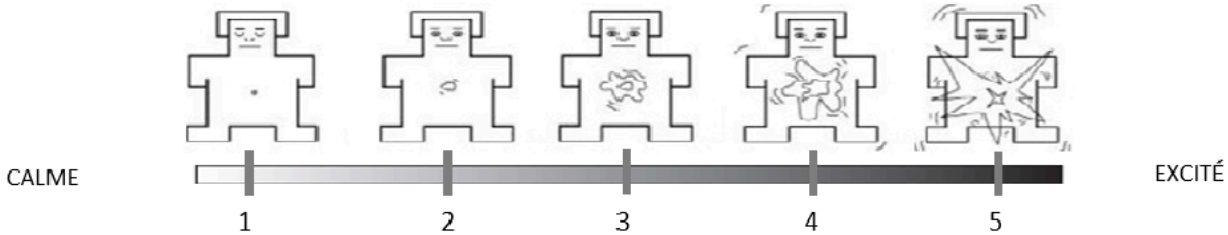
SAM Scale

En utilisant l'échelle suivante, cochez le chiffre qui correspond le mieux à ce que vous avez ressenti par rapport à l'expérience que vous venez de vivre.



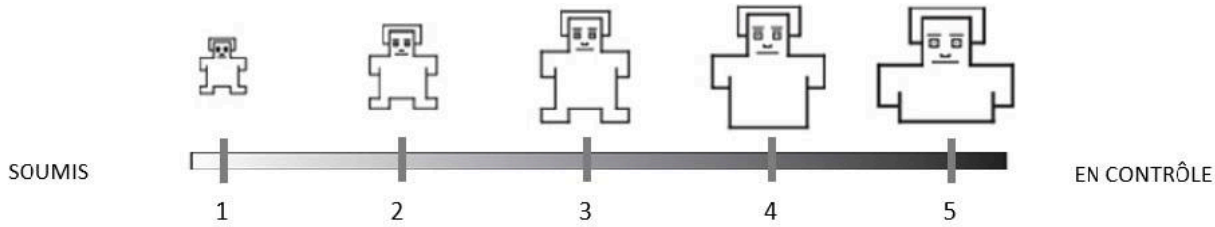
1 ○ 2 ○ 3 ○ 4 ○ 5 ○

En utilisant l'échelle suivante, cochez le chiffre qui correspond le mieux à ce que vous avez ressenti par rapport à l'expérience que vous venez de vivre.



1 ○ 2 ○ 3 ○ 4 ○ 5 ○

En utilisant l'échelle suivante, cochez le chiffre qui correspond le mieux à ce que vous avez ressenti par rapport à l'expérience que vous venez de vivre.



1 ○ 2 ○ 3 ○ 4 ○ 5 ○