[Inner endpaper]

HEC MONTRÉAL

An Exploratory Study on the Effects of Dynamic Pricing on Customers' Online Purchase Journeys

par
Samuel Elharrar

Sylvain Sénécal
HEC Montréal
Directeur de recherche

Constantinos Coursaris
HEC Montréal
Codirecteur de recherche

Sciences de la gestion
(Spécialisation Expérience Utilisateur)

Mémoire présenté en vue de l'obtention
du grade de maîtrise ès sciences en gestion
(M. Sc.)

Avril 2025

HEC MONTRÉAL

Comité d'éthique de la recherche

Le 13 mars 2024

À l'attention de : Pierre-Majorique Léger, HEC Montréal

Objet : Approbation éthique de votre projet de recherche

 # Projet : 2024-5897
Titre du projet de recherche : Adoption et compromis à l'adoption d'une nouvelle technologie

Source de financement : Contrat (R2882), CRSNG (R2882B), Prompt (R2882C)
Titre de la subvention : CRSNG :ALLRP 575332 - 22, Alliance Grants (ALLRP), project entitled "Improving industrial UX measures and methods", with Vidéotron ltée, PROMPT, D-Box Technologies Inc., Deloitte, Sobeys Inc., Allô prof, Mouvement des Caisses Pop Desjardins, ServiceNow, Blue Yonder Group Inc.

Bonjour Pierre-Majorique Léger,

Votre projet de recherche a fait l'objet d'une évaluation en matière d'éthique de la recherche avec des êtres humains par le CER de HEC Montréal.

Un certificat d'approbation éthique qui atteste de la conformité de votre projet de recherche à la *Politique relative à l'éthique de la recherche avec des êtres humains* de HEC Montréal est émis en date du 13 mars 2024. Prenez note que ce certificat est **valide jusqu'au 01 mars 2025.**

Vous devrez obtenir le renouvellement de votre approbation éthique avant l'expiration de ce certificat à l'aide du formulaire *F7 - Renouvellement annuel*. Un rappel automatique vous sera envoyé par courriel quelques semaines avant l'échéance de votre certificat.

Si des modifications sont apportées à votre projet, vous devrez remplir le formulaire *F8 - Modification de projet* et obtenir l'approbation du CER avant de mettre en oeuvre ces modifications.

Notez qu'en vertu de la *Politique relative à l'éthique de la recherche avec des êtres humains de HEC Montréal*, il est de la responsabilité des chercheurs d'assurer que leurs projets de recherche conservent une approbation éthique pour toute la durée des travaux de recherche et d'informer le CER de la fin de ceux-ci. De plus, toutes modifications significatives du projet doivent être transmises au CER avant leurs applications.

Lorsque votre projet est terminé, vous devrez remplir le formulaire *F9 - Fin de projet (ou F9a - Fin de projet étudiant sous l'égide d'un autre chercheur)*, selon le cas. **Les étudiants doivent remplir un formulaire F9 afin de recevoir l'attestion d'approbation éthique nécessaire au dépôt de leur thèse/mémoire/projet supervisé.**

Vous pouvez dès maintenant procéder à la collecte de données pour laquelle vous avez obtenu ce certificat.

Nous vous souhaitons bon succès dans la réalisation de votre recherche.

Le CER de HEC Montréal

HEC MONTRÉAL

Comité d'éthique de la recherche

CERTIFICAT D'APPROBATION ÉTHIQUE

La présente atteste que le projet de recherche décrit ci-dessous a fait l'objet d'une évaluation en matière d'éthique de la recherche avec des êtres humains et qu'il satisfait aux exigences de notre politique en cette matière.

Projet # : 2024-5897

Titre du projet de recherche : Adoption et compromis à l'adoption d'une nouvelle technologie

Chercheur principal : Pierre-Majorique Léger, Professeur titulaire, Technologies de l'information, HEC Montréal

Cochercheurs : Sylvain Sénécal; David Brieugne; Frédérique Bouvier; Salima Tazi; Xavier Côté; Élise Imbeault; Luis Carlos Castiblanco; Juan Fernandez Shaw; Shang Lin Chen; David Tessier

Date d'approbation du projet : 13 mars 2024

Date d'entrée en vigueur du certificat : 13 mars 2024

Date d'échéance du certificat : 01 mars 2025

Maurice Lemelin
Président
CER de HEC Montréal

Signé le 2024-03-14 à 09:18

Résumé

Alors que la tarification dynamique est de plus en plus présente dans les services numériques, les effets des réductions de prix surprises sur l'expérience de l'utilisateur n'ont pas encore été suffisamment explorés. Cette étude examine comment de telles tactiques de tarification influencent le comportement des consommateurs au cours d'un parcours d'achat en ligne en plusieurs étapes. En utilisant une approche multi-méthode, vingt-deux participants ont effectué des tâches sur un site web de télécommunication tout en étant exposés à des changements de prix en temps réel. Une combinaison de mesures physiologiques, de données auto-déclarées, de ciblage comportemental et d'entretiens a permis de saisir leurs réactions émotionnelles, cognitives et comportementales afin de mieux comprendre leur expérience vécue et perçue. Les participants qui ont eu connaissance du changement de prix ont fait état d'une expérience plus complexe pour l'utilisateur, qui a dû faire des compromis entre la transparence perçue et son engagement, alors que l'inquiétude concernant l'équité entraînait des efforts cognitifs. En revanche, les participants qui n'étaient pas au courant ont vécu un processus plus fluide et plus simple, marqué par moins de signes d'effort cognitif. Ces résultats remettent en question les présomptions selon lesquelles les réductions de prix sont intrinsèquement bénéfiques. Ils révèlent que la prise de conscience peut considérablement façonner les réponses émotionnelles et cognitives des utilisateurs. Cette recherche recadre la tarification dynamique en tant que composante stratégique de la conception UX. Elle contribue à la littérature sur la tarification et l'expérience utilisateur en mettant l'accent sur les réductions de prix sous-explorées et en fournissant des informations exploitables pour la conception de stratégies de tarification dynamique centrées sur le client.

Mots clés : Tarification dynamique, réduction des prix, perception de l'équité des prix, parcours du client, prise de décision, comportement du consommateur, expérience utilisateur, conception de services numériques.

Méthodes de recherche : Mesures physiologiques, mesures d'auto-évaluation, suivi du comportement, entretiens contextuels.

Abstract

As dynamic pricing becomes increasingly embedded in digital services, the implications of unannounced price reductions on user experience remain underexplored. This study investigates how pricing tactics influence consumer behaviour across multi-step online purchase journeys. Using a multi-method approach, twenty-two participants completed tasks on a telecommunication website while exposed to real-time price changes. A combination of physiological measures, self-reported data, behavioural tracking, and interviews captured their emotional, cognitive, and behavioural responses to better understand their lived and perceived user experience. Participants were subsequently categorized based on their awareness of the dynamic price change. While both groups expressed overall satisfaction with their purchase, their experiences diverged. Participants who became aware of the price change reported a more complex user experience, navigating trade-offs between perceived transparency and engagement as concern over fairness introduced cognitive strain. In contrast, unaware participants experienced a smoother and more straightforward process, marked by fewer signs of cognitive effort. These findings challenge assumptions that price reductions are inherently beneficial. Revealing that awareness can considerably shape users' emotional and cognitive responses, highlighting the moderating role of user awareness. This research reframes dynamic pricing as a strategic component of UX design. This research contributes to the literature on pricing and user experience by shifting focus towards underexplored price reductions and providing actionable insights for the design of customer-centric dynamic pricing strategies.

Keywords: Dynamic Pricing, Price Reduction, Price Fairness Perception, Customer Journey, Decision-Making, Consumer Behaviour, User Experience, Digital Service Design.

Research methods: Physiological Measures, Self-Reported Measures, Behavioural Tracking, Contextual Interviews.

Table of contents

List of tables and figures

List of Tables

List of Figures

Chapter 3: Methodology

Chapter 4: Results

List of abbreviations and acronyms

NPS - Net Promoter Score

CES - Customer Effort Score

AS - Affective Slider

IRP - Internal Reference Price

ERP - External Reference Price

UX - User Experience

Acknowledgements

First and foremost, I want to express my gratitude to my parents for their unwavering support and confidence in me. None of this would have been possible without the solid foundation you've laid. To my siblings, thank you for your steadfast presence, for keeping me grounded, and for reminding me of what truly matters. You have given me the strength to persevere.

To my Uncle Bernard, thank you for being a constant throughout my academic journey. Our conversations helped shape not just this project but the way I think. You've challenged me in the right ways and at the right times, offering both perspective and support when I needed it the most.

To my friends Zachary, Ben L, Benjamin B, Eyal, and Jeremy, thank you for the balance you have brought to this journey. Each of you contributed something unique: clarity, energy, humour, or calm. You provided me with the space to breathe when I needed it and reminders to keep moving forward.

To both my thesis supervisors, Sylvain Sénecal, thank you for your patience and guidance, and Constantinos Coursaris, thank you for your empathy and thoughtful input. To Pierre-Majorique Léger, thank you for your energy and drive. I also want to thank the entire Tech3lab team and my fellow UX students. Each of you played a role in creating an environment that made this research possible, and I'm grateful to have been surrounded by such thoughtful and brilliant people.

And finally, to myself: Keep pushing, remain sharp, stay curious, and never settle. Let this serve as evidence that you can take an idea, mould it, and see it through with purpose. Continue to raise the bar, not for others, but because personal growth requires it. Trust your instincts, push your boundaries, and focus on what truly matters. The path ahead is yours to carve; it's about having the courage to embrace every moment, to shine without limits, and to believe that there is always a way forward.

Lastly, I extend my sincere gratitude to NSERC, PROMPT, and the industrial partners for their generous support and funding, which made this research possible.

Chapter 1:
Introduction

1.1 Background and Research Context

Dynamic pricing has become a standard feature of today's digital economy. Enabled by real-time consumer data and machine learning, platforms can now adjust prices instantly based on individual behaviour, market demand, and contextual signals (Elmaghraby & Keskinocak, 2003; Shiller, 2014). While once reserved for sectors like travel and hospitality, these pricing models are now embedded across a range of industries, including online retail, streaming, and telecommunications (Gibbs et al., 2018).

In parallel, consumer expectations around transparency and fairness have shifted. As users grow more digitally savvy, pricing is no longer viewed as a fixed attribute but as a signal that shapes trust, control, and brand perception (Grewal et al., 2004; Xia et al., 2004). Research has shown that price changes influence not only economic decisions but also emotional reactions and cognitive processing (Haws & Bearden, 2006). This makes pricing a central part of the UX, especially in sectors where customers must navigate journeys filled with comparisons and trade-offs. Consumers are no longer passive recipients of pricing information. They actively interpret, question, and respond to price changes, particularly when they perceive that these changes are not communicated transparently (Bolton et al., 2003).

Pricing plays a fundamental role in shaping consumer decision-making and designing digital services. As e-commerce becomes increasingly experience-driven, companies compete not only on features and service quality but also on the presentation and perception of pricing by users' journey (Grewal et al., 2010; Lemon & Verhoef, 2016). In digital contexts, pricing is no longer confined to a single moment of transaction. It is integrated into a broader sequence of interactions, where interface design, page architecture, and timing influence how consumers interpret value (Hamilton & Chernev, 2013). Recent research in consumer behaviour emphasizes that even subtle shifts in how and when the price is revealed can affect attention, emotional response, and perceived fairness (Priester et al., 2020). In practice, dynamic pricing mechanisms often operate invisibly within online journeys, with price adjustments triggered by user input or

contextual factors and frequently without the user's explicit awareness. These developments raise important questions about how pricing strategies interact with digital customer experience and the psychological processes that underlie user decision-making in online environments.

1.2 Research Gap

Existing research on dynamic pricing has largely focused on price increases and their impact on consumer perceptions of fairness, trust, and satisfaction. Studies have shown that when prices rise unexpectedly or appear personalized, consumers are more likely to view the pricing as exploitative or manipulative, which can damage brand trust and reduce purchase intentions (Bolton et al., 2003; Hannak et al., 2014; Haws & Bearden, 2006; Ferguson & Scholder Ellen, 2013). This has led to a growing body of literature examining algorithmic price discrimination, perceived unfairness, and consumer resistance in dynamic pricing environments (Garbarino & Lee, 2003; Martin & Murphy, 2017).

While much of the existing literature has focused on price increases and their effect on fairness perceptions and consumer trust, the effects of price reductions within dynamic pricing ecosystems remain underexplored (Bambauer-Sachse & Young, 2024; Ferguson & Scholder Ellen, 2013). Although price drops are often assumed to benefit user experience, little is known about how they are processed when they occur dynamically and without explicit communication during the purchasing process. The extent to which users notice these reductions is still uncertain, as is how their subtle and unannounced presence can influence emotional responses, perceived value, and decision-making.

1.3 Research Question and Study Objectives

The primary purpose of this research is to examine how unannounced price reductions, implemented dynamically throughout a digital purchase journey, influence behaviour and user experience. As pricing becomes increasingly integrated into the flow of digital interactions, subtle changes introduced mid-journey without clear communication raise questions about how users perceive value, interpret fairness, and ultimately make decisions. This study positions dynamic pricing not merely as a business tactic but as a touchpoint within the broader customer experience, where emotions, attention, and trust play a significant role.

This study aims to determine if users are aware of price reductions while navigating a multi-step online journey and how this awareness, or the lack of it, affects their emotional and behavioural reactions. Using a combination of physiological data, self-reported measures, behavioural tracking, and qualitative interviews, it examines the influence of price changes on user experience in real-time, as well as users' subsequent reflections on these changes. Particular emphasis is placed on the differing responses between those who recognized the price decrease and those who did not, providing insight into the significance of awareness in dynamic pricing situations. Additionally, the research investigates how these encounters affect decision-making confidence and overall purchasing choices.

This investigation is guided by the following research question:

RQ – *What are the effects of price reduction tactics in online dynamic pricing on consumer purchase decisions?*

By examining this question through the lens of UX, the study offers insights into how dynamic pricing shapes user journeys, affects perception, and influences behaviour in digital service ecosystems.

1.4 Key Contributions

This research offers theoretical contributions and practical implications. From a theoretical standpoint, it contributes to the literature on dynamic pricing by shifting the focus away from commonly studied price increases and toward the underexplored area of price reductions (Bambauer-Sachse & Young, 2024; Ferguson & Scholder Ellen, 2013). It advances understanding of how these reductions are perceived within the flow of a customer journey, especially in the context where they occur without explicit user awareness. By integrating physiological, behavioural, and qualitative data, the study advances multi-method approaches in UX research and demonstrates the value of capturing both lived and perceived user experience (Grewal et al., 2010; Lemon & Verhoef, 2016). The findings offer insights into the role of user awareness in pricing perception, suggesting that the emotional and behavioural effects of dynamic pricing cannot be fully understood without considering whether or not users detect the change (Malc et al., 2016; Xia et al., 2004).

From a practical standpoint, the results offer actionable guidance for designers, marketers, and digital strategists involved with dynamic pricing models. They emphasize the significance of timing, transparency, and emotional impact when presenting price changes. (K. Chen et al., 2020). Subtle reductions that go unnoticed may still influence decisions and user experiences, but the effects vary based on awareness. These insights can inform the design of pricing strategies that balance optimization with user trust. (Grewal et al., 2004; Martin & Murphy, 2017). Viewing pricing as a component of the customer experience rather than merely a transactional variable allows organizations to better align their digital pricing strategies with user expectations and behaviours.

1.5 Thesis Structure

The remainder of this thesis is structured to guide the reader from the study's conceptual foundations to its methodological execution and analytical insights. Chapter 2 presents the literature review, covering key themes in pricing psychology, price fairness, and user experience. It focuses particularly on how consumers respond to dynamic pricing and how awareness and emotion play a role in shaping perception. Chapter 3 outlines the exploratory methodology, detailing a multi-method data collection strategy that combines physiological, self-reported, and qualitative measures, along with the rationale for using a telecommunication scenario with an unannounced price reduction. Chapter 4 presents the results, organized thematically around users' awareness of the price change, emotional responses, behavioural decisions, and post-decision reflections. Chapter 5 discusses the findings in relation to existing literature, highlights the study's theoretical and practical contributions, and addresses its limitations and implications for future research.

1.6 Student Contributions and Responsibilities

Since this thesis was carried out in the Tech3lab, where collaboration is vital to research, various contributions were made throughout different phases of the project. **Table 1** below outlines an estimation of my individual intellectual input during each phase of this thesis.

Table 1. Contributions and responsibilities related to the research project and thesis writing

Steps in the process	Contribution
Research Question	Defined the research problem and identified gaps in the literature - **[75%]** - Conducted exploratory analysis of the partner's website to detect friction points. - Informed by the literature review, and developed the research question was adjusted with the input from supervisors.
Literature Review	Conducted a targeted review of the literature on dynamic pricing and fairness perception - **[90%]**
Experimental Design	Development of experimental stimuli - **[0%]** - Stimuli provided by the industrial partner. Development of experimental protocol - **[50%]** - Tasks designed by Tech3lab staff (Frédérique Bouvier, Marine Farge) alongside the student. - Selection of measurement scales with assistance from the Tech3lab operation team (Frédérique Bouvier) and supervisor (Sylvain Sénécal) Application to the Research Ethics Board (REB) of HEC Montréal - **[35%]** - All documents related to the research ethics were prepared and submitted through the Tech3lab operations team (David Brieugne) and the student.
Data Collection	Recruitment of Participants - **[20%]** - Recruitment was carried out using two sources: half via an external recruitment firm and half through the Tech3lab panel and the student. Inception and Installation of laboratory set-up - **[30%]** - Tech3lab operations staff (Salima Tazi and Xavier Côté) installed the data collection room and its equipment, and students assisted during the installation. Pre-testing and data collection operations management - **[70%]** - Tech3lab staff (Frédérique Bouvier, Marine Farge, and the research assistant team) coordinated and organized pre-test operations with the students' involvement. - The research assistants managed the technical aspects of data collection. - The student annotated all participant testing observations, and Tech3lab staff (Marine Farge) moderated interviews.
Statistical Analysis	Data Extraction - **[50%]** - The tech3lab operations team (Salima Tazi) extracted the physiological data to ensure synchronization across all instruments.

	- Student extracted all qualitative interview data and all Tobii recording sessions. Data cleaning - **[80%]** - Organization and structuring of datasets across modalities to reflect the experimental timeline and enable consistent analysis. Data Analysis - **[70%]** - Analysis of the data was done by the student with statistical assistance from the Tech3lab operation team (Shang Lin Chen) - The student examined and interpreted the findings from the statistical analysis.
Writing the Thesis	Writing of the full thesis - **[90%]** - Wrote all sections of the thesis and integrated comments and corrections from thesis supervisors.

Chapter 2:
Literature Review

This literature review examines how pricing strategies influence consumer perceptions, behaviours, and trust in digital contexts. It begins by discussing price fixation mechanisms such as reference prices, anchoring effects, and price framing, which affect consumers' evaluations of value and fairness. Subsequently, the review explores various types of price discrimination and their effects on consumer reactions, trust, and loyalty before concluding with an analysis of how dynamic pricing practices impact consumer decision-making and behaviour changes.

2.1 Price Fixation Mechanism

The price fixation mechanism plays a crucial role in shaping consumer choices by creating internal reference points that affect perceptions of fairness, value, and intent to purchase (Furnham & Boo, 2011). Consumers establish these reference prices based on past experiences, contextual cues, and the manner in which price information is presented. Once formed, these internal benchmarks serve as a baseline for evaluating future prices and making purchase decisions (Roy et al., 2016). Simultaneously, price fixation mechanisms involve the strategies and practices that organizations use to set and uphold prices (Chandrashekaran & Grewal, 2006). These approaches aim to shape consumer perceptions of value, facilitate comparisons, and ultimately guide purchasing decisions (Zong & Guo, 2022).

The mechanism of price fixation operates through both psychological and informational channels (Furnham & Boo, 2011). On the psychological side, consumers rely on heuristics and past experiences to simplify complex decisions, anchoring their expectations around familiar price points (Roy et al., 2016). On the informational side, organizations intentionally employ pricing strategies, such as establishing initial high prices, providing discounts, or framing prices in specific ways, to shape these consumer reference points and influence their perception of value (Simonson & Drolet, 2004). By shaping and reinforcing these internalized reference points, organizations can guide consumers toward perceiving an offer as a good deal, thereby increasing the likelihood of purchase. In this way, the price fixation mechanism, shaped by

consumers' cognition and organizational pricing strategies, affects how consumers interpret prices and make purchasing decisions (Chandrashekaran & Grewal, 2006).

2.1.1 Reference Prices

A reference price is a concept in consumer behaviour where consumers form expectations of what they consider a "normal" price (Kumar et al., 1998a). This mental reference, developed over time through personal experiences, serves as a benchmark established by consumers for evaluating the price of products and services (Roy et al., 2016). This concept is defined as the price consumers are willing to potentially pay based on their previous experiences, market conditions, and available information (Mazumdar et al., 2005). Therefore, it is central to understanding how consumers make purchasing decisions. Reference prices can be categorized into two main types: internal reference prices (IRPs) and external reference prices (ERPs) (Mazumdar & Papatla, 1995). Both are distinct yet interconnected concepts that are essential in shaping the perception of value and guiding purchase decisions.

Internal reference prices are benchmarks developed over time based on personal experiences with product pricing (Roy et al., 2016). Shaped by prior experiences, such as past purchases and observed pricing trends, IRPs represent the prices consumers expect to pay for a product. Recent price encounters significantly influence IRPs, as the recency effect gives greater weight to the most recent pricing experiences (Mazumdar et al., 2005). Frequent exposure to discounts and promotions can also lower a consumer's IRP. Acting as a personal measure of value, IRPs influence the perception of fairness and guide purchasing behaviour (Kumar et al., 1998a). Prices exceeding an IRP are often perceived negatively, while prices consistently below the IRP can foster trust and brand loyalty, particularly for consumers with a strong brand preference and limited alternatives (Mazumdar & Papatla, 1995).

External reference prices are pricing benchmarks drawn from the immediate purchase environment based on the information available at the decision point. ERPs are derived from external sources such as advertised prices, competing products, or promotional tactics like "compare at" pricing or "was-now" labels. Sellers can actively manipulate these to steer consumer perceptions to create a sense of value by presenting a perceived price advantage (Mazumdar et al., 2005; Roy et al., 2016). ERPs play a significant role in influencing purchasing

decisions. Often exerting a strong influence on brand choice, they are particularly effective for price-sensitive or less brand-loyal consumers, who rely on these external cues to evaluate a product's value (Kumar et al., 1998). By framing prices strategically, such as by emphasizing discounts or positioning a product as a better deal compared to alternatives, organizations can enhance the appeal of their offerings and drive sales in competitive promotion-driven shopping environments (Nasiry & Popescu, 2011).

2.1.2 Price Anchoring and the Anchoring Effect

The anchoring effect is a cognitive bias in which consumers heavily rely on the first piece of information they encounter, known as the "anchor," when making decisions (Bergman et al., 2010). This influence persists even when the anchor is arbitrary or irrelevant (Furnham & Boo, 2011). For example, in hotel pricing, businesses often advertise rates "starting from" a low price to attract potential customers. This initial low price acts as an anchor, setting a reference point in the consumer's mind for what they perceive as a reasonable cost. Even if the actual price they encounter later is higher, the initial anchor can bias their perception, making standard or premium room rates seem less appealing by comparison. Alternatively, if consumers first see a high-priced premium option, this can serve as an anchor that makes moderately priced rooms seem more reasonable, increasing their willingness to pay (Tanford et al., 2019). The anchoring effect is observed in various domains, from probability estimations to performance judgment, demonstrating its pervasive role in decision-making.

Price anchoring is a specific manifestation of the anchoring effect in the pricing and purchasing context. Consumers heavily rely on an initial price point, which serves as their reference anchor to evaluate a product's value and determine their willingness to pay (Simonson & Drolet, 2004). This anchor can be presented in various ways, such as prices "starting from" a certain value, ranges of prices, average prices, or discounts framed as "up to" a specific amount (Furnham & Boo, 2011; Tanford et al., 2019). Price anchoring significantly impacts consumer behaviour, often making products with higher price anchors appear more valuable and increasing consumers' willingness to pay (Simonson & Drolet, 2004). Conversely, when exposed to lower anchors, consumers may struggle to justify paying more, creating an asymmetry in price perception (Tanford et al., 2019).

2.1.3 Price Framing in Digital Environments

Price framing is a strategic approach used by organizations, particularly in digital environments, to present price information in a way that influences consumers' IRPs, shaping their perceptions and guiding them toward desired purchase behaviours (Weisstein et al., 2013). By leveraging IRPs, price framing manipulates how consumers interpret discounts and comparative pricing, leading consumers to perceive prices as more or less attractive. For instance, displaying a high ERP alongside a sale price enhances the perceived value of the discount (Chandrashekaran & Grewal, 2006). Given the ease of price comparisons online and the heightened sensitivity of online purchases, this presentation tactic enables organizations to capitalize on judgmental heuristics in consumer decision-making (Mazumdar et al., 2005).

The manner in which prices are presented in digital environments plays a vital role in directing consumer attention, influencing how various options are compared, shaping the perception of value, and ultimately, determining how purchase decisions are made (Chandrashekaran & Grewal 2006). Two commonly used strategies, side-by-side comparisons and the Goldilocks pricing strategy, direct consumer attention and leverage cognitive biases to influence decision-making (Mazumdar et al., 2005). Side-by-side comparison online involves presenting prices and product information in a way that allows consumers to directly compare the different available options. This method facilitates visual attention and direct comparison by allowing consumers to directly highlight the unique characteristics of each product offering (Chandrashekaran, 2004; Kong et al., 2019). The Goldilocks pricing strategy, also known as good-better-best pricing, involves offering three versions of a product or service at different price points: low-end, medium, and high-end. This approach leverages the comprise effect, where consumers often gravitate towards the middle option, avoiding the extremes (Hui et al., 2007). Understanding how different visual pricing strategies impact fixation allows organizations to guide consumer attention strategically. Therefore, by carefully structuring price-framing strategies, organizations can enhance perceived value, reduce price sensitivity, and encourage favourable purchasing decisions (Sinha & Smith, 2000)

2.2 Consumers and Price Discrimination

Price discrimination is the practice of charging different prices to different consumers for the same product or service without a cost-based justification (Armstrong, 2006a). This pricing

strategy allows businesses to maximize revenue and profit by adjusting prices based on various attributes primarily related to consumer behaviour, market conditions, and willingness to pay (Elegido, 2011). Businesses employ numerous methods to implement price discrimination effectively. Segmented pricing involves categorizing the market into distinct groups of consumers based on identifiable characteristics such as age, occupation, or geographic location. Time-based pricing adjusts prices depending on when the purchase was made (Nagle et al., 2023). For instance, airlines employ this method extensively, charging higher prices during peak season while offering discounts for early flight bookings (Giaume & Guillou, 2004). Product versioning offers consumers multiple versions of essentially the same item at different price levels, like hardcover and paperback book editions or standard and premium subscriptions for digital services. To effectively implement price discrimination, organizations must identify consumer willingness to pay, minimize competition-driven price pressure, and prevent arbitrage that could minimize pricing strategies (Elegido, 2011).

The rise of big data and advanced analytics has further enabled businesses to refine price discrimination through personalized pricing strategies. Organizations now leverage artificial intelligence and machine learning to analyze consumer behaviour, predict purchasing patterns, and adjust prices dynamically in response to demand fluctuations. Real-time pricing models allow businesses to tailor prices based on consumers' preferences and willingness to pay (Armstrong, 2006b; Elegido, 2011). For example, when a consumer has repeatedly viewed a specific product or brand, the price may increase due to the consumer’s perceived higher willingness to pay. Data analytics and consumer profiling advancements have enabled online businesses to move from uniform pricing to more personalized pricing strategies (Kosinski et al., 2013). While these technological advancements enhance efficiency and profitability, they also introduce ethical concerns related to transparency and fairness, which organizations need to address to maintain consumer trust (Armstrong, 2006b).

2.2.1 Types of Price Discrimination

First-degree price discrimination, also known as personalized pricing, occurs when a sellers charge each consumer the maximum price they are willing to pay. This form of price discrimination is largely theoretical, requiring organizations to have complete knowledge of individual IRPs and ERPs (Shiller, 2014). However, with advancements in e-commerce and

personalization technologies, firms now have greater access to consumer data, allowing for more precise price targeting. Online retailers can dynamically adjust prices based on browsing history, past purchases, and willingness to pay, effectively competing on a consumer-by-consumer basis (Ulph & Vulkan, 2000). While this strategy maximizes seller profit by capturing all consumer surplus, its effectiveness relies on firms' ability to gather and analyze consumer-specific information (Shiller, 2014).

Second-degree price discrimination involves offering a menu of pricing options and allowing consumers to self-select based on their preferences and willingness to pay. Also known as product versioning, this is commonly observed in tiered pricing structures, such as product line differentiation, intertemporal pricing, and volume discounts (Anderson & Dana, 2009). For instance, companies may offer an entry-level product version at a lower price and a premium version with additional features at a higher price point, catering to different consumer segments (Elegido, 2011). Other examples include advance-purchase discounts, service queues, and coupon-based discounts (Anderson & Dana, 2009). This method allows consumers to benefit by choosing an option that aligns with their budget and needs, making it a widely used and accepted strategy in various industries (Anderson & Song, 2004).

Third-degree price discrimination involves segmenting consumers into distinct groups based on observable characteristics that correlate with different price elasticities of demand (Armstrong, 2006b). Businesses charge different prices to each group to maximize revenue while accounting for variations in willingness to pay (Besanko et al., 2003). This strategy is prevalent in industries such as transportation, entertainment, and hospitality, where pricing differentiation is applied based on age, location, or usage type. Examples include student and senior discounts on train tickets or geographical price variations for the same product (Armstrong, 2006a). Airlines also employ third-degree price discrimination by imposing ticket restrictions such as advance purchase requirements or minimum stay conditions, which help segment travellers based on their value of time (Giaume & Guillou, 2004). The strategy's effectiveness depends on the organization's ability to accurately segment the market and prevent arbitrage, ensuring consumers do not resell products or services profitably (Anderson & Dana, 2009). The success of this strategy hinges on the firm's ability to prevent arbitrage, ensuring that consumers in lower-price segments do not resell goods or services to those in higher-priced segments (Asplund

et al., 2008). By effectively segmenting the market, businesses can expand access to products and services for a broader range of customers (Besanko et al., 2003). However, the overall impact on market welfare is complex. Competitive forces may cause prices to fluctuate unpredictably across different segments, potentially benefiting some consumers while disadvantaging others (Besanko et al., 2003).

2.2.2 Consumer Perceptions and Reactions

Consumers' views on the fairness of price discrimination are varied and complex, with algorithmic price discrimination often leading to perceptions of unfairness (Englmaier et al., 2012). As businesses increasingly employ sophisticated algorithms to optimize revenue, consumers often perceive these strategies as unjust, particularly when price variations are not transparently communicated. Fairness perceptions are shaped by multiple factors, including distributive fairness, procedural fairness, and interactional fairness. Distribution fairness refers to the perceived fairness of the outcomes of transactions, whether the price paid seems reasonable compared to what others pay or what the consumer expected. Procedural fairness relates to the fairness of the processes and reasoning behind how the prices are determined, such as whether cost increases or transparent pricing rules justify the final price. (Xia et al., 2004). Interactional fairness generally concerns the quality of interpersonal treatment during a transaction, including respect, honesty, and clarity in communication (Narasimhan et al., 2013). These dimensions help explain why consumers often perceive price discrimination as unfair when they pay more than others for the same product, while those who pay less tend not to view the situation as unfair. Theories such as the equity theory and the dual entitlement suggest that consumers expect equal treatment and view arbitrary price changes as unfair. This perception can lead to feelings of betrayal and exploitation and erode trust in a brand (Bolton et al., 2003; Haws & Bearden, 2006). When consumers feel deceived, they may react negatively by reducing engagement, spreading negative word-of-mouth, or avoiding repeat purchases (Malc et al., 2016). Furthermore, a lack of transparency amplifies these negative reactions as consumers struggle to understand why they are being charged differently from others (Xia et al., 2004).

When consumers perceive price discrimination as unfair, they exhibit behavioural changes that can significantly impact businesses (Xia et al., 2004). One key response is increased price sensitivity, where consumers become more cautious and proactive in seeking better deals,

using price comparison tools, and delaying purchases in anticipation of price fluctuations (Bolton et al., 2003). Another consequence is brand switching, as dissatisfied consumers abandon brands they perceive as unfair and move to competitors that offer clearer, more predictable pricing structures (Malc et al., 2016). Trust erosion is another critical effect, as consumers who feel manipulated by algorithmic pricing may develop skepticism toward businesses engaged in such practices, making them less likely to remain loyal (Wu et al., 2022). Studies have shown that dynamic pricing and algorithmic adjustments are particularly problematic when consumers lack reference points for price changes, leading to uncertainty and frustration (Bolton et al., 2003). While price discrimination offers profitability advantages, the long-term success of businesses depends on balancing revenue optimization with consumer trust (Englmaier et al., 2012).

2.2.3 Impact on Consumer Trust and Loyalty

One of the primary ways price discrimination can erode consumer trust is through perceived unfairness. When consumers realize they are paying more than others for the same product, it may lead to feelings of resentment and betrayal (Grewal et al., 2004). Significant price discrepancies between consumer segments can also leave consumers feeling exploited (Urban et al., 2009). Therefore, brand trust plays a crucial role in maintaining consumer loyalty, which means that any pricing strategy seen as unfair can damage trust and weaken long-term relationships (Delgado‐Ballester & Luis Munuera‐Alemán, 2005). Identification tactics, such as tracking consumer behaviour to personalize pricing, can further diminish trust, as consumers may feel penalized rather than rewarded for their loyalty. The lack of transparency in price variations may lead consumers to assume that the organization prioritizes profit over fairness, exacerbating skepticism (Grewal et al., 2004). Brand trust is foundational to consumer relationships, which means that any breach through unfair pricing can have long-lasting negative effects on brand perception (Kabadayı & Aygün, 2007). The absence of transparency in tracking personal information and making dynamic price adjustments without clear justification can heighten consumer skepticism, diminishing trust and lowering brand engagement (Matzler et al. 2008).

Conversely, price discrimination can also be employed strategically to enhance brand loyalty, particularly when perceived as a reward for customer commitment (Chaudhuri & Holbrook, 2001). Providing lower prices or exclusive discounts to returning customers reinforces

their connection and loyalty to the brand. This approach fosters long-term engagement, generating positive word-of-mouth and attracting new customers who view the brand positively (Kabadayı & Aygün, 2007). Consumers may be more inclined to pay a premium price for brands they trust and feel connected to, making fair and well-communicated pricing strategies essential (Chaudhuri & Holbrook, 2001). Timing strategies, such as offering discounts for early bookings, are generally perceived as fair since consumers understand that waiting longer may result in higher prices. When businesses clearly explain price variations, such as cost-based adjustments, consumers are more likely to accept them as justified rather than as opportunistic pricing tactics (Grewal et al., 2004). Brand trust and positive emotional associations with the brand help mitigate perceived risk, thereby strengthening consumer confidence (Matzler et al., 2008). Transparency in pricing fosters trust by demonstrating honesty, while companies that offer personalized discounts, loyalty rewards, and clear communication about pricing policies can cultivate stronger emotional connections with consumers (Kabadayı & Aygün, 2007). This increases their willingness to engage with the brand over time and encourages them to share their positive experiences, which can attract new customers and enhance the brand's reputation for fairness and loyalty (Delgado‐Ballester & Luis Munuera‐Alemán, 2005).

2.3 Consumers and Price Changes

Static and dynamic pricing are two different approaches businesses use to establish product or service prices. Static pricing refers to a method where prices remain relatively stable over time, with only occasional adjustments that are not driven by real-time changes in demand, supply, or competition (Cachon et al., 2017). Businesses using this approach set prices based on long-term cost structures and market expectations, providing stability and predictability to consumers. This strategy is common in traditional retail and service industries, where consistent pricing fosters consumer trust and simplifies purchasing decisions (Popescu & Wu, 2007). However, static pricing limits an organization's ability to respond to shifts in demand, potentially leading to lost revenue during peak periods and inefficiencies during low-demand periods (Cachon et al., 2017). In industries with fluctuating market conditions, static pricing may struggle to remain competitive and adaptable (Den Boer, 2015).

Unlike static pricing, dynamic pricing is a data-driven strategy where businesses adjust prices in real-time based on factors such as demand, competition, and consumer behaviour

(Garbarino & Maxwell, 2010). This approach allows organizations to maximize revenue by responding to market fluctuations in real-time. Prices may fluctuate multiple times a day based on variables such as demand surges, competitor price adjustments, consumer purchasing patterns, and temporal factors like the time of day or seasonality (Dolan & Dolan, 2000; Gibbs et al., 2018). These real-time price adjustments have been facilitated by technological advancements that reduce the costs associated with price changes, enhance data collection, and enable automated pricing strategies such as price matching, personalized discounts, bundle pricing, and auction-based mechanisms (Garbarino & Maxwell, 2010). Initially adopted in industries like the travel industry, hospitality, or queuing systems in industries such as ride-sharing, dynamic pricing has become prevalent in e-commerce, where digital platforms leverage algorithmic pricing to enhance competitiveness and profitability (Elmaghraby & Keskinocak, 2003; Gibbs et al., 2018). While dynamic pricing enables businesses to maximize revenue and efficiently manage supply and demand, its impact on consumer trust necessitates careful implementation, particularly in industries where pricing transparency is critical to maintaining consumer trust and loyalty (Haws & Bearden, 2006).

2.3.1 Consumer Awareness and Understanding of Dynamic Pricing

Consumers are becoming increasingly aware of dynamic pricing practices, and this awareness directly influences their purchasing behaviour (Bambauer-Sachse & Young, 2024). With widespread access to pricing data history and price comparison tools, many consumers engage in strategic purchasing behaviour. This behaviour, also known as consumer strategic behaviour, occurs when consumers delay transactions in anticipation of price reductions. This has become common in e-commerce, where transparency allows consumers to track price fluctuations and time their purchases to maximize their savings (Chen et al., 2020). However, dynamic pricing does not always translate to rational decision-making. It can also foster price confusion and perceptions of unfairness, particularly when pricing structures appear complex or inconsistent (Haws & Bearden, 2006). Consumers who feel disadvantaged by dynamic pricing often express their dissatisfaction through negative word-of-mouth, which can harm the brand's reputation. Additionally, as awareness grows, consumers may actively seek ways to work around dynamic pricing by using private browsing modes, switching devices, or changing their location to access better prices (Bambauer-Sachse & Young, 2024). This collective knowledge makes it

harder for organizations to maintain the effectiveness of their pricing strategies (Papanastasiou & Savva, 2017). Ultimately, as consumers become more informed, they do not passively accept dynamic pricing; instead, they adapt, resist and reshape how businesses approach pricing strategies and fairness (Haws & Bearden, 2006).

Access to information regarding pricing strategies greatly impacts consumer trust and decision-making, especially at a time when digital transparency and data asymmetry influence purchasing experiences (Haws & Bearden, 2006). When companies utilize asymmetric information by having greater insights into customers than the customers have about pricing strategies, this can foster a feeling of vulnerability and damage trust (Garbarino & Lee, 2003). A key factor in this trust dynamic is the benevolent trust or the belief that a business has the consumer's best interest at heart (Sirdeshmukh et al., 2002). Dynamic pricing, particularly when demand-based, can challenge this perception, making consumers feel exploited rather than valued (Garbarino & Lee, 2003). Transparency in pricing mechanisms plays a crucial role in mitigating these concerns; when organizations clearly communicate the rationale behind price changes, consumers are more likely to perceive the practice as fair (Bambauer-Sachse & Young, 2024). However, when pricing differences lack clear justifications, especially when they are tied to personal data or buyer identification, perceptions of price fairness deteriorate, leading consumers to question the legitimacy of the pricing strategy (Haws & Bearden, 2006).

2.3.2 Perception of Fairness in Dynamic Pricing

Clear and open communication about the reasons behind dynamic price changes is essential for fostering a sense of fairness and maintaining consumer trust (Ferguson & Scholder Ellen, 2013). Unlike static pricing, dynamic pricing involves frequent adjustments based on factors such as demand, time of day, or user behaviour, which can raise concerns about price discrimination (Allender et al., 2021). When organizations using dynamic pricing are transparent about the logic driving these changes, such as fluctuating demand, operational costs, or inventory levels, consumers are more likely to perceive these changes as fair (Carter & Curry, 2010). For example, organizations like McDonald’s, American Airlines, and Tropicana have demonstrated that a proactive explanation of the rationale behind varying prices can improve customer perceptions, even in a dynamic context. The justification behind the price increase is particularly important: when linked to legitimate reasons such as cost increases or efforts to maintain quality,

consumers tend to be more accepting (Ferguson & Scholder Ellen, 2013). Furthermore, the amount of detail provided should correspond to the extent of the price change; brief explanations may be adequate for minor increases, whereas more thorough justifications are necessary for significant ones (Homburg, 2005). Transparency in dynamic pricing not only helps counteract assumptions of opportunism but also builds long-term goodwill and reinforces trust over time (Carter & Curry, 2010). In contrast, when dynamic pricing is applied without explanation, consumers may suspect hidden motives such as exploitation or unfair targeting, leading to perceptions of unfairness and mistrust (Allender et al., 2021). This scenario played out when Amazon used undisclosed dynamic pricing, charging different prices for the same product based on consumer profiles. This practice sparked consumer backlash, and its perceived secrecy and unfairness ultimately forced Amazon to apologize and abandon its strategy. This highlights the risk businesses take when they fail to communicate openly about their pricing practices (Ferguson & Scholder Ellen, 2013).

An equitable application of dynamic pricing across all customers plays a critical role in promoting perceptions of fairness (Ferguson & Scholder Ellen, 2013). When similar customers are charged consistent prices and any price differences are clearly justified, certain groups are less likely to feel disadvantaged or discriminated against (Bolton & Alba, 2006). In contrast, inconsistent pricing, where similar customers are charged different prices without a clear explanation, can lead to perceptions of inequality and unfairness (Homburg, 2005). Consumers tend to evaluate price fairness not just by the amount they pay but by how their price compares to what others are charged (Allender et al., 2021). Without transparency and reasonable justifications, such discrepancies can create suspicion about an organization's motives, fostering mistrust and potential accusations of exploitation. To prevent this, businesses can take proactive measures, such as directly disclosing price changes, offering clear and truthful explanations, and aligning the level of information provided with the significance of the price change. Transparency in pricing helps build trust and goodwill by signalling that the organization has nothing to hide and is acting in good faith (Carter & Curry, 2010). However, excessive transparency may inadvertently draw attention to pricing symmetries, leading some consumers to perceive unfairness or reduce their loyalty (Chen et al., 2018). In such cases, some firms resort to strategic price obfuscation, intentionally making price comparisons difficult to minimize perceptions of inequity. While this tactic may limit consumers' ability to detect discrepancies, it

risks undermining trust in the long run if customers feel manipulated (Allender et al., 2021). Ultimately, ensuring consistency and clarity in dynamic pricing practices is essential for maintaining fairness and fostering lasting consumer trust (Ferguson & Scholder Ellen, 2013).

2.3.3 Behavioural Adaptations to Dynamic Pricing

Dynamic pricing heightens consumers' awareness of price variations, prompting them to engage more frequently in comparison to online shopping as they seek to secure the best deals (Cachon et al., 2017). When exposed to fluctuating prices, consumers are encouraged to constantly reassess their willingness to pay and explore alternative options across competing platforms (Popescu & Wu, 2007). The ease of accessing price information online further amplifies this behaviour, as lower search costs make it easier for consumers to compare prices and quickly identify favourable deals (Cachon et al., 2017). As a result, consumers become more strategic in their purchasing behaviours, often delaying purchases or waiting for price drops to ensure they obtain the best value (Popescu & Wu, 2007). This heightened sensitivity to pricing signals creates a feedback loop in which consumers become highly vigilant and adopt a more discerning and calculated approach to their purchasing decisions (Zhao et al., 2021). Dynamic pricing allows businesses to increase revenue by adjusting prices based on demand, but it risks alienating consumers who may see these prices as inconsistent or unfair. Consequently, companies that use these strategies must balance competitiveness with the risk of alienating customers who might perceive the price fluctuations as manipulative. If consumers sense manipulation or lack of justification for pricing differences, they may lose trust in the brand and seek alternatives (Viglia et al., 2016).

2.4 Summary and Research Direction

The literature reviewed in this chapter highlights the complex interplay between dynamic pricing strategies and consumer responses, particularly in terms of fairness perceptions, emotional reactions and behavioural decisions. Existing research has primarily focused on price increases, algorithm-driven strategies, and fairness perceptions. These studies have provided strong conceptual frameworks, but they offer limited insights into how consumers experience price reductions in realistic online purchase journeys.

In response to this gap, the present research adopts an exploratory case study approach to examine how price reduction tactics used in dynamic pricing influence consumer behaviour, emotion, and perception. By combining self-reported, physiological, and qualitative data in a live e-commerce context, the study aims to provide a more nuanced understanding of customer experience in the face of dynamic pricing interventions. This direction not only addresses underexplored areas in the literature but also offers practical insights for digital businesses seeking to implement dynamic pricing strategies responsibly.

Chapter 3:
Methodology

3.1 Experimental Design

In a laboratory, we designed and conducted a study to simulate real-world online purchasing scenarios for participants to interact with. The study was developed within the context of the telecommunications sector, where pricing strategies play a significant role in acquiring and retaining customers. Given the dynamic nature of this sector, it provided us with an optimal setting to explore customers' perceptions of online dynamic pricing and price-framing strategies used by different managerial organizations.

3.2 Participants

Twenty-two participants (N = 22) were recruited for the study from two distinct recruitment database networks, our institution panel and an external recruitment firm. This strategy helped us broaden our pool of candidates, considering that the panel primarily represents a younger student demographic. The external recruitment firm was tasked with recruiting individuals from an older age bracket to ensure a more diverse participant pool. Our final sample, therefore, consisted of 12 males and 10 females between 18 and 62 years old (Mean = 37.00; St. Dev = 13.55).

Eligible participants were required to be over 18 years old and proficient in French for written and verbal communication. Participants were asked to be regular online shoppers who had made at least one online purchase in the last three months while maintaining active responsibility for their households' telecom services.

3.3 Procedure

For the in-lab study, participants were presented with two tasks as part of a practical scenario, requiring them to browse and purchase a new internet plan aligned with their daily internet usage habits (see Appendix A for scenario details). This scenario was structured to mimic real-world conditions. It allowed us to observe how participants engaged with their decision-making process and the user interface when subject to price reduction tactics across the

different interconnected tasks. Therefore, for each task, participants were directed through a specific part of the practical scenario broken down into two sequential tasks, resulting in a cohesive narrative throughout the completion of the experiment.

3.3.1 Stimuli

The stimuli used in this study consisted of a website belonging to a company in the Canadian telecommunications industry. The website served as the primary interface during the preliminary and purchasing tasks. The website was selected because it accurately represents the digital environment of a typical telecom service provider and was relevant to the study's aim of examining how dynamic pricing strategies might influence consumer behaviour during an online purchasing process. It was used in its original form, with no manipulations or changes made to its design or structure.

The key sections and features of the website included the homepage, which included the navigation menus, which allowed participants to navigate between product and service categories intuitively. The product selection pages, more specifically the internet service page, where the available internet plans were presented in a triptych format, offering participants options between three incremental price points: entry-level, standard, and premium plans.

The address validation page was a crucial interaction feature that played a pivotal role in the consumer journey. After completing this step, the prices of the initially presented internet plans were dynamically adjusted, simulating real-world price changes and, therefore, influencing participants' purchase decisions.

3.3.2 Procedure

This study's procedure was structured to capture both the participants' lived and perceived customer experience as they interacted with the telecom provider's website. The design aimed to understand the effects of dynamic pricing strategies on participants' behaviour and responses. The figure below illustrates the step-by-step procedure conducted for each participant during the data collection (See **Figure 1**).

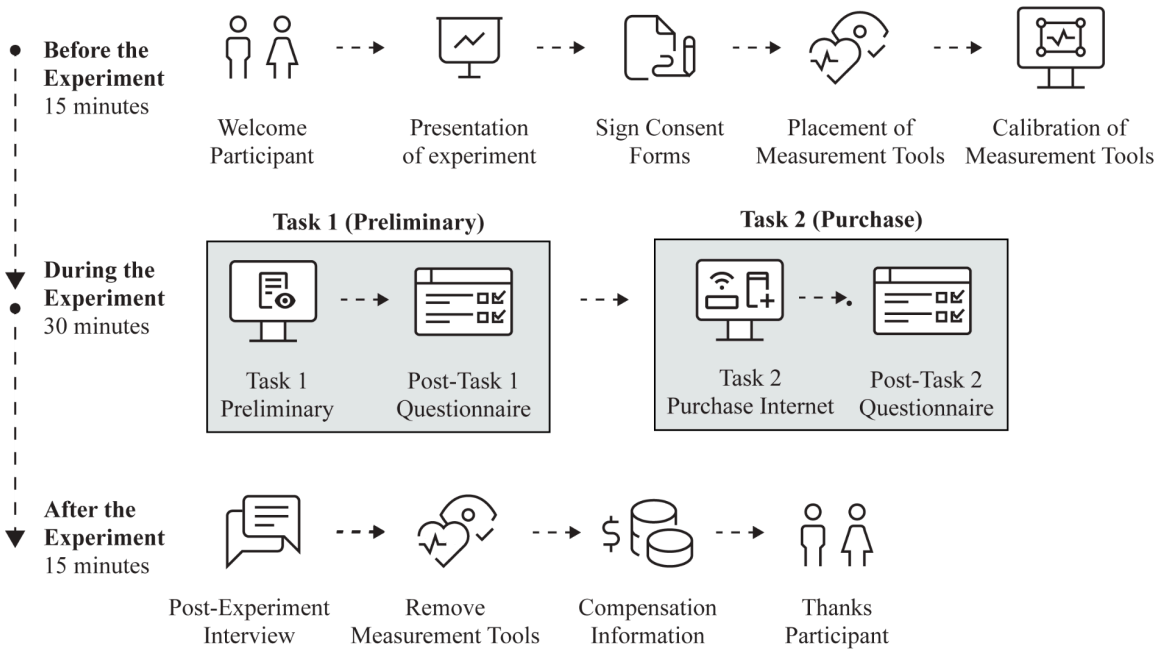


Figure 1. Visual representation of the experimental design

Before the beginning of the study, participants were presented with an overview of the experiment to familiarize themselves with it and complete the consent form. Subsequently, we installed the measuring tools that would allow us to record the participants' emotional arousal and valence while acquiring their physiological data. We then configured the webcam and ensured all recording tools were functioning to capture participant behaviour during the session. Once comfortable and placed correctly in front of the computer screen, participants were prompted to start the tasks.

In the preliminary task, participants were instructed to imagine themselves stumbling upon an advertisement post from a telecom company that intrigued them. As a result, they decided to visit the company's website to explore the different offers available. Once the task started, participants were directed to browse the telecom website to familiarize themselves with all the available internet, mobile, and TV services. This step was designed to encourage exploration and gather information on the available services to foster participants with a comprehensive awareness of the telecom website. Participants were free to explore the website as they pleased, but were given a three-minute time constraint, which was only disclosed after the allocated time had passed. This was done to ensure that each participant could explore the

website freely without the pressure of a time constraint. This approach enables us to capture their natural browsing behaviour and decision-making processes. Awareness of the time constraint could have skewed their behaviour by giving them a sense of urgency to complete the task.

After completing the task, participants were prompted to complete a post-task questionnaire. In the questionnaire, participants were asked to report their intent to recommend the telecom provider using the net promoter score (NPS) (Reichheld, 2003), the amount of effort they needed to complete the task using the Customer Effort Scale (CES) (Dixon et al., 2010), and the usefulness of the information found on the website using the Informational Fit-to-Task subscale for WebQual (Loiacono et al., 2007). Participants also reported their emotional state using the Affective Slider (AS) (Betella & Verschure, 2016), which measures their recalled levels of valence and arousal.

In the purchase task, participants engaged in the last part of the practical scenario to purchase a new internet plan from this telecom provider. Whether opting for a plan with or without a TV option, the main focus of the task was to make an informed purchase decision that aligned with their everyday internet usage and needs. This task aimed to stimulate users' decision-making process as we focused on understanding their reactions and responses to price reduction tactics associated with dynamic online pricing. It is crucial to note that participants were not asked to enter or disclose their banking information for the task. This precautionary measure was taken to guarantee the privacy and security of all participants.

Throughout the purchase task, participants engaged in two sequential interactions with the internet offering page. During each of those interactions, participants were shown three different internet plans presented side by side, displayed as a triptych. The internet plans were strategically offered at different incremental price points, ranging from entry-level to standard to premium, utilizing price comparison framing tactics. The first interaction involved the initial purchase decision, where participants chose a plan after being directed to the Internet offering page. The second interaction occurred after the address validation step, where participants were presented with the same plan but at a reduced price point. At this stage, dynamic pricing tactics adjusted the prices based on the geolocation of the entered address (See **Figure 2**). Participants

were not informed of the price change, which subtly required them to reassess their purchase decision without explicit notice of the change.

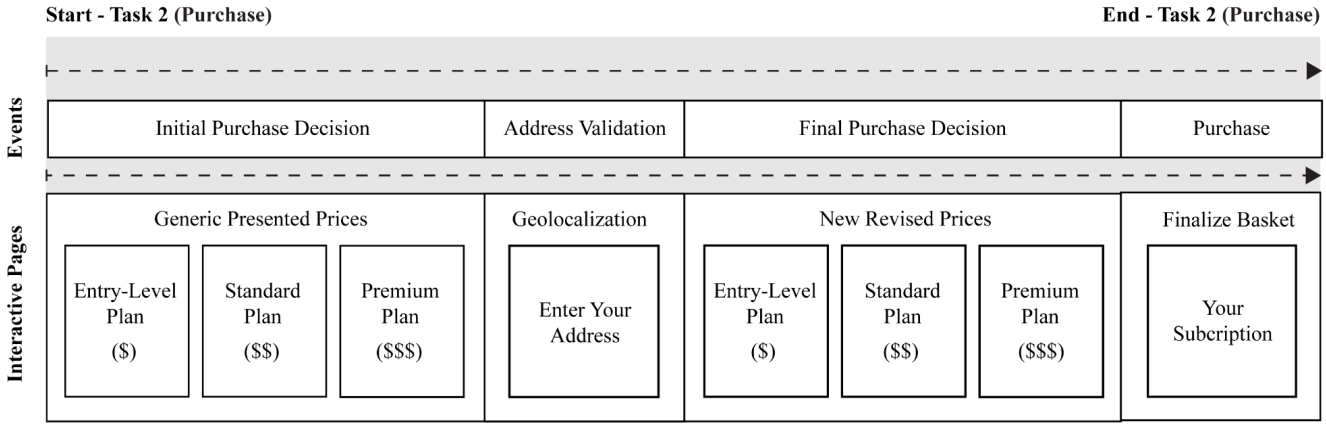


Figure 2. Sequential representation of Task 2

Once the purchase task was completed, participants were invited to complete the Post-task 2 questionnaire. Similarly to the post-task questionnaire of the preliminary task, participants were once again asked to report their intent to recommend the telecom provider using the NPS scale (Reichheld, 2003), the amount of effort they needed to complete the task using the CES scale, the usefulness of the information found on the website using the Informational Fit-to-Task subscale for WebQual, and their recalled level of valence and arousal using the Affective Slider. Additionally, in the Post-task 2 questionnaire for the purchase task, participants were also asked to assess their confidence level in their final purchase decision regarding their chosen internet plan.

After completing the two tasks, participants engaged in a post-experiment interview designed to further explore their purchase decision process, the factors influencing their choices, and the information sources guiding their purchase decisions. Using a contextual interview approach, we captured participants' genuine reactions and perceptions of dynamic pricing without mentioning the price changes. The interview concluded by assessing participants' overall impression of the website and its interface.

3.4 Measurements & Apparatus

To ensure an accurate representation and understanding of the various reactions and associated behaviours, we used a combination of implicit and explicit measures to capture participants' perceptions, emotions, and intentions regarding their customer experience.

3.4.1 Self-Reported Measures

The study consisted of 3 different questionnaires (see Appendix for questionnaire details) strategically placed before the experimental study, after the preliminary task, and after the purchase task.

The Net Promoter Score (NPS) is a common customer experience metric used to evaluate customer loyalty and measure their likelihood to recommend an organization's services (Reichheld, 2003). In this study, the NPS was measured using an 11-point Likert one-item scale (0=extremely improbable; 10=extremely probable), where participants reported the likelihood of recommending the telecom provider. Based on their responses, participants were categorized as detractors (0-6), passives (7-8), and promoters (9-10). The NPS score is then calculated by subtracting the percentage of detractors from the percentage of promoters, resulting in a score ranging from -100 to 100.

The Customer Effort Score (CES) was used to assess the amount of effort required by participants while interacting with the website to complete a task (Dixon et al., 2010). This one-item scale was used at the end of the two tasks and was measured on a 5-point Likert scale (1 = Very low effort; 5 = Very high effort). The overall score is calculated by dividing the sum of all reported scores by all 16 participants, effectively allowing us to quantify the effort required of participants to complete each task.

Informational Fit-to-Task, one of the twelve dimensions in the WebQual questionnaire, evaluates explicitly how well the information on the website helps users complete their tasks. While WebQual is widely recognized for its ability to assess e-commerce platforms by measuring consumer behaviours online (Loiacono et al., 2007), the Fit-to-Task dimension focuses on the usefulness of the information available on the user interface. This dimension is measured using three information-related questions on a 7-point Likert scale (1=Strongly Disagree; 7=Strongly Agree). To determine the effectiveness of the information provided on the website in aiding participants' decision-making process during each task, we calculated the

average score of these three questions for each participant. The overall mean was then derived by summing the individual averages and dividing them by the total number of participants.

The Affective Slider (AS) is a digital self-assessment tool designed to measure human emotions via the user's perceived level of valence and arousal (Betella & Verschure, 2016). The top slider measures arousal on a continuous scale, going from sleepy to awake, while the bottom slider measures valence on a scale, going from sad to happy, with both dimensions scaled from 0 to 100. To assess participants' perceived emotional states after each task, we used these affective sliders, averaging the responses across all participants to gain an overall understanding of how the interface might stimulate emotional reactions.

The Post-Decision Confidence is a concise single-item survey scale. This scale was used to gauge participants' self-perceived confidence levels after completing the purchase task when faced with an unexpected price change in the context of dynamic online pricing. This scale was adapted from existing measures of confidence (Reed et al., 2012), modifying the original 7-point format to a 10-point Likert scale (1=Not at all confident; 10=Completely confident). The change from 7 to 10 was made to provide greater precision in capturing participants' confidence levels, allowing for a more nuanced understanding of their responses. The question presented asks participants, "What is your level of confidence regarding the decision you have made?" The overall score was calculated by dividing the sum of reported scores by the number of participants.

Using this post-decision confidence scale, we prioritized participants' personal reflections over using a pre-existing, validated multi-item scale. This choice was influenced by the study's time constraint and extensive scope. By opting for a single-item approach, we aimed to reduce potential biases related to participant fatigue.

3.4.2 Interview Guide

In the scope of the study, we meticulously crafted a structured interview guide, employing open questions within a contextual interview approach since the study simulated a real-world scenario (Fouskas et al., 2002).

The interview guide was designed to observe participants' reactions to dynamic pricing strategies without explicitly mentioning these price changes, allowing for an unbiased assessment of whether participants noticed the price changes and how they perceived these adjustments. This approach provided consistency, as all participants were subject to the same questions.

After completing both tasks, each participant took part in a moderated contextual interview. Conducting the interviews end the end of the session allowed us to gather reflections without influencing their natural behaviour during the tasks. This setup ensured tha reactions to the price changes, if noticed, emerged organically, providing valuable insights into their emotional and cognitive experience.

Additionally, a contextual interview approach allowed us to focus on and understand participants' diverse behaviours, reactions, and decision-making processes as they interacted with the telecom platform. We aimed to capture authentic insights into their purchase experience and the essential points of their customer journey (Gil-Rodríguez & Rebaque-Rivas, 2010).

3.4.3 Apparatus

A wide range of equipment and software was used to capture qualitative and quantitative data from each participant involved in the data collection process. In the developed setup, participants were seated directly in front of a standard 18-inch HP monitor screen (Hewlett-Packard Company, California, United States), which was connected to a Logitech HD C922 Pro webcam and a pair of Logitech Z150 audio speakers (Logitech International S.A., Lausanne, Switzerland). This configuration allowed for the recording and synchronization of both audio and video using MediaRecorder 2.5 software (Noldus, Wageningen, Netherlands), facilitating seamless communication between the participant room and the observation room.

Physiological and behavioural measures were captured via multiple apparatuses to decode our sample population's user experience. To harmonize all this data, Observer XT (Noldus, Wageningen, Netherlands) was used to integrate and synchronize all the physiological and observational data by sending markers to multiple software programs (Zimmerman et al., 2009). Subsequently, the data can then be visualized simultaneously.

To capture participants' navigation behaviour, we used a Tobii Pro Nano device in combination with Tobii Pro lab software (Tobii AB, Stockholm, Sweden). The session recordings were used to observe user paths and patterns throughout the purchasing task. No gaze or eye movement data was analyzed.

Utilizing FaceReader 8.1 software (Noldus, Wageningen, Netherlands), it is recognized and trained to analyze facial expressions to gauge participants' emotional level of valence (Zaman & Shrimpton-Smith, 2006). These facial expressions are classified into happy, sad, angry, surprised, scared, disgusted, and neutral (Zaman & Shrimpton-Smith, 2006). Subsequently, using valence as a metric, the software assigns a numerical value ranging between -1 and 1, representing a spectrum ranging from negative to positive emotions, thereby enabling comprehensive insights into participants' state of pleasure and displeasure during their purchase journey (Giroux et al., 2021). The apparatuses used to collect physiological data are summarized in **Table 2** below.

In this study, we leveraged the capabilities of the AcqKnowledge BIOPAC software (BIOPAC, Goleta, USA) to analyze electrodermal activity (EDA) data, which was collected to determine participants' levels of emotional arousal. The software determines the various fluctuations occurring through the skin's electrical properties, determining the intensity of their emotions (Braithwaite et al., 2015). The AcqKnowledge software is paired with the BIOPAC MP160 data acquisition hardware (BIOPAC, Goleta, USA) to capture participants' skin conductance response levels via a Bluetooth transmitter. Utilizing the MP160, two electrode sensors are placed on the palm of the participant's non-dominant hand to detect the activation of the sweat glands in response to their level of arousal (Posada-Quintero & Chon, 2020). Table 2 below summarizes the various apparatuses used to collect physiological data.

We used the Cobalt Photobooth software to synchronize the emotional arousal and emotional valence results. This software is compatible with multiple data collection instruments, such as Tobii Pro, FaceReader, and AcqKnowledge BIOPAC, which capture enriched UX measures (Léger et al., 2019). By facilitating the post-processing and the triangulation of the collected data, the software facilitates the efficiency of our analysis. Once the collected data is

uploaded into the system, the data is automatically stream-synchronized. Allowing us to observe how participants react and live their digital interaction at the exact moment it happens.

To collect participants' self-reported reactions, we used Qualtrics XM (Qualtrics International Inc., Seattle, United States) as our online survey platform. This software allowed us to streamline the data collection process by seamlessly presenting each task and questionnaire in one place. This facilitated and ensured a certain level of experimental consistency across all participants. Once a participant completes the study, Qualtrics XM organizes the data of all participants together, making the analysis process more straightforward.

When addressing qualitative interview data, we utilized the Optimal Workshop platform (Optimal Workshop Ltd, Wellington, New Zealand), which works as a qualitative research platform with various analysis tools. For this study, we processed the interview data through the Reframer analysis tool (Optimal Workshop Ltd, Wellington, New Zealand). This tool facilitates the analysis process of qualitative interview data by providing a structured framework approach, allowing for the organization of user interview responses and isolating key observations. These observations can then be extracted into meaningful themes, enabling a deeper understanding of participants' mental models (Kim et al., 2018).

Table 2. Overview of Constructs Utilized in Physiological Data Collection

Construct	Measure	Tool	Reference
Emotional Valence	Analysis of emotional valence from facial expressions.	FaceReader 8.1 software	Noldus, Wageningen, Netherlands
Emotional Arousal	Capture of phasic Electrodermal Activity (EDA).	AcqKnowledge BIOPAC software, BIOPAC MP160	BIOPAC, Goleta, USA

3.4 Data Analysis

Our data analysis process unfolded through four distinct phases: first, we utilized screen recordings to observe participants' navigation flow throughout their purchase journey. Second, we analyzed the qualitative interview data to gain insights into participants’ experiences with the purchasing process. Third, we conducted a quantitative analysis of the physiological data to

assess participants' emotional responses. Finally, we examined self-reported measures obtained from the questionnaires. This approach enabled us to draw parallels between participants' perceived and lived experiences during their purchase journey, enabling us to gain a comprehensive understanding of users' behaviours, reactions, and emotions.

We began by utilizing the session recordings from Tobii Pro Lab (Tobii AB, Stockholm, Sweden) to create a chronological, structured timeline of events, mapping participants' actions throughout the purchasing task in a structured manner. We defined three key events in the purchasing task: 1) the initial purchase decision, 2) the address validation step, and 3) the final purchase decision following the dynamic price change. These events were coded into the Tobii Pro lab timeline using three marker groups, each corresponding to one of the three events. Each group contained two markers, one indicating the start and the other indicating the end of the event, resulting in a total of six markers. (See **Figure 3**).

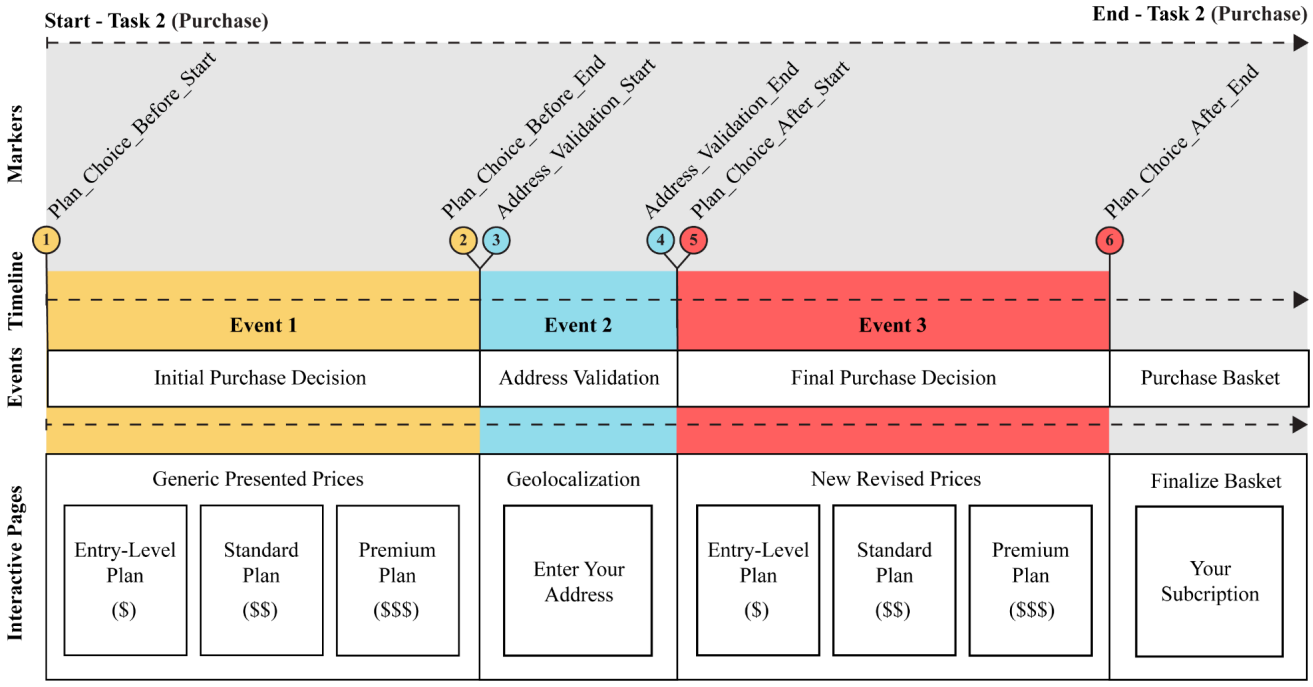


Figure 3. Participant Journey Timeline with Event Markers

To grasp a better understanding of the participant's purchase journey and their different interaction with the presented internet plans, a clickstream analysis was conducted (Wang et al., 2016). This involved analyzing the sequence of decision clicks while they navigated through the

website. Each click representing a significant user's decision was then organized and coded sequentially in an Excel sheet (Microsoft Corporation, Washington, United States). Ultimately, this allows us to track the order in which decisions were made. From there, the data was visualized via a decision tree, establishing the common pathways and helping us identify behaviour patterns.

From there, we transcribed all the interview recordings into a Word document (Microsoft Corporation, Washington, United States). Once done, each participant was integrated into the Reframer platform. We established various tag groups within the platform to reflect participants' recalled reactions and the emotions they experienced during the whole purchase journey. Using the tags facilitated categorizing and identifying patterns in participants' responses as they encountered dynamic pricing and price framing tactics throughout their purchase interaction. Subsequently, continuing to use the same structural timeline of events, we coded our observations across all three events, as well as the post-experience, in an Excel sheet. Within this analytical framework, emotional reactions to both purchase decisions and the post-experience were classified as either "positive," "indifferent," or "negative." The detection of dynamic pricing and price framing tactics associated with the address validation step and the surprise price change during the second purchase decision was classified in a binary manner, based on whether participants acknowledged noticing a price change by "yes" or "no." This approach allowed us to quantify and analyze the qualitative data, providing valuable insights into participants' behavioural patterns and perceived customer journeys.

After collecting the self-reported data from the questionnaire, we extracted the data from Qualtrics. We proceeded to clean and organize the data. To do so, we meticulously classified participants into two groups based on their awareness of the dynamic price change. This approach allowed us to conduct a descriptive analysis of the data. Subsequently, we delve into measures of central tendency, including means and standard deviation, allowing us to identify trends and behaviour patterns. From there, we compared the questionnaire results across each awareness group to track the customer experience of participants as they progressed through their purchase journey.

Using the three defined events and their markers within the structural timeline, we extracted participants' arousal and valence data to capture their emotional and cognitive state as their reactions unfolded in real-time. The data was then grouped based on participants' price awareness and exported to Excel for visualization. For each event, we calculated the mean and standard deviation of the arousal and valence data for both awareness groups. These metrics were used to create graphs that chronologically mapped participants' physiological responses, providing a clear, event-by-event representation of emotional engagement and emotional sentiment that evolved throughout the purchase journey.

Building on the analysis of the arousal and valence data, we sought to draw a meaningful correlation between the lived customer journey experience (quantitative physiological data). We perceived the customer journey experience (captured through self-reported measures and qualitative data). This comparison, conducted for both awareness groups, allowed us to identify patterns, alignments, and discrepancies between participants' lived customer journeys and perceived customer journeys. Providing a comprehensive understanding of how dynamic pricing influenced customers.

Chapter 4:
Results

4.1 Customer Journey Exploration

This section provides an overview of the participants' customer journey as they navigated the telecom website. They encountered various decision points influenced by dynamic pricing and interacted with multiple price framing components. The journey was divided into distinct phases to capture the decision-making process and the effects of the dynamic pricing strategies.

4.1.1 Mapping Customer Purchase Journeys

We analyzed the browsing recordings to trace the paths and decision clicks made by each participant during their purchase journey as they navigated through the website. Every step of their interaction was documented in a table, revealing the different paths available through the information architecture. The completed results of the clickstream analysis can be found in **Table 3** below.

Table 3. Data Trail of Participants' Purchase Journey

Participants	Navigation Path	Purchase Decision 1	Address Validation	Purchase Decision 2	Choice Comparison	Price Variation
P01	Conventional	Premium Plan	Yes	Premium Plan	Same	-5
P03	Conventional	Entry-Level Plan	Yes	Entry-Level Plan	Same	-5
P05	Conventional	Standard Plan	Yes	Standard Plan	Same	-10
P09	Unconventional	Entry-Level Plan	Yes	Standard Plan	Different	0
P11	Conventional	Entry-Level Plan	Yes	Entry-Level Plan	Same	-5
P14	Conventional	Entry-Level Plan + TV	Yes	Standard Plan+ TV	Different	+5
P15	Unconventional	Premium Plan	Yes	Entry-Level Plan	Different	-25
P16	Unconventional	Premium Plan	Yes	Premium Plan	Same	0
P18	Conventional	Standard Plan	Yes	Standard Plan	Same	0
P19	Conventional	Standard Plan	Yes	Standard Plan	Same	-10
P21	Conventional	Standard Plan	Yes	Standard Plan	Same	-10
P22	Conventional	Entry-Level Plan	Yes	Entry-Level Plan	Same	0
P23	Conventional	Premium Plan	Yes	Advanced Plan	Same	0
P24	Unconventional	Premium Plan	Yes	N/A	Different	-20

P30	Conventional	Standard Plan	Yes	Standard Plan + TV	Different	+36
P33	Conventional	Premium Plan	Yes	Premium Plan	Same	-5
P35	Conventional	Standard Plan	Yes	Standard Plan	Same	-10
P36	Unconventional	N/A	Yes	Standard Plan + TV	Different	+18
P38	Unconventional	Premium Plan	Yes	Entry-Level Plan	Different	n/a
P42	Conventional	Premium Plan + TV	Yes	Premium Plan + TV	Same	-5
P43	Conventional	Standard Plan	Yes	Standard Plan	Same	-10
P47	Conventional	Premium Plan	Yes	Premium Plan	Same	-5

When analyzing the starting point of the customer purchase journey, participants followed one of two paths: the conventional navigation path and the unconventional navigation path (see **Table 3**). Within this framework, the conventional path is defined by participants who began their purchase journey by engaging with the website header. The website header contains the main navigation menu, which is essential for guiding users through different sections of the website and helping them find the information they require. This path led them to engage with the website in a structured manner, guiding them to explore both sets of internet offerings after the subtle price change that occurred following the address validation step. Consequently, it forced participants to engage with the hidden dynamic pricing tactics implemented within the website structure.

In contrast, the unconventional path describes participants who started their purchase journey from an alternative entry point on the website, bypassing initial engagement with the website header. Without accessing the main navigation menu, these participants only interacted with one set of internet offerings, either before or after the address validation step. Therefore, these participants did not encounter dynamic pricing strategies associated with the price changes.

The study design did not initially anticipate the unconventional path, and participants were not redirected to the standardized starting point. Ultimately, 16 of the 22 participants followed the conventional path and advanced through all intended events, including the dynamic price change. The remaining 6 participants who did not encounter the price change stimuli were excluded from the analysis to ensure that only relevant data were considered in examining the effects of dynamic pricing.

After completing the clickstream analysis, we observed that the price changes included a $5 reduction for the entry-level and premium plans, while the standard plan experienced a $10 reduction. Among participants, 14 out of 16 retained their initial internet plan, experiencing a price reduction ranging from $5 to $10, depending on their original plan choice. This pattern suggests that the price reductions have enhanced the perceived value of participants' original product selection, reinforcing their decisions to keep the same plan.

4.1.2 Visualizing Decision Paths

To expand on participants' decision paths further, we used the data trail to illustrate a decision tree mapping out the various navigation choices and subsequent interactions with the internet offerings. (See **Figure 4**)

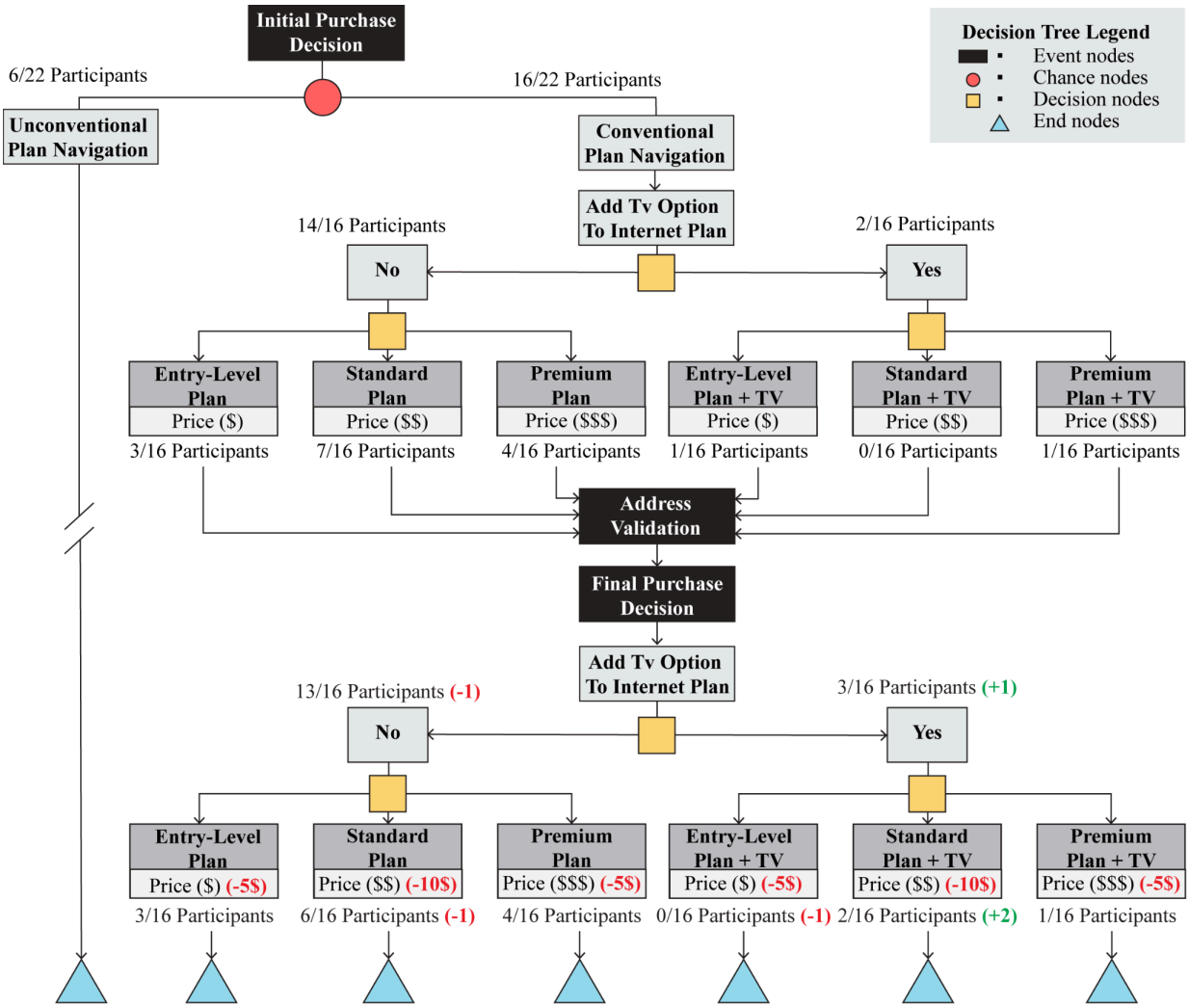


Figure 4. Navigation Path Decision Tree

During the initial purchase decision, participants who followed the conventional navigation path could choose between internet plans that either included or excluded the TV option as part of their monthly subscription. Of the 16 participants, 14 opted for the internet-only plans. Among these, 3 chose the entry-level plan, 4 selected the premium plan, and 7 opted for the standard plan, making it the most popular choice. Meanwhile, the remaining 2 participants chose to include the TV option in their internet plan. These two participants were evenly split between the entry-level + TV and premium plans + TV.

When transitioning into the final purchase decision, one other participant opted to add the TV option to his internet purchase, bringing the number of participants with TV-inclusive internet plans to 3 out of 16. Among the 13 participants who remained with the internet-only plans, 3 retained the entry-level plan, 4 retained the premium plan, and 6 retained the standard plan, keeping it the most popular option. Participant P30, who initially selected the standard plan without the TV option, upgraded to the standard plan with the TV option, joining the TV-inclusive group. Of the 2 participants who initially chose internet plans that included the TV option, one retained their original choice. At the same time, P14 upgraded from an entry-level plan with TV to the standard plan with TV.

By the end of the customer purchase journey, both of the participants who changed their initial plan upgraded to a more expensive option. Among these changes, the standard plan emerged as the most popular choice, with participants upgrading from the entry-level or upgrading to include the TV option. This trend suggests that participants are willing to upgrade their product selection if the perceived benefit counterbalances the cost.

4.2 Awareness and Responses to Price Change

To assess the impact of dynamic pricing, we examined how participants' awareness of the price changes affected their purchase responses. This involved comparing the experiences of participants who noticed the price changes with those who did not. Through a meticulous analysis of the interview data, we captured and recalled customer experiences across the customer journey, from their initial interactions to their reflections post-purchase.

To achieve this, we created a table mirroring the structural timeline of events, documenting the participants' emotional responses and awareness of the price changes. Positive

emotional responses were classified as 2, indifferent responses as 1, and negative responses as 0. The table below comprehensively assesses participants' retained feelings and perceptions of their purchase experience. To help visualize shifts in sentiment, emotional responses are colour-coded in **Table 4,** with green indicating a positive response (2), yellow an indifferent response (1), and red a negative response (0).

Table 4. Timeline of Participant Awareness and Emotional Response

Participants	Event 1	Event 2	Event 3	Post Experience
	Initial Purchase Decision	Address Validation	Final Purchase Decision	Finalized Purchase
	Response_Initial_ Decision	Address_Validation_ Awareness	Price_Change_ Awareness	Response_Final_ Purchase
P01	2	1	1	2
P03	1	1	1	2
P05	1	0	1	1
P11	0	1	1	0
P14	1	1	1	0
P18	1	0	1	0
P19	1	1	0	1
P21	2	0	0	2
P22	2	0	0	2
P23	1	0	0	2
P30	0	0	0	1
P33	0	0	0	0
P35	2	0	0	2
P42	2	0	0	2
P43	2	0	0	2
P47	2	0	0	2
	Positive (2) = 7	Yes(1) = 5	Yes (1) = 6	Positive (2) = 9
	Indifferent (1) = 6	No (0) = 11	No (0) = 10	Indifferent (1) = 3
	Negative (0) = 3			Negative (0) = 4

4.2.1 Awareness of Price Change

Based on their interview responses, participants were classified as either aware or unaware of the price change. Each participant was individually analyzed, and those who explicitly mentioned or acknowledged noticing a change in price were categorized as price change aware. This assessment determined that 6 out of 16 participants were aware of the price change, while the remaining 10 were unaware of any changes (see **Table 4**). This classification allowed us to differentiate clearly between the two groups, providing a foundation for analyzing the differences in participants' customer experiences in response to dynamic pricing.

Participants' perceptions of the price changes differed distinctly between the aware and unaware groups. Among the 6 participants who noticed the price change, all acknowledged noticing a difference in price at some point during the purchase process. For instance, P01 mentioned, " I have the impression that my address and the price have gone down. Instead of $70, it was $65, so I didn't understand why it went down, but it convinced me to continue," indicating awareness of the price change but also showing acceptance of the lower price. P11 further elaborated on the price changes and their complexity, stating, "It's different from the price you're offered at the start, which changes when you enter your address, and then it's another price again when you make the final purchase. That's a bit complex." This sentiment of complexity was reiterated by P14, who noted, "Among other things, and we already have this when you select the address and the offer changes in relation to the offer on the screen, it already gives me questions about customer service for me, about why it's different from the initial price." These quotes illustrate that participants in the aware group recognized the price changes and expressed uncertainty about the reasons behind the fluctuating prices.

4.2.2 Perceived Confusion During the Purchasing Task

During the purchasing task, 12 out of 16 participants experienced some degree of confusion regarding the information available to help participants in their purchasing process. This confusion stemmed from unclear pricing details and a lack of clarity in the information required to make an informed purchase decision.

Among the price change-aware participants, all 6 participants reported confusion. P05 shared," By the way, I didn't quite understand everything; I mean, because there are different

prices presented when I first clicked on it, it said $50 a month, then I guess $50 included the $12." Additionally, P03 explained, "That wasn't clear at first. I had to play with parameters to see if the price changed, and when I saw that it was included, I was satisfied.". These quotes highlight the challenges the price change-aware participants faced in interpreting the dynamic pricing details.

In the price change-unaware group, 6 out of 10 participants also reported a sentiment of confusion, even though they were unaware of the price change. Their confusion stemmed from difficulties understanding the information available on the website. P21 noted, "When I understood all the details and the discount, it wasn't clear [...] I would have had to spend more time unpacking it all or call to chat." The remaining 4 participants did not report any confusion.

4.2.3 Behavioural Responses to Price Changes

Participants' emotional responses to their purchase decisions evolved differently depending on their awareness of the price change, reflecting their perceived customer experience as captured through the interview data. To better understand these changes, we categorized participants into their respective awareness groups in **Table 5** below. We compared their self-reported emotional responses before and after the dynamic price change. **Figure 5** visually presents these response results.

Table 5. Emotional Responses to Purchase Decisions by Awareness of Price Change

Groups	**Response to Initial Purchase Decision**			**Response to Final Purchase Decision**		
	Positive	Indifferent	Negative	Positive	Indifferent	Negative
Price Change Aware Participants (6 px)	1	4	1	2	1	3
Price Change Unaware Participants (10 px)	6	2	2	7	2	1
	7	6	3	9	3	4

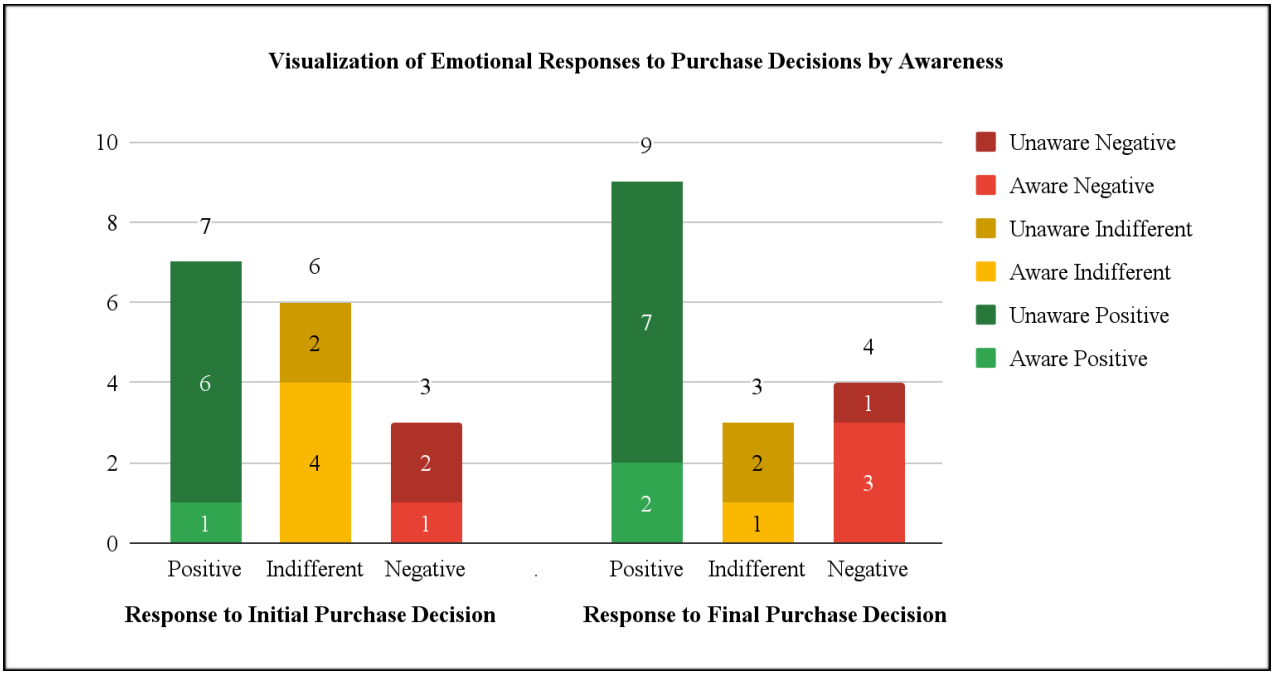


Figure 5. Visualization of Emotional Responses to Purchase Decisions by Awareness

For the price change-aware group, there was an essential shift in emotional responses from the initial purchase decision to the final purchase decision. Initially, 4 out of 6 participants were indifferent to the internet offers presented to them, while one expressed a positive response and the other a negative response. By the final purchase decision, after encountering the dynamic pricing, the reactions had shifted. Positive responses increased to 2, and negative responses increased to 3, while only one participant remained indifferent. This suggests that awareness of the dynamic price change led participants to reassess their purchase decision more critically, resulting in more pronounced positive and negative emotional reactions.

In contrast, the participants of the unaware group exhibited a more consistent emotional response pattern throughout the Internet purchase process. Initially, 6 participants had a positive response, 2 were indifferent, and 2 expressed negative emotions regarding the initial purchase decision. By the final purchase decision, the number of positive responses increased to 7, while the indifferent group remained at 2, and the number of negative responses fell to 1. This stable

pattern suggests that participants were unaware of the price change and generally kept the same positive perceptions of their purchase as they advanced through the purchase process.

When examining the combined results from both groups, the most noticeable changes occurred in the indifferent category. Initially, there were 6 participants who felt indifferent about the price changes. By the end of the purchase journey, this number had dropped to 3, indicating an essential shift in emotional responses. Specifically, of the original 6 indifferent participants, 1 became positive, 2 remained indifferent, and 3 transitioned to a negative response. This means that half of those who were indifferent eventually became negative. This highlights that indifferent participants were particularly susceptible to the impact of dynamic pricing.

However, positive and negative responses showed more stability. All 7 participants who were initially positive remained throughout the process. The number of participants with positive responses increased by 2, resulting in a total of 9 participants having a positive response by the end of the purchase journey, representing a majority of participants. For negative responses, 2 of the 3 participants stayed negative, while the other participant became indifferent, resulting in a total of 4 negative responses.

These findings indicate that participants who initially held a positive or negative view were less affected by the dynamic pricing, demonstrating a certain stability in their emotional responses. In contrast, those who had an indifferent stance before the address validation event were more susceptible to the effect of dynamic pricing, with half ultimately shifting to a negative response. This suggests that dynamic pricing had a greater influence on indifferent participants since they were still undecided.

4.2.4 Product Selection Outcome

This section provides a detailed comparison between participants who were aware of the price change and those who were not, highlighting the differences in their product selection behaviours, changes in internet service options, and adjustments in their payment commitment associated with the price reductions. **Table 6** below summarizes the variations in product selection outcomes between the two groups, illustrating how price awareness influenced participants' decision-making, while **Figure 6** visually presents these results.

Table 6. Product Selection Outcome Based on Price Awareness

Groups	Internet Plan Selection Changes			Payment Commitment Changes		
	Same Plan Selection	Plan Upgrade	Plan Downgrade	Same Payments	Increase Payments	Decrease Payments
Price Change Aware Participants (6 px)	5	1	0	1	1	4
Price Change Unaware Participants (10 px)	9	1	0	2	1	7

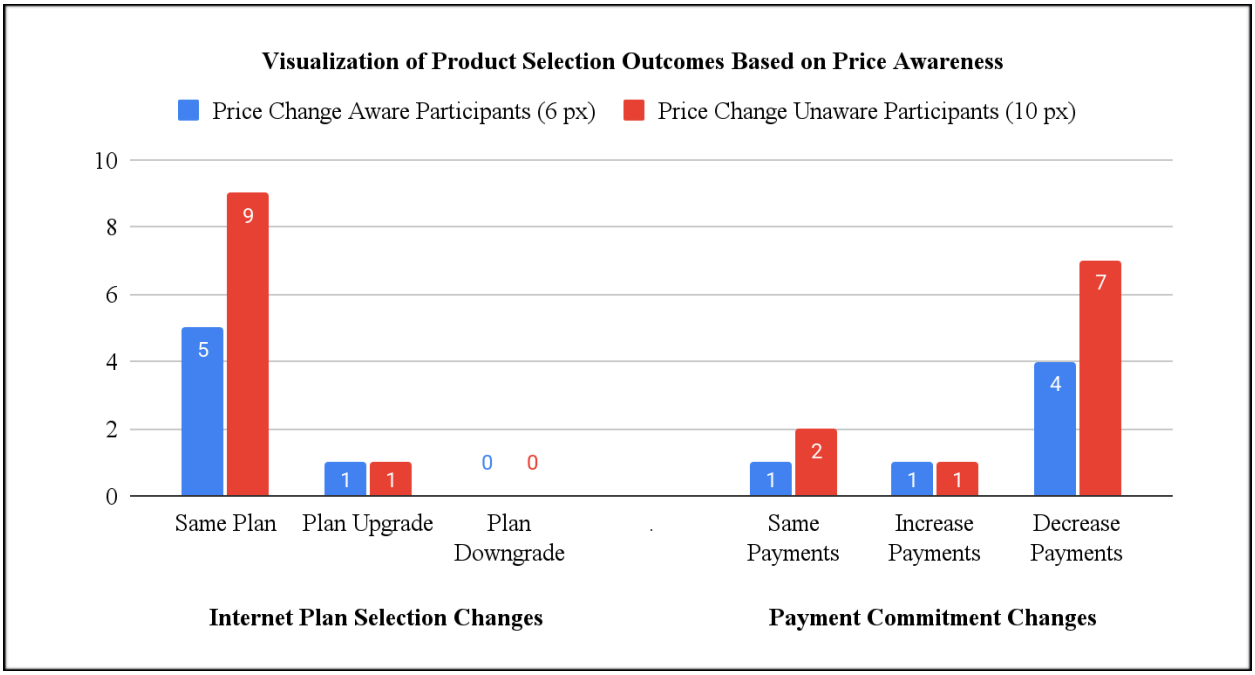


Figure 6. Visualization of Product Selection Outcomes Based on Price Awareness

Among the 6 participants who noticed the price change, 5 decided to retain their originally selected internet plan, while 1 opted to upgrade their plan by adding additional services. Similarly, of the 10 price change unaware participants, 9 retained their original choice, with only 1 choosing to upgrade. Notably, none of the 16 participants downgraded their selected internet plan services in both groups. Overall, this suggests that participants found their initial product selection to meet their everyday needs effectively. While 2 participants were willing to

upgrade their internet plans, none opted to reduce their service levels, indicating general satisfaction with their initial choices.

Following the changes in payment commitment from the dynamic price changes, of the 6 participants who noticed the price changes, 4 saw a decrease in their payment commitments. In contrast, 1 participant increased their payment commitment due to their added services, and another saw no changes in their payment. Similarly, of the 10 participants who did not notice the price change, 7 chose to reduce their payment, 2 saw no changes in their payment, and only 1 opted to increase their payment commitment due to added services. All in all, this suggests that regardless of price awareness, the majority of participants in both groups opted to lower their monthly costs.

4.3 Customer Experience Along the Journey: Arousal and Valence Analysis

This section presents the physiological data collected during the purchasing task, focusing on participants' valence and arousal responses across all three events in their customer purchase journey, including the address validation event, which featured the dynamic price change. The results are presented based on whether participants were aware of the price change, highlighting how the overall purchasing experience differed between the two groups in terms of their lived customer experience.

4.3.1 Lived Valence Across Purchase Events

The following analysis presents the differences in valence, measuring the degree of emotional positivity or negativity experienced by participants across all events of the customer purchase journey, highlighting the difference between the awareness groups. Detailed metrics such as mean and standard deviation are summarized in **Table 7**, while **Figure 7** visually presents these results.

Table 7. Progression of Valence During the Customer Purchase Journey

Groups	Events	Mean Valence	Std Dev Valence
Price Change Aware Participants (6 px)	Initial Purchase Decision (Event 1)	-.187	.137
	Address Validation (Event 2)	-.217	.117
	Final Purchase Decision (Event 3)	-.169	.083
Price Change Unaware Participants (10 px)	Initial Purchase Decision (Event 1)	-.110	.142
	Address Validation (Event 2)	-.102	.100
	Final Purchase Decision (Event 3)	-.008	.192

The price change-aware participants show a noticeable shift in valence throughout their purchasing journey. At the initial purchase decision, the mean valence starts at -.187 and decreases to -.217 during the address validation, suggesting an increase in negative emotions as participants progressed in their purchase journey. However, this trend is slightly reversed by the final purchase decision, where we observe an improvement in the mean valence at -.169, indicating a positive response by the end of the purchasing process. Please refer to **Figure 7**.

Additionally, the decreasing standard deviation from .137 in the initial decision to .083 in the final purchase decision indicates that participant responses became more consistent as they progressed in their purchase journey.

The price change, unaware participants started their purchase journey with a less negative mean valence during the initial purchase decision, at -.110, compared to the price-aware group. As participants progressed, the valence slightly decreased to -.102 by the address validation but notably improved to -0.008 by the end of the final purchase decision. This reflects an increase in positive responses between each event, indicating a trend toward a more positive purchasing process. Please refer to **Figure 7**.

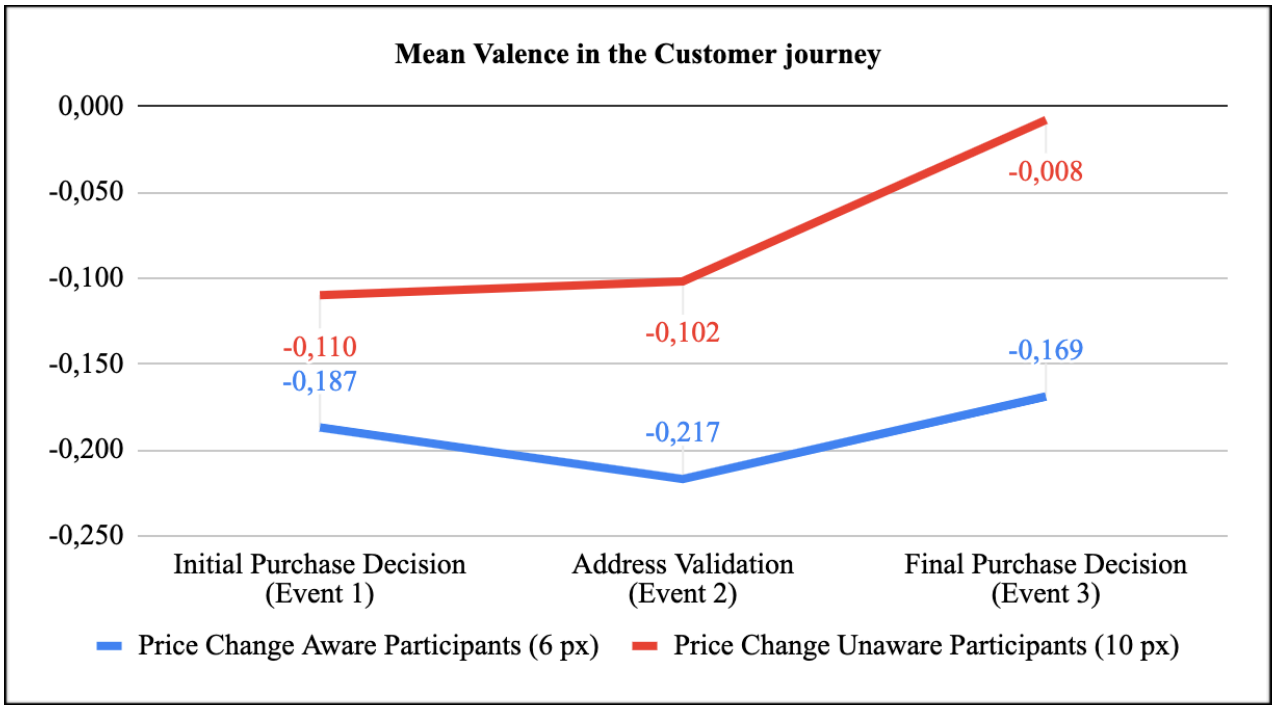


Figure 7. Mean Valence in the Customer Journey

Based on the valence data depicted in **Figure 7**, the emotional experiences of the aware and unaware groups of the price change group reveal contrasting patterns throughout the purchasing journey. Price change-aware participants experienced a dip in valence during the address validation (-.187 to -.217), with a partial recovery by the end of the final purchase decision. In contrast, price change-unaware participants maintained a steadier trajectory, improving from -.110 initially to -.008 by the end of the final purchase decision. This suggests that participants unaware of the price change ended the purchase journey in a more positive emotional state compared to the price change-aware group. Overall, the comparison highlights that while price change-aware participants showed greater emotional fluctuations, price change-aware participants experienced a gradual increase in positivity, leading to a more favourable outcome by the end of the purchasing journey.

To allow for full statistical comparisons, missing valence values were replaced using group-level means per event. This approach was used to preserve the sample size while maintaining the overall group structure. A Friedman test ($\alpha = .05$) was then used to examine how valence levels changed across the three key events of the purchase journey. For the price

change-aware group, there was no significant change in valence across events, χ^2 (2) = 3.000, p = .223. For the price change-unaware group, the difference approached significance in valence, χ^2 (2) = 5.600, p = .061, suggesting a possible shift in emotional state over the course of the purchase process.

To compare both groups at each stage of the customer journey, a Mann-Whitney U test was conducted (α = .05). At the start of the initial purchase decision (Event 1), there was no significant difference, U = 18.000, p = .212, r = .330. By the address validation (Event 2), a significant difference emerged, U = 10.000, p = .033, r = .540, with the unaware group reporting more positive emotions. The difference remained significant at the final purchase decision (Event 3), U = 6.000, p = .011, r = .650. These results suggest that participants who noticed the price change ended the journey feeling less positive, while those who did not notice the price change had a more positive experience overall.

4.3.2 Lived Arousal Across Purchase Events

This section analyzes the differences in arousal, representing the intensity of emotional engagement experienced by participants across all the stages of the customer purchase journey, comparing both awareness groups. Key metrics, such as mean and standard deviation, are summarized in **Table 8**, while **Figure 8** provides a visual representation of these findings.

Table 8. Progression of Phasic EDA During the Customer Purchase Journey

Groups	Events	Mean Arousal	Std Dev Arousal
Price Change Aware Participants (6 px)	Initial Purchase Decision (Event 1)	.029	.021
	Address Validation (Event 2)	.050	.062
	Final Purchase Decision (Event 3)	.061	.041
Price Change Unaware Participants (10 px)	Initial Purchase Decision (Event 1)	.277	.208
	Address Validation (Event 2)	.489	.796
	Final Purchase Decision (Event 3)	.240	.285

The price change-aware participants demonstrated a small, gradual increase in arousal levels as they progressed through the purchasing journey. During the initial purchase decision, the mean arousal was .029, increased to .050 after completing the address validation step, and increased to .061 after completing the final purchase decision. This progression indicates an escalation in the emotional engagement of participants as they progressed through each event. Please refer to **Figure 8**.

Furthermore, the standard deviation starts at .021 during the initial purchase, increases to .062 during the address validation step, and decreases to 0.041 after completing the final purchase, suggesting that participants showed more emotional variations during the address validation step.

The price change, unaware participants' mean arousal levels demonstrate an intensified emotional journey throughout the purchasing process. Compared to the price change-aware group, the price change-unaware group started with an elevated mean arousal of .277 during the initial purchase decision. The mean increased to .489 during the address validation step, marking the second event as the peak emotional response for participants. However, the mean arousal declined to 0.240 by the final purchase decision, indicating a reduction in emotional intensity as the price-unaware participants completed their purchase. Please refer to **Figure 8**.

The standard deviation for arousal starts at .208 during the initial purchase decision, with participants responding with some moderate variability. Following the address validation step, we see the standard deviation rise to .796, showing that participant responses for this group were highly divergent. This divergence in responses slightly reduces to .285 by the final purchase decision, suggesting more uniform responses by the end of the purchase journey.

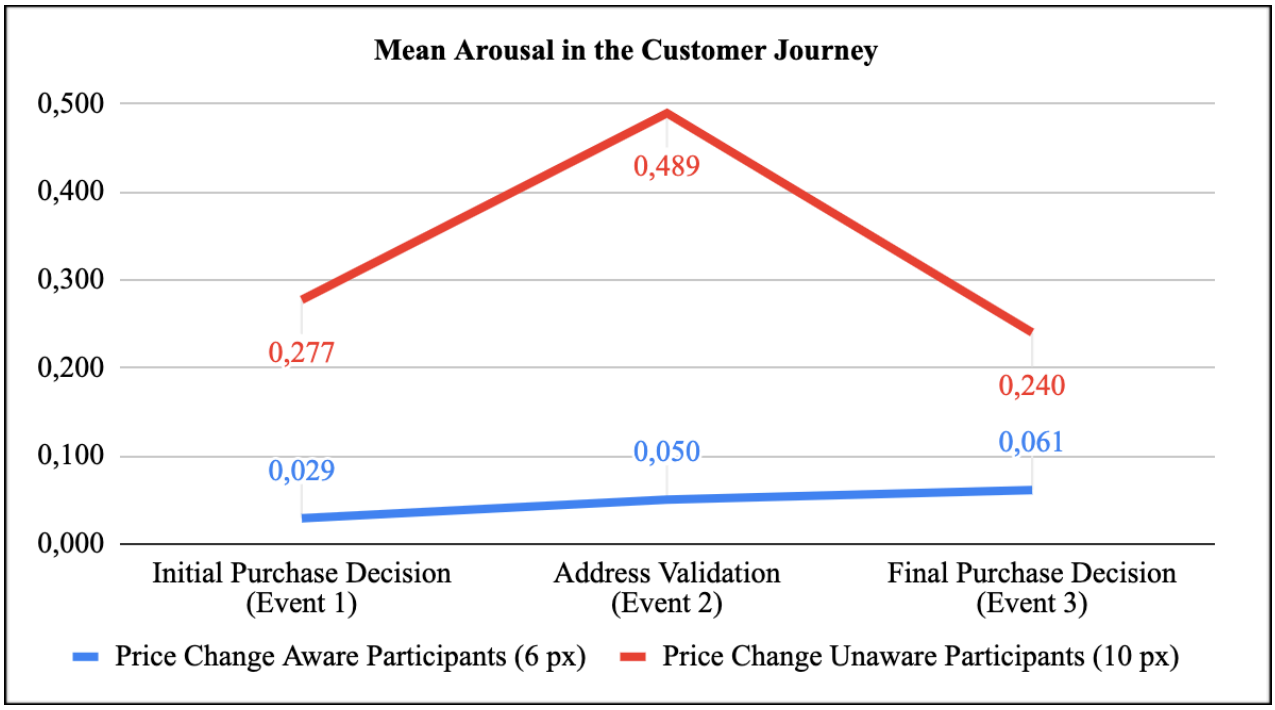


Figure 8. Mean Arousal in the Customer Journey

Based on the arousal data depicted in **Figure 8**, the emotional engagement of price change-aware participants and price change-unaware participants reveals contrasting dynamics throughout the purchasing journey. Price change-aware participants showed a gradual increase in arousal from .029 to .061 by the final purchase decision, indicating a steady increase in emotional engagement. In contrast, price change-unaware participants experienced a sharper shift, beginning with a higher arousal level of .277, peaking at .489 during the address validation and dropping to .240 by the final purchase decision, reflecting a more intense and fluctuating emotional experience. This suggests that participants unaware of the price change experienced heightened emotional peaks, particularly during the address validation, compared to the more stable engagement of the price change-aware participants. Overall, the price-aware group showed a more controlled emotional engagement, while the unaware group experienced noticeable spikes, reflecting sensitivity to the address validation event.

To support full statistical comparisons, missing arousal values were replaced using the mean score of each group for the corresponding events. This method helped preserve the full sample and maintain consistency across comparisons. A Friedman test (α = .05) was conducted

to examine changes in arousal across the three events of the purchase journey. Results showed no significant changes over time in either the price change-aware group, χ^2 (2) = 2.330, p = .311, or the price change-unaware group, χ^2 (2) = 2.600, p = .273.

A Mann-Whitney U test (α = .05) was conducted to compare arousal levels between groups at each stage of the customer journey. During the initial purchase decision (Event 1), the price change-unaware group exhibited significantly higher arousal than the price change-aware group, U = 3.000, p = .004, r = .730. This pattern remained consistent at the address validation (Event 2) stage, U = 4.000, p = .005, r = .710, and during the final purchase decision (Event 3), U = 11.000, p = .044, r = .520. These findings suggest that while the price change-aware group maintained a steadier level of engagement, the price change-unaware group reacted more strongly throughout the journey, especially as they moved closer to the final purchase decision.

4.4 Self-Reported Measurements

We analyzed the self-reported measures collected after participants completed the purchase task to gain a comprehensive understanding of their experiences with dynamic pricing. These results provide insights into participants' perceptions, emotions, and intentions regarding the website after making an informed decision. Participants were grouped based on their awareness to better understand the differences in their customer experience.

4.4.1 Net Promoter Score (NPS)

This section presents the NPS scores for both price-aware and price-unaware participants, underlining any differences in their overall satisfaction and loyalty after completing their internet purchase. See **Table 9** below for the results.

Table 9. Net Promoter Score (NPS)

Groups	Task	Mean Score	Standard Deviation
Price Change Aware Participants (6 px)	Purchase (T2)	-33.00	2.811
Non-Price Change Aware Participants (10 px)	Purchase (T2)	30.00	1.135

The price change-aware group reported a mean NPS of -33, positioning their customer experience within the needs improvement category. This negative score indicates a generally dissatisfied sentiment, which can be attributed to their awareness of dynamic price changes. The group included 1 promoter, 2 passives, and 3 detractors, showing that the majority of participants had a negative or neutral perception of their experience.

The price change-unaware group obtained a mean NPS of 30, positioning their customer experience within the good category. This score suggests a more favourable customer experience, as participants were unaware of the price change. The breakdown of the price-unaware group shows 4 promoters, 5 passives, and 1 detractor, which shifted the balance toward a more positive outcome. The higher number of promoters and passives and the only detractor contributed to the positive mean score.

A Wilcoxon rank test ($\alpha = .05$) indicated a significant difference in NPS scores between the two awareness groups: $U = 18.000$, $p = .031$, $r = .330$. Participants unaware of the price change were more likely to recommend the service, whereas those who were aware of the price change had lower NPS scores. This suggests that awareness of the price change may negatively affect brand advocacy.

4.4.2 Customer Effort Score (CES)

The following section details the CES scores for both price-aware and price-unaware participants, highlighting the differences in the perceived effort required by participants to complete the purchasing task. See **Table 10** below for the results.

Table 10. Customer Effort Score (CES)

Groups	Task	Mean Score	Standard Deviation
Price Change Aware Participants (6 px)	Purchase (T2)	2.500	1.378
Non-Price Change Aware Participants (10 px)	Purchase (T2)	2.300	1.160

The price change-aware group reported a mean CES of 2.500, indicating a moderate level of effort perceived during the purchasing task. The standard deviation of 1.378 suggests some variability in the perceived effort among participants' responses.

Similarly, the price change-unaware group had a mean CES of 2.300, indicating a comparable level of perceived effort to that of the price change-aware group. The standard deviation of 1.160 suggests slightly less variability for this group, but overall, both groups displayed comparable levels of effort. This suggests that awareness of the price had little impact on how challenging participants found the purchasing process.

To determine whether this difference was statistically meaningful, a Mann-Whitney U test was conducted (α = .05). The results revealed no significant difference between the two groups' CES scores, U = 32.500, p = .823, r = .070, supporting the observation that perceived effort did not vary substantially based on price awareness.

4.4.3 Informational Fit-to-Task (WebQual)

The fit-to-task scores provide insight into how participants perceived the effectiveness of the information available on the telecom website in supporting their purchasing process. **Table 11** below presents these scores, comparing the customer experience of both the price change-aware group and the price change-unaware group to highlight any differences in how effective participants found the information.

Table 11. Informational Fit-to-Task Scores (WebQual)

Groups	Task	Mean Score	Standard Deviation
Price Change Aware Participants (6 px)	Purchase (T2)	5.333	1.116
Non-Price Change Aware Participants (10 px)	Purchase (T2)	5.633	.895

The price change-aware group reported a mean Fi-to-Task score of 5.333, suggesting that participants felt that the website was moderately effective in helping them complete their

purchase task. The standard deviation of 1.116 shows some variability in responses, suggesting mixed experiences within the group.

The price change-unaware group had a slightly higher mean score of 5.633, which suggests that participants in this group found the websites to be somewhat more effective for this task. The standard deviation for this group was .895, indicating less variability in responses compared to the price change-aware group.

Overall, both awareness groups rated their perception of the information positively, with only minor differences between them. The higher mean and lower standard deviation of the price change-unaware group suggest that the telecom website's information has a more consistent customer experience during the purchasing process.

To evaluate whether the difference in informational fit-to-task scores between awareness groups reached statistical significance, a Mann-Whitney U test was conducted (α = .05). The analysis revealed no significant difference between the price change-aware and the price change-unaware groups, U = 22.500, p = .440, r = .200, supporting the interpretation that participants' perception of the information's usefulness was not meaningfully influenced by their awareness of the price change.

4.4.4 Tracking Arousal Across Awareness Groups

The effective slider was used to measure participants' perceived intensity of emotional engagement, or arousal, after completing the purchase task. This assessment helps us understand the emotional activation experienced by participants in response to the purchasing process. **Table 12** illustrates the arousal scores in both awareness groups.

Table 12. Arousal Levels Measured by Affective Slider

Groups	Task	Mean Score	Standard Deviation
Price Change Aware Participants (6 px)	Purchase (T2)	54.833	21.858
Non-Price Change Aware Participants (10 px)	Purchase (T2)	57.200	21.275

The price change-aware group had a mean arousal of 54.833, indicating a moderate level of perceived emotional intensity following the purchase task. The standard deviation of 21.858 reflects a considerable variability in emotional engagement among participants in this group.

The price change-unaware group revealed a slightly higher mean arousal score of 57.200, indicating marginally stronger emotional engagement during the purchase task. The standard deviation for the unaware group was 21.275, which, while lower for this group, still indicates considerable variability in perceived emotional intensity.

Overall, both awareness groups experienced similar levels of arousal. The slightly higher arousal score of the price change-unaware group, along with comparable variability across both groups, suggests that participants had mixed levels of emotional engagement after completing the purchase task.

A Mann-Whitney U test (α = .05) was performed to assess if the difference in arousal levels between the two groups was statistically significant. The analysis revealed no significant difference between the price change-aware and the price change-unaware groups, $U = 28.500$, $p = .913$, $r = .040$, indicating that participants' awareness of the price change did not significantly influence how emotionally intense they perceived the purchasing experience to be.

4.4.5 Tracking Valence Across Awareness Groups

The effective slider was used to capture valence, indicating the level of positive and negative emotions participants experienced after the purchase task. This measure allowed us to understand their overall perceived emotional stance. **Table 13** below shows the valence scores for both awareness groups.

Table 13. Valence Levels Measured by Affective Slider

Groups	Task	Mean Score	Standard Deviation
Price Change Aware Participants (6 px)	Purchase (T2)	51.167	16.881
Non-Price Change Aware Participants (10 px)	Purchase (T2)	57.900	18.357

The price change-aware group had a mean valence score of 51.167, indicating a somewhat positive overall emotional experience. However, the standard deviation of 16.881 points to notable variability in individual responses, indicating diverse emotional experiences within the group.

The price change-unaware group reported a higher mean valence score of 57.900, reflecting a more positive emotional state for the purchase task. The standard deviation of 18.357 reveals that there was still notable variability in participants' emotional responses.

Overall, both awareness groups had moderate positive emotional experiences, with the price change-unaware group reporting somewhat higher levels of positivity. Despite this, both groups exhibited considerable variability, suggesting that participants' emotional responses to the purchasing experience were mixed, regardless of their awareness status.

To determine whether the difference in the level of valence scores was statistically significant, a Mann-Whitney U test ($\alpha = .05$) was performed. The result was not significant, $U = 26.500$, $p = .745$, $r = .090$, suggesting that awareness of the price change did not impact how positively or negatively participants felt about their user experience after completing the purchasing task.

4.4.6 Measuring Purchase Confidence

Participants' confidence in their purchase decision was assessed to better understand their level of certainty after the purchase task. This analysis provides insights into how price awareness influences participants' level of confidence in their purchase decisions. **Table 14** below compares the confidence scores of the price change-aware and the price change-unaware participants, highlighting differences in their post-decision confidence between the two groups.

Table 14. Post-Purchase Confidence Scores

Groups	Task	Mean Score	Standard Deviation
Price Change Aware Participants (6 px)	Purchase (T2)	7.833	1.602
Non-Price Change Aware Participants (10 px)	Purchase (T2)	8.200	1.398

The price change-aware group results reported a mean confidence score of 7.833, suggesting a fairly high confidence level in their purchase decision. The standard deviation of 1.602 suggests moderate variability in confidence level, with some participants feeling more or less confident than others.

The price change-unaware group showed a slightly higher mean confidence score of 8.200, reflecting strong confidence in their purchase decision. The standard deviation of 1.400 indicates less variability compared to the price change-aware group, suggesting that participants had a generally consistent confidence level.

Generally, both awareness groups expressed relatively high confidence in their purchase decisions, with the price change-unaware group showing moderately higher average confidence and greater consistency in their responses than the price change-aware group.

To determine whether post-decision confidence significantly differed between the two awareness groups, a Mann-Whitney U test (α = .05) was conducted. The results were not statistically significant, U = 25.000, p = .612, r = .140, indicating that participants' awareness of the price change did not affect their confidence in their choices.

4.5 Synthesis of Customer Experience Results

This section synthesizes the customer experience results by contrasting the experiences of the price change-aware and the price change-unaware groups. Exploring how dynamic pricing influenced their emotional, behavioural, and perceptual responses while highlighting the key differences and similarities in customer journeys.

4.5.1 Experience of the Price Change-Aware Group

The price change-aware group participants exhibited heightened sensitivity to dynamic pricing, shaping their engagement and decision-making processes. This awareness introduced perceived complexity and confusion, significantly shaping their emotional and behavioural responses to their purchasing process. It triggered emotional fluctuations that included positive

and negative shifts, as reflected in the valence scores. These emotional shifts heightened their growing confusion and skepticism toward the fairness and transparency of the price changes.

The perception of complexity deepened as the purchase journey progressed, prompting participants to adopt a more cautious purchasing approach. These sentiments were echoed in the qualitative feedback, where all participants of this awareness group expressed their confusion about the price and its additional purchasing implications. Behavioural data supported this narrative, with 5 out of 6 participants retaining their initial plan selection despite the additional savings from the price reduction. Only one participant upgraded their selection, while the others retained their plan. This may indicate that the subtle nature of the price change or the additional cognitive effort required to re-evaluate options limited participants' willingness to adjust their decision.

As a result, arousal levels steadily increased across the purchase journey, reflecting increased emotional engagement. This rise in arousal aligns with participants' ongoing awareness of the price change. Valence scores partially recovered by the final purchase decision, indicating some resolution to the initial skepticism in their lived customer experience. However, their perceived and remembered customer experience, as captured by the self-reported measures scores, suggested a less favourable customer experience. The lower NPS score and the Post-Decision Confidence scores underscored the lasting impact of perceived complexity and fairness concerns. All in all, the price change-aware group customers' journey highlighted how dynamic pricing can trigger heightened emotional responses and a more cautious approach to decision-making

4.5.2 Experience of the Price Change-Unaware Group

In contrast, the price change-unaware group experienced a much smoother and more straightforward purchasing journey. Without recognizing the dynamic pricing changes, participants focused on evaluating the service and its features, thereby facilitating a more seamless decision-making process. Despite not recognizing dynamic pricing, 6 out of 10 participants also reported lingering confusion about pricing complexity, indicating that certain aspects of the information design could have created subtle uncertainties. Overall, their emotions

were predominantly positive, with valence scores steadily improving from the initial purchase decision to the final purchase decision, reflecting a general sense of satisfaction.

Physiological data revealed that arousal levels for this group peaked during the address validation step, signifying heightened focus and engagement. However, engagement levels dropped during the final purchase decision, as indicated by the declining arousal, suggesting a decrease in emotional investment and attentiveness at this stage. This trend, combined with progressively improving valence scores, reflects a steady resolution to the decision-making process. The subsequent decline of arousal levels during the final purchase decision suggests diminishing engagement and attentiveness as participants finalized their choice of internet plan. Despite this, the lack of perceived pricing manipulations ensured that participants could complete their purchase with emotional stability and the perception of a transparent customer experience.

Self-reported measures collected after the purchasing process confirmed the positive outcome for this group, demonstrating their trust and satisfaction with the overall customer experience. The lack of awareness of the dynamic pricing resulted in higher NPS scores and increased Post-Decision Confidence scores, reflecting a stronger sense of clarity and trust in the decision-making process. Consequently, the absence of dynamic pricing awareness allowed participants to perceive the purchasing process as transparent and straightforward, thereby fostering trust and enhancing overall customer satisfaction.

4.5.3 Key Differences and Similarities Between Groups

The synthesis reveals that awareness of dynamic pricing significantly influenced the customer experience, introducing perceived complexity and emotional variability among participants aware of price changes. Although statistical analyses of the self-reported measures did not show significant differences between groups, interviews revealed that price change-aware participants described heightened emotional engagement and cautious decision-making, contrasted with the smoother, more stable customer journey experienced by the participant group unaware of price changes.

Behaviorally, 14 out of 16 participants across both groups retained their original plan selection, even after encountering price reductions. This suggests that the price reductions were

not perceived as substantial enough to warrant a change, indicating that participants prioritized the overall value and suitability of their initial choice rather than being influenced by the financial incentive offered by the price reductions. Their decision to remain with their original selection indicates a sense of confidence and satisfaction, where the familiarity and reliability of their initially selected plan outweighed the potential benefits associated with changing the plan. This behaviour reflects a potential anchoring effect, where the initial selection anchors participants' preferences, even when new and more favourable options are introduced.

While both groups expressed satisfaction with the service offering, the price change-aware group exhibited a more complex customer experience. They faced trade-offs between transparency and engagement, as concerns over fairness and complexity added cognitive strain. In contrast, the price change-aware participants group experienced a more seamless and straightforward purchasing process.

These findings highlight that dynamic pricing did not significantly alter self-reported emotional or cognitive responses but shaped how participants interpreted the navigated customer journey. The distinction between the two groups emerged more clearly in the qualitative data, where price change-aware participants expressed greater skepticism and emotional tension in response to the price change. This suggests that the influence of dynamic pricing is not always reflected in quantitative measures but can emerge in how users process, evaluate, and ultimately make sense of their purchasing experience after the journey is complete.

Chapter 5:
Discussion

This chapter explores how subtle dynamic pricing impacts customers' online purchase journeys, decision-making, emotions, and brand perceptions. Small price reductions introduced during the purchase process tended to reinforce participants' initial plan selection rather than prompting reconsideration, with 14 out of 16 participants remaining with their initial choice after the price drop. However, awareness of the price change induced emotional complexity and cognitive strain, actively shaping participants' customer journeys. The 6 participants who noticed the price change exhibited fluctuating emotional responses characterized by increased arousal and declining valence at key stages. These responses reflected confusion, skepticism, and diminished trust. While both groups reported similarly high confidence in their final purchase decisions, their NPS scores revealed a clear divide. Unaware participants had a smoother, more positive journey and had a higher NPS score, indicating a greater willingness to recommend or engage with the brand in the future. In contrast, aware participants had lower NPS scores, suggesting diminished brand advocacy. These findings suggest that while subtle dynamic pricing can reinforce decision confidence when unnoticed, consumers' awareness of such tactics can complicate user experience, guide skepticism, and reduce brand loyalty.

5.1 Theoretical Contributions

This section presents the main theoretical contributions of the research, each addressing a specific aspect of how dynamic pricing influences consumer behaviour during an online purchase journey.

5.1.1 Anchoring Effect in Dynamic Pricing Context

This study offers insight into how early price exposure can continue to shape consumer decisions even in a context where pricing evolves dynamically. Prior research on anchoring theory suggests that consumers rely on their initial exposure to prices as a benchmark for evaluating subsequent offers (Simonson & Drolet, 2004; Zong & Guo, 2022). Despite presenting a price reduction right after the address validation step, 14 out of 16 participants chose to stick to their originally selected plan, suggesting that the first price encountered influenced their

perception of subsequent offers. Once a preference is formed, it tends to remain stable, even when confronted with new, favourable information. Rather than prompting reevaluation, the lower price appeared to reinforce the original decision, acting as a signal of increased value rather than an invitation to change. The results provide evidence that anchoring effects persist even in dynamic pricing environments, where prices shift within the same purchase journey. Showing that anchoring remains powerful not only in stable settings but also in online journeys with real-time price changes, where first impressions continue to shape final decisions.

5.1.2 Fairness Perception and Price Reductions

This study adds nuance to theories of price fairness and brand trust by focusing on price reductions rather than the more commonly studied price increases. While prior research acknowledges that price decreases are generally perceived positively as good deals or acceptable promotions, it also highlights that disparities in how these reductions are applied across consumers can trigger strong perceptions of unfairness (Bolton et al., 2003; Xia et al., 2004). Expanding on this, the current findings reveal that even objectively beneficial price decreases can create interpretive confusion when the change is perceived without a clear rationale. Participants who became aware of the price drop expressed slightly lower post-decision confidence and decreased advocacy, as captured through the interviews and Net Promotor Scores (Reichheld, 2003). These reactions indicate that fairness perceptions are influenced not only by the outcome of the price change but also by how transparently and coherently it is introduced. The results indicate that price reductions are not universally perceived as positive. Instead, their reception heavily depends on the clarity with which they are introduced, reinforcing the importance of transparency and perceived procedural fairness in shaping how pricing strategies are experienced. These insights enrich theories of price fairness by highlighting awareness as a key mediating factor that decides whether dynamic pricing tactics enhance or undermine customer experience.

5.1.3 Navigation Paths and Exposure to Pricing Strategies

The findings suggest that information architecture, specifically the structure and sequence of navigation paths within an online purchase journey, is critical in shaping how consumers experience dynamic pricing strategies. While previous research has examined aspects of online navigation and accessibility of price information (Lynch & Ariely, 2000; Mazumdar et al., 2005),

less attention has been given to how layout and flow of a website can determine user exposure to pricing strategies such as dynamic price adjustments. In this study, only participants who followed the conventional navigation path, interacting with the main home page header and its filters, encountered price changes and related framing tactics. In contrast, those who followed the unconventional paths often bypassed the stimuli. This distinction reveals that navigation behaviour can directly shape how and when consumers are exposed to pricing strategies, influencing the overall experience and perception of fairness. Websites are often designed to guide users through a structured architectural flow that intentionally exposes them to these strategies, highlighting the crucial role of website design in shaping user experience, perception, and behaviour (Tuch et al., 2009). By highlighting the role of journey structure in moderating the impact of pricing strategies, offering a novel lens for understanding how information architecture design can shape decision-making, and expanding current knowledge on both customer journey analysis and online price presentation.

5.2 Practical Implications

This section outlines the practical implications derived from the findings, focusing on how dynamic pricing strategies can be more effectively integrated into digital services. Each contribution offers actionable insights for professionals involved in pricing, UX design, and customer experience management.

5.2.1 Validate Consumer Preferences with Subtle Reinforcement Pricing

Dynamic pricing is typically used to influence consumer behaviour by encouraging product switching, upselling, or creating urgency through time-sensitive offers (Weisstein et al., 2013). However, the results of this study suggest an additional application: using dynamic pricing to reinforce confidence in decisions that have already been made. In the experiment, 14 out of 16 participants chose to remain with their initial internet plan, even after encountering a price drop later in their customer journey. Instead of triggering a behaviour change, the subtle price reduction appeared to validate their original choice, thereby enhancing the perceived value of the selected plan. This outcome aligns with anchoring theory, which posits that consumers use the first price they see as a reference point for evaluating subsequent information (Simonson & Drolet, 2004; Zong & Guo, 2022). Once a preference is established, consumers are more likely to interpret later changes through the lens of that initial price anchor. From a managerial

perspective, this insight underscores the potential of implementing subtle price reductions not to direct choice but to boost user confidence, reinforce perceived value, and enhance satisfaction.

5.2.2 Communicate Price Changes Clearly to Preserve Trust

While dynamic pricing is often associated with offering personalized or timely deals, this study's findings reveal a crucial nuance: even favourable price changes can reduce consumer confidence when not clearly communicated. Despite objectively benefiting from the price reduction, participants who noticed the price reduction during the purchasing process expressed mild confusion about the information and reported slightly lower post-decision confidence. This reaction suggests that it was not the lower price causing concern but rather the lack of clarity surrounding why the change occurred. These findings align with prior research on price fairness, which emphasizes that procedural clarity and perceived transparency and legitimacy of the pricing process are essential for maintaining trust (Weisstein et al., 2013; Xia et al., 2004). This highlights an important consideration: in digital environments where price adjustments can occur mid-journey, offering a good deal is insufficient; it must also be logical to the user. Businesses should consider implementing contextual explanations when price changes occur, such as cues tied to time, demand, or location, to help frame the change as intentional and fair. Doing so can enhance the integrity of the experience, reduce confusion, and strengthen the customer's sense of control and trust in the process.

5.2.3 Align Pricing Strategies with Navigation Design

The effectiveness of dynamic pricing strategies is determined by the price interventions implemented on a website and how users are navigated through the interaction. In this study, only participants who followed the conventional navigation path, which included interaction with the homepage header and the address validation step, were exposed to the price reduction. In contrast, participants who took unconventional paths bypassed the address validation step and, as a result, did not receive the price reduction. This finding illustrates that exposure to pricing strategies is not guaranteed by their placement alone; it is contingent upon the structure of the user journey and how well users are directed toward key interaction points. Information architecture can significantly influence how users engage with pricing strategies. The accessibility and presentation of price information can shape consumers' attention, interpretation, and overall price evaluation (Mazumdar et al., 2005). Consumers' responses to price changes

depend on their awareness and understanding of how the information is presented, which largely determines their navigation through the site (Chandrashekaran & Grewal, 2006). This underscores the importance of integrating pricing strategies into the broader interaction design. Simply embedding pricing tactics within the website is insufficient; users must also be guided intentionally and unobtrusively. Organizations must ensure users are led through clearly structured paths incorporating pricing touchpoints. A structured path ensures that users encounter the pricing strategies as intended, increasing their impact while maintaining the clarity and coherence of the purchase experience.

5.2.4 Recognize Emotional Carryover from Pricing to Brand Advocacy

Although participants from both awareness groups reported similar confidence levels in their final decision at the end of the purchase process, their emotional experiences throughout the journey and their NPS scores conveyed a more complex narrative. Physiological data collected during the task showed that participants who became aware of the price reduction exhibited greater emotional variability, characterized by heightened arousal and moments of confusion during the task. This divergence highlights that while decision confidence reflects users' evaluation of their immediate choice, brand advocacy represents a broader judgment that pertains to their long-term relationship with the brand, including customer retention and word-of-mouth intent (Chaudhuri & Holbrook, 2001; Delgado‐Ballester & Luis Munuera‐Alemán, 2005). This finding aligns with prior research indicating that emotional responses to pricing practices, particularly those involving uncertainty or perceived unfairness, can influence post-purchase sentiments and brand interactions (Matzler et al., 2008). From a managerial perspective, it underscores the need to evaluate dynamic pricing strategies not solely on conversion or satisfaction but on their potential impact on trust, loyalty, and advocacy. Ensuring that price changes are introduced transparently, at the right moment in the journey, and with a clear rationale can help protect the brand's long-term perception, even when the price itself is advantageous.

5.3 Limitations and Future Research Avenues

While this study offers valuable insight into customer experiences with dynamic pricing in an online telecommunication context, several limitations should be acknowledged. The absence of real monetary transactions may have reduced the emotional stakes of the

decision-making process, potentially influencing the intensity of participants' reactions to the price changes. Without financial consequences, participants may have treated the decision as less binding or impactful than in a real-world context.

Another limitation relates to the sample size and the study's structural design. Although 22 participants were initially recruited, only 16 were included in the final analysis. Six participants were excluded after taking an unconventional path that caused them to bypass the point in the purchase journey where the dynamic price changes occurred. Consequently, the findings provided an exploratory view rather than statistically generalizable conclusions. While their exclusion ensured a more consistent comparison among those who experienced the intended pricing scenario, it reduced the overall sample size and introduced a blind spot in the analysis.

This exclusion also underscores future research opportunities to explore how natural, unprompted browsing behaviour interacts with dynamic pricing strategies. Investigating how users who overlook key pricing triggers perceive value, especially when unaware of embedded pricing strategies, could provide nuanced insights into interface design and fairness perceptions. Instead of excluding these users, future studies could intentionally compare different browsing paths to examine how varied exposure levels affect user trust, decision confidence, and emotional engagement. Additionally, integrating real-time communication elements, such as price change notifications or explanatory tooltips, would enable future research to examine how transparency moderates fairness perceptions and trust. Finally, longitudinal studies could explore how repeated exposure to dynamic pricing strategies impacts long-term customer attitudes and brand loyalty.

Chapter 6:
Conclusion

As digital commerce continues to evolve, so does the complexity of pricing strategies that shape online customer experiences. This chapter revisits the motivations behind the research, offering a synthesis of key findings and contributions. It reflects how subtle price changes can have meaningful effects on user perception, decision-making, and brand evolution. In doing so, it positions dynamic pricing not merely as an economic lever but as a strategic component of the digital user experience journey.

This research explores how dynamic pricing, specifically subtle price reductions, shapes customers' online purchase journeys. It aimed to examine the emotional, cognitive, and behavioural impact of these pricing strategies within a realistic digital environment, with attention to how consumer awareness of price change influences decision-making and perceived fairness.

The finding revealed that while most participants remained with their initial plan despite the price reduction, their awareness or lack thereof, shaped their purchase journey. Those unaware of the price change reported a smoother process overall, greater confidence in their choice, and a higher likelihood of advocating for the brand. In contrast, participants who noticed the change expressed emotional ambivalence and reduced trust. Although the self-reported measures did not yield statistically significant differences between groups, they provided additional context when interpreted alongside physiological and qualitative data, contributing to a more layered understanding of UX.

Theoretically, this study contributes to the UX literature by shifting the focus toward price reductions, a relatively underexplored facet of dynamic pricing. It highlights how even unannounced changes can shape perception through mechanisms like anchoring and reference pricing, and awareness plays a pivotal role in shaping emotional and cognitive responses during digital decision-making.

Practically, the research emphasizes the importance of designing pricing interactions as part of the broader user experience. Even when price changes go unnoticed, they can influence behaviour, and when they are detected, the timing and transparency of these changes become critical. Organizations looking to implement dynamic pricing should consider how these strategies are perceived within the flow of a digital purchase journey and how they impact trust.

This study methodologically highlights the importance of integrating physiological data, behavioural observations, and qualitative insights to enhance our understanding of users' lived and perceived experiences. Triangulating various data sources provides a more comprehensive perspective on user experience. Future investigations might apply these methods in more varied contexts and examine how different pricing strategies influence long-term satisfaction and loyalty.

Future research could explore how consumers interpret and respond to dynamic price reductions introduced at various stages of the customer journey. While this study focuses on subtle, unannounced price changes, further work could examine how factors such as timing, frequency, and transparency influence perceptions of fairness and trust. Investigating these nuances would help identify the conditions under which dynamic pricing enhances the overall user experience.

This emphasizes that UX is shaped by what users see and do, and how they feel and interpret events along their journey. Pricing, often considered a backend consideration, is a vital aspect of that experience. The manner in which it is introduced, adjusted, or withheld can either build or erode trust. By viewing pricing as an experience rather than a final detail, organizations can create journeys that are clearer, more respectful, and better aligned with the expectations of today’s users.

Bibliography

Allender, W. J., Liaukonyte, J., Nasser, S., & Richards, T. J. (2021). Price Fairness and Strategic Obfuscation. *Marketing Science*, *40*(1), 122–146. https://doi.org/10.1287/mksc.2020.1244https://doi.org/10.3389/fpsyg.2022.794135

Anderson, E. T., & Dana, J. D. (2009). When Is Price Discrimination Profitable? *Management Science*, *55*(6), 980–989. https://doi.org/10.1287/mnsc.1080.0979

Anderson, E. T., & Song, I. (2004). Coordinating Price Reductions and Coupon Events. *Journal of Marketing Research*, *41*(4), 411–422. https://doi.org/10.1509/jmkr.41.4.411.47006

Armstrong, M. (2006a). Price discrimination. *University Library of Munich, Germany, MPRA Paper*.

Armstrong, M. (2006b). Recent Developments in the Economics of Price Discrimination. In R. Blundell, W. K. Newey, & T. Persson (Eds.), *Advances in Economics and Econometrics* (pp. 97–141). Cambridge University Press. https://doi.org/10.1017/CBO9781139052276.006

Asplund, M., Eriksson, R., & Strand, N. (2008). PRICE DISCRIMINATION IN OLIGOPOLY: EVIDENCE FROM REGIONAL NEWSPAPERS*. *The Journal of Industrial Economics*, *56*(2), 333–346. https://doi.org/10.1111/j.1467-6451.2008.00343.x

Bambauer-Sachse, S., & Young, A. (2024). Consumers' Intentions to Spread Negative Word of Mouth About Dynamic Pricing for Services: Role of Confusion and Unfairness Perceptions. *Journal of Service Research*, *27*(3), 364–380. https://doi.org/10.1177/10946705231190871

Bergman, O., Ellingsen, T., Johannesson, M., & Svensson, C. (2010). Anchoring and cognitive ability. *Economics Letters*, *107*(1), 66–68. https://doi.org/10.1016/j.econlet.2009.12.028

Besanko, D., Dubé, J.-P., & Gupta, S. (2003). Competitive Price Discrimination Strategies in a Vertical Channel Using Aggregate Retail Data. *Management Science*, *49*(9), 1121–1138. https://doi.org/10.1287/mnsc.49.9.1121.16565

Betella, A., & Verschure, P. F. M. J. (2016). The Affective Slider: A Digital Self-Assessment Scale for the Measurement of Human Emotions. *PLOS ONE*, *11*(2), e0148037. https://doi.org/10.1371/journal.pone.0148037

Bolton, L. E., & Alba, J. W. (2006). Price Fairness: Good and Service Differences and the Role of Vendor Costs. *Journal of Consumer Research*, *33*(2), 258–265. https://doi.org/10.1086/506306

Bolton, L. E., Warlop, L., & Alba, J. W. (2003). Consumer Perceptions of Price (Un)Fairness. *Journal of Consumer Research*, *29*(4), 474–491. https://doi.org/10.1086/346244

Braithwaite, J. J., Watson, D. G., Jones, R., & Rowe, M. (2015). *A Guide for Analysing Electrodermal Activity (EDA) & Skin Conductance Responses (SCRs) for Psychological Experiments* (pp. 1017–1034). University of Birmingham.

Cachon, G. P., Daniels, K. M., & Lobel, R. (2017). The Role of Surge Pricing on a Service Platform with Self-Scheduling Capacity. *Manufacturing & Service Operations Management*, *19*(3), 368–384. https://doi.org/10.1287/msom.2017.0618

Carter, R. E., & Curry, D. J. (2010). Transparent pricing: Theory, tests, and implications for marketing practice. *Journal of the Academy of Marketing Science*, *38*(6), 759–774. https://doi.org/10.1007/s11747-010-0189-2

Chandrashekaran, R. (2004). The influence of redundant comparison prices and other price

presentation formats on consumers' evaluations and purchase intentions. *Journal of Retailing*, *80*(1), 53–66. https://doi.org/10.1016/j.jretai.2004.01.004

Chandrashekaran, R., & Grewal, D. (2006). Anchoring effects of advertised reference price and sale price: The moderating role of saving presentation format. *Journal of Business Research*, *59*(10–11), 1063–1071. https://doi.org/10.1016/j.jbusres.2006.06.006

Chaudhuri, A., & Holbrook, M. B. (2001). The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing*, *65*(2), 81–93. https://doi.org/10.1509/jmkg.65.2.81.18255

Chen, H., Bolton, L. E., Ng, S., Lee, D., & Wang, D. (2018). Culture, Relationship Norms, and Dual Entitlement. *Journal of Consumer Research*, *45*(1), 1–20. https://doi.org/10.1093/jcr/ucx118

Chen, K., Zha, Y., Alwan, L. C., & Zhang, L. (2020). Dynamic pricing in the presence of reference price effect and consumer strategic behaviour. *International Journal of Production Research*, *58*(2), 546–561. https://doi.org/10.1080/00207543.2019.1598592

Delgado‐Ballester, E., & Luis Munuera‐Alemán, J. (2005). Does brand trust matter to brand equity? *Journal of Product & Brand Management*, *14*(3), 187–196. https://doi.org/10.1108/10610420510601058

Den Boer, A. V. (2015). Dynamic pricing and learning: Historical origins, current research, and new directions. *Surveys in Operations Research and Management Science*, *20*(1), 1–18. https://doi.org/10.1016/j.sorms.2015.03.001

Dixon, M., Freeman, K., & Toman, N. (2010, July 1). Stop Trying to Delight Your Customers. *Harvard Business Review*. https://hbr.org/2010/07/stop-trying-to-delight-your-customers

Elegido, J. M. (2011). The Ethics of Price Discrimination. *Business Ethics Quarterly*, *21*(4),

633–660. https://doi.org/10.5840/beq201121439

Elmaghraby, W., & Keskinocak, P. (2003). Dynamic Pricing in the Presence of Inventory Considerations: Research Overview, Current Practices, and Future Directions. *Management Science*, *49*(10), 1287–1309. https://doi.org/10.1287/mnsc.49.10.1287.17315

Englmaier, F., Gratz, L., & Reisinger, M. (2012). Price Discrimination and Fairness Concerns. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1999757

Fouskas, K. G., Pateli, A. G., & Spinellis, D. D. (2002). *APPLYING CONTEXTUAL INQUIRY FOR CAPTURING END-USERS BEHAVIOUR REQUIREMENTS FOR MOBILE EXHIBITION SERVICES*.

Furnham, A., & Boo, H. C. (2011). A literature review of the anchoring effect. *The Journal of Socio-Economics*, *40*(1), 35–42. https://doi.org/10.1016/j.socec.2010.10.008

Garbarino, E., & Lee, O. F. (2003). Dynamic pricing in internet retail: Effects on consumer trust. *Psychology & Marketing*, *20*(6), 495–513. https://doi.org/10.1002/mar.10084

Garbarino, E., & Maxwell, S. (2010). Consumer response to norm-breaking pricing events in e-commerce. *Journal of Business Research*, *63*(9–10), 1066–1072. https://doi.org/10.1016/j.jbusres.2008.12.010

Giaume, S., & Guillou, S. (2004). Price discrimination and concentration in European airline markets. *Journal of Air Transport Management*, *10*(5), 305–310. https://doi.org/10.1016/j.jairtraman.2004.04.002

Gibbs, C., Guttentag, D., Gretzel, U., Yao, L., & Morton, J. (2018). Use of dynamic pricing strategies by Airbnb hosts. *International Journal of Contemporary Hospitality Management*, *30*(1), 2–20. https://doi.org/10.1108/IJCHM-09-2016-0540

Gil-Rodríguez, E. P., & Rebaque-Rivas, P. (2010). Mobile Learning and Commuting: Contextual Interview and Design of Mobile Scenarios. In G. Leitner, M. Hitz, & A. Holzinger (Eds.), *HCI in Work and Learning, Life and Leisure* (Vol. 6389, pp. 266–277). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-16607-5_17

Giroux, F., Léger, P.-M., Brieugne, D., Courtemanche, F., Bouvier, F., Chen, S.-L., Tazi, S., Rucco, E., Fredette, M., Coursaris, C., & Sénécal, S. (2021). Guidelines for Collecting Automatic Facial Expression Detection Data Synchronized with a Dynamic Stimulus in Remote Moderated User Tests. In M. Kurosu (Ed.), *Human-Computer Interaction. Theory, Methods and Tools* (Vol. 12762, pp. 243–254). Springer International Publishing. https://doi.org/10.1007/978-3-030-78462-1_18

Grewal, D., Hardesty, D. M., & Iyer, G. R. (2004). The effects of buyer identification and purchase timing on consumers' perceptions of trust, price fairness, and repurchase intentions. *Journal of Interactive Marketing*, *18*(4), 87–100. https://doi.org/10.1002/dir.20024

Grewal, D., Janakiraman, R., Kalyanam, K., Kannan, P. K., Ratchford, B., Song, R., & Tolerico, S. (2010). Strategic Online and Offline Retail Pricing: A Review and Research Agenda. *Journal of Interactive Marketing*, *24*(2), 138–154. https://doi.org/10.1016/j.intmar.2010.02.007

Hamilton, R., & Chernev, A. (2013). Low Prices are Just the Beginning: Price Image in Retail Management. *Journal of Marketing*, *77*(6), 1–20. https://doi.org/10.1509/jm.08.0204

Hannak, A., Soeller, G., Lazer, D., Mislove, A., & Wilson, C. (2014). Measuring Price Discrimination and Steering on E-commerce Web Sites. *Proceedings of the 2014 Conference on Internet Measurement Conference*, 305–318.

https://doi.org/10.1145/2663716.2663744

Haws, K. L., & Bearden, W. O. (2006). Dynamic Pricing and Consumer Fairness Perceptions. *Journal of Consumer Research*, *33*(3), 304–311. https://doi.org/10.1086/508435

Homburg, C. (2005). Customers' Reactions to Price Increases: Do Customer Satisfaction and Perceived Motive Fairness Matter? *Journal of the Academy of Marketing Science*, *33*(1), 36–49. https://doi.org/10.1177/0092070304269953

Hui, W., Yoo, B., & Tam, K. Y. (2007). The Optimal Number of Versions: Why Does Goldilocks Pricing Work for Information Goods? *Journal of Management Information Systems*, *24*(3), 167–191. https://doi.org/10.2753/MIS0742-1222240306

Kim, J., Kim, Y., Kim, B., Yun, S., Kim, M., & Lee, J. (2018). Can a Machine Tend to Teenagers' Emotional Needs?: A Study with Conversational Agents. *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–6. https://doi.org/10.1145/3170427.3188548

Kong, S., Huang, Z., Scott, N., Zhang, Z., & Shen, Z. (2019). Web advertisement effectiveness evaluation: Attention and memory. *Journal of Vacation Marketing*, *25*(1), 130–146. https://doi.org/10.1177/1356766718757272

Kosinski, M., Stillwell, D., & Graepel, T. (2013). Private traits and attributes are predictable from digital records of human behavior. *Proceedings of the National Academy of Sciences*, *110*(15), 5802–5805. https://doi.org/10.1073/pnas.1218772110

Kumar, V., Hurley, M., Karande, K., & Reinartz, W. J. (1998a). The impact of internal and external reference prices on brand choice: The moderating role of contextual variables. *Journal of Retailing*, *74*(3), 401–426. https://doi.org/10.1016/S0022-4359(99)80102-X

Kumar, V., Hurley, M., Karande, K., & Reinartz, W. J. (1998b). The impact of internal and

external reference prices on brand choice: The moderating role of contextual variables. *Journal of Retailing*, *74*(3), 401–426. https://doi.org/10.1016/S0022-4359(99)80102-X

L. Ferguson, J., & Scholder Ellen, P. (2013). Transparency in pricing and its effect on perceived price fairness. *Journal of Product & Brand Management*, *22*(5/6), 404–412. https://doi.org/10.1108/JPBM-06-2013-0323

Léger, P.-M., Courtemanche, F., Fredette, M., & Sénécal, S. (2019). A Cloud-Based Lab Management and Analytics Software for Triangulated Human-Centered Research. In F. D. Davis, R. Riedl, J. Vom Brocke, P.-M. Léger, & A. B. Randolph (Eds.), *Information Systems and Neuroscience* (Vol. 29, pp. 93–99). Springer International Publishing. https://doi.org/10.1007/978-3-030-01087-4_11

Lemon, K. N., & Verhoef, P. C. (2016). Understanding Customer Experience Throughout the Customer Journey. *Journal of Marketing*, *80*(6), 69–96. https://doi.org/10.1509/jm.15.0420

Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2007). WebQual: An Instrument for Consumer Evaluation of Web Sites. *International Journal of Electronic Commerce*, *11*(3), 51–87. https://doi.org/10.2753/JEC1086-4415110302

Lynch, J. G., & Ariely, D. (2000). Wine Online: Search Costs Affect Competition on Price, Quality, and Distribution. *Marketing Science*, *19*(1), 83–103. https://doi.org/10.1287/mksc.19.1.83.15183

Malc, D., Mumel, D., & Pisnik, A. (2016). Exploring price fairness perceptions and their influence on consumer behavior. *Journal of Business Research*, *69*(9), 3693–3697. https://doi.org/10.1016/j.jbusres.2016.03.031

Martin, K. D., & Murphy, P. E. (2017). The role of data privacy in marketing. *Journal of the*

Academy of Marketing Science, *45*(2), 135–155. https://doi.org/10.1007/s11747-016-0495-4

Matzler, K., Grabner‐Kräuter, S., & Bidmon, S. (2008). Risk aversion and brand loyalty: The mediating role of brand trust and brand affect. *Journal of Product & Brand Management*, *17*(3), 154–162. https://doi.org/10.1108/10610420810875070

Mazumdar, T., & Papatla, P. (1995). Loyalty differences in the use of internal and external reference prices. *Marketing Letters*, *6*(2), 111–122. https://doi.org/10.1007/BF00994927

Mazumdar, T., Raj, S. P., & Sinha, I. (2005). Reference Price Research: Review and Propositions. *Journal of Marketing*, *69*(4), 84–102. https://doi.org/10.1509/jmkg.2005.69.4.84

Nagle, Thomas T., Müller, Georg, & Gruyaert, Evert. (2023). *Chapter 4 Price Structure—The Strategy and Tactics of Pricing, 7th Edition* (7th Edition). https://learning.oreilly.com/library/view/the-strategy-and/9781000915969/xhtml/C_006_c4.xhtml

Narasimhan, R., Narayanan, S., & Srinivasan, R. (2013). An Investigation of Justice in supply chain relationships and their performance impact. *Journal of Operations Management*, *31*(5), 236–247. https://doi.org/10.1016/j.jom.2013.05.001

Nasiry, J., & Popescu, I. (2011). Dynamic Pricing with Loss-Averse Consumers and Peak-End Anchoring. *Operations Research*, *59*(6), 1361–1368. https://doi.org/10.1287/opre.1110.0952

Papanastasiou, Y., & Savva, N. (2017). Dynamic Pricing in the Presence of Social Learning and Strategic Consumers. *Management Science*, *63*(4), 919–939. https://doi.org/10.1287/mnsc.2015.2378

Popescu, I., & Wu, Y. (2007). Dynamic Pricing Strategies with Reference Effects. *Operations Research*, *55*(3), 413–429. https://doi.org/10.1287/opre.1070.0393

Posada-Quintero, H. F., & Chon, K. H. (2020). Innovations in Electrodermal Activity Data Collection and Signal Processing: A Systematic Review. *Sensors*, *20*(2), Article 2. https://doi.org/10.3390/s20020479

Priester, A., Robbert, T., & Roth, S. (2020). A special price just for you: Effects of personalized dynamic pricing on consumer fairness perceptions. *Journal of Revenue and Pricing Management*, *19*(2), 99–112. https://doi.org/10.1057/s41272-019-00224-3

Reed, A. E., Mikels, J. A., & Löckenhoff, C. E. (2012). Choosing with confidence: Self-efficacy and preferences for choice. *Judgment and Decision Making*, *7*(2), 173–180. https://doi.org/10.1017/S1930297500003004

Reichheld, F. F. (2003). The One Number You Need to Grow. *Harvard Business Review*.

Roy, R., Rabbanee, F. K., & Sharma, P. (2016). Exploring the interactions among external reference price, social visibility and purchase motivation in pay-what-you-want pricing. *European Journal of Marketing*, *50*(5/6), 816–837. https://doi.org/10.1108/EJM-10-2014-0609

Shiller, B. R. (2014). *First-Degree Price Discrimination Using Big Data*.

Simonson, I., & Drolet, A. (2004). Anchoring Effects on Consumers' Willingness- to-Pay and Willingness-to-Accept. *JOURNAL OF CONSUMER RESEARCH*.

Sinha, I., & Smith, M. F. (2000). Consumers' perceptions of promotional framing of price. *Psychology and Marketing*, *17*(3), 257–275. https://doi.org/10.1002/(SICI)1520-6793(200003)17:3<257::AID-MAR4>3.0.CO;2-P

Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer Trust, Value, and Loyalty in

Relational Exchanges. *Journal of Marketing*, *66*(1), 15–37. https://doi.org/10.1509/jmkg.66.1.15.18449

Tanford, S., Choi, C., & Joe, S. J. (2019). The Influence of Pricing Strategies on Willingness to Pay for Accommodations: Anchoring, Framing, and Metric Compatibility. *Journal of Travel Research*, *58*(6), 932–944. https://doi.org/10.1177/0047287518793037

Tuch, A. N., Bargas-Avila, J. A., Opwis, K., & Wilhelm, F. H. (2009). Visual complexity of websites: Effects on users' experience, physiology, performance, and memory. *International Journal of Human-Computer Studies*, *67*(9), 703–715. https://doi.org/10.1016/j.ijhcs.2009.04.002

Ulph, D., & Vulkan, N. (2000). *Electronic Commerce and Competitive First-Degree Price Discrimination*.

Viglia, G., Mauri, A., & Carricano, M. (2016). The exploration of hotel reference prices under dynamic pricing scenarios and different forms of competition. *International Journal of Hospitality Management*, *52*, 46–55. https://doi.org/10.1016/j.ijhm.2015.09.010

Wang, G., Zhang, X., Tang, S., Zheng, H., & Zhao, B. Y. (2016). Unsupervised Clickstream Clustering for User Behavior Analysis. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 225–236. https://doi.org/10.1145/2858036.2858107

Weisstein, F. L., Monroe, K. B., & Kukar-Kinney, M. (2013). Effects of price framing on consumers' perceptions of online dynamic pricing practices. *Journal of the Academy of Marketing Science*, *41*(5), 501–514. https://doi.org/10.1007/s11747-013-0330-0

Xia, L., Monroe, K. B., & Cox, J. L. (2004). The Price is Unfair! A Conceptual Framework of Price Fairness Perceptions. *Journal of Marketing*, *68*(4), 1–15.

https://doi.org/10.1509/jmkg.68.4.1.42733

Zaman, B., & Shrimpton-Smith, T. (2006). The FaceReader: Measuring instant fun of use. *Proceedings of the 4th Nordic Conference on Human-Computer Interaction: Changing Roles*, 457–460. https://doi.org/10.1145/1182475.1182536

Zhao, H., Yao, X., Liu, Z., & Yang, Q. (2021). Impact of Pricing and Product Information on Consumer Buying Behavior With Customer Satisfaction in a Mediating Role. *Frontiers in Psychology*, *12*, 720151. https://doi.org/10.3389/fpsyg.2021.720151

Zimmerman, P. H., Bolhuis, J. E., Willemsen, A., Meyer, E. S., & Noldus, L. P. J. J. (2009). The Observer XT: A tool for the integration and synchronization of multimodal signals. *Behavior Research Methods*, *41*(3), 731–735. https://doi.org/10.3758/BRM.41.3.731

Zong, Y., & Guo, X. (2022). An Experimental Study on Anchoring Effect of Consumers' Price Judgment Based on Consumers' Experiencing Scenes. *Frontiers in Psychology*, *13*, 794135. https://doi.org/10.3389/fpsyg.2022.794135

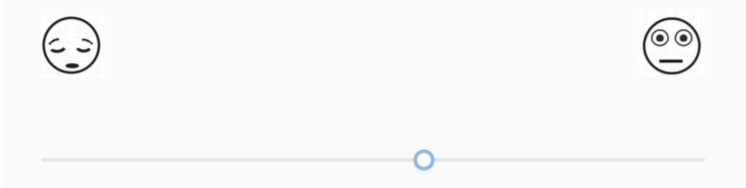
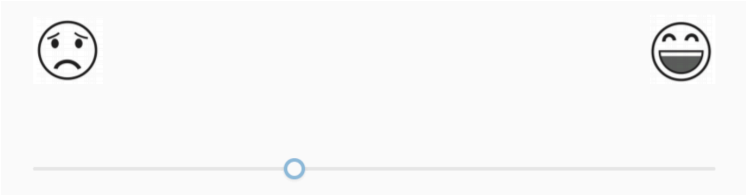
Appendices

Appendix A. Practical scenarios

Task 1	Vous avez vu récemment plusieurs publicités de “X” à propos de “X”. Les publicités ont piqué votre curiosité et vous décidez d’aller sur le site de “X” pour vous renseigner sur les services d’internet et de télévision, et **mieux comprendre les produits “X”.** Avez-vous des questions avant de commencer ? Quand vous êtes prêt(e) à commencer la tâche, merci de cliquer sur le lien suivant: **https://X.com/**
Task 2	Vous avez décidé de changer de fournisseur internet et vous avez choisi “X”. Vous allez donc sur le site pour magasiner la meilleure offre pour vous. Nous vous demandons de vous abonner à : ● **un forfait internet correspondant le mieux possible à vos besoins réels,** ● **incluant ou non la télé, selon ce qui correspond à vos besoins.** Tous vos choix lors du processus d’achat doivent donc refléter les décisions que vous prendriez normalement. Avez-vous des questions avant de commencer ? Quand vous êtes prêt(e) à commencer la tâche, merci de cliquer sur le lien suivant: **https://X.com/**

Note: “X” refers to the name of the telecom provider.

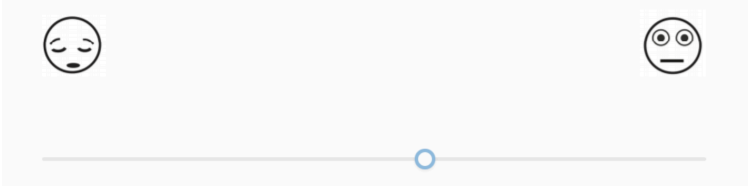
Appendix B. Post-Task 1 Questionnaire

1.	**The Net Promoter Score (NPS)**	Quelle est la probabilité que vous recommandiez “X” à un.e ami.e, à un.e collègue ou à un.e membre de votre famille ? Merci de donner une note allant de 0 à 10 (0=extrêmement improbable / 10=extrêmement probable).
2.	**Customer Effort Scale (CES)**	Quel niveau d'effort avez-vous dû déployer pour réaliser la tâche sur le site “X” ? Merci de donner une réponse allant de 1 à 5 (où 1 = très faible effort ; 5 = très grand effort).
3.	**The Affective Slider (AS)**	Les questions suivantes utilisent 2 échelles différentes pour évaluez votre ressenti.La première échelle s'intéresse à votre niveau d'activation. Elle concerne l’intensité de l’émotion : calme versus excité. Plus le curseur est placé vers la droite, plus le niveau d'activation est élevé. La deuxième échelle s'intéresse à votre niveau de plaisir. Plus le curseur est placé vers la droite, plus le plaisir ressenti est grand. Déplacez le curseur afin de représenter votre **niveau d'activation ressenti pendant la tâche**. L'activation concerne l’intensité de l'émotion : calme versus excité. Plus le curseur est placé vers la droite, plus le niveau d'activation est élevé.  Déplacez le curseur pour représenter votre **niveau de plaisir ressenti** pendant la tâche. Plus le curseur est placé vers la droite, plus le plaisir ressenti est grand. 

4.	**Informational Fit-to-Task (WebQual)**	**En vous basant sur la tâche que vous venez d'effectuer**, dans quelle mesure êtes-vous en accord avec les énoncés suivants? Merci de donner une réponse allant de 1 (Tout à fait en désaccord) à 7 (Tout à fait d'accord). ● L'information sur cette interface conteint pratiquement tout ce qu'il me faut pour accomplir mes tâches. ● Cette interface comble adéquatement mes besions en information. ● L'information sur cette interface est efficace.

Appendix C. Post-Task 2 Questionnaire

1.	**The Net Promoter Score (NPS)**	Quelle est la probabilité que vous recommandiez "X" à un.e ami.e, à un.e collègue ou à un.e membre de votre famille ? Merci de donner une note allant de 0 à 10 (0=extrêmement improbable / 10=extrêmement probable).
2.	**Customer Effort Scale (CES)**	Quel niveau d'effort avez-vous dû déployer pour réaliser la tâche sur le site "X" ? Merci de donner une réponse allant de 1 à 5 (où 1 = très faible effort ; 5 = très grand effort).
3.	**The Affective Slider (AS)**	Les questions suivantes utilisent 2 échelles différentes pour évaluez votre ressenti.La première échelle s'intéresse à votre niveau d'activation. Elle concerne l'intensité de l'émotion : calme versus excité. Plus le curseur est placé vers la droite, plus le niveau d'activation est élevé. La deuxième échelle s'intéresse à votre niveau de plaisir. Plus le curseur est placé vers la droite, plus le plaisir ressenti est grand. Déplacez le curseur afin de représenter votre **niveau d'activation ressenti pendant la tâche**. L'activation concerne l'intensité de l'émotion : calme versus excité. Plus le curseur est placé vers la droite, plus le niveau d'activation est élevé.

		 Déplacez le curseur pour représenter votre **niveau de plaisir ressenti** pendant la tâche. Plus le curseur est placé vers la droite, plus le plaisir ressenti est grand. 
4.	**Informational Fit-to-Task (WebQual)**	**En vous basant sur la tâche que vous venez d'effectuer**, dans quelle mesure êtes-vous en accord avec les énoncés suivants? Merci de donner une réponse allant de 1 (Tout à fait en désaccord) à 7 (Tout à fait d'accord). ● L'information sur cette interface conteint pratiquement tout ce qu'il me faut pour accomplir mes tâches. ● Cette interface comble adéquatement mes besions en information. ● L'information sur cette interface est efficace.
5.	**Post Decision Confidence**	Quel est votre niveau de confiance envers la décision que vous avez prise? Veuillez indiquer votre niveau de confiance sur une échelle de 1 à 10, où 1 = Pas du tout confiant, et 10 = Tout à fait confiant.

Appendix D. Interview Guide

Q1	Pourquoi avez-vous sélectionné cette offre de "X" en particulier?
Q2	Pouvez-vous m'expliquer dans vos mots l'offre que vous avez choisie ?

	● Pouvez-vous m'en dire plus sur : 1. La vitesse? 2. Les options choisies? 3. Le montant à payer aujourd'hui? Et le montant par mois? (*est-ce la même chose)* 4. Qu'est-ce que cela comprend? (*y a-t-il des équipements inclus? Est-ce qu'ils vous appartiennent?)*
Q3	Avez-vous trouvé toute l'information nécessaire à la tâche? Si non, qu'est-ce qui manquait?
Q4	Parlons maintenant du site internet en tant que tel. Qu'avez-vous pensé des différentes étapes pour vous rendre jusqu'au panier final? ● *(au besoin) Facile ou difficile? Des irritants?*
Q5	Quel était le plus grand point fort du site? ● (*au besoin*) Pouvez-vous me donner un exemple?
Q6	Et son point à améliorer le plus important? ● (*au besoin*) Pouvez-vous me donner un exemple?
Q7	S'il s'agissait d'achats réels, y-at-il un moment où vous auriez préféré passer à un autre moyen de communication (chat, téléphone, visite en magasin) ? ● Si oui, à quel moment et pourquoi ?