HEC MONTRÉAL

École affiliée à l'Université de Montréal

Leveraging consumer insights for effective customer relationship management: Two essays on consumers' attitudes toward AI-based technologies and relationship termination

par
Nguyen Nguyen

Thèse présentée en vue de l'obtention du grade Ph. D. en administration
(option Marketing)

Juin, 2024

HEC MONTRÉAL

École affiliée à l'Université de Montréal

Cette thèse intitulée :

Leveraging consumer insights for effective customer relationship management: Two essays on consumers' attitudes toward AI-based technologies and relationship termination

Présentée par :

Thi Khanh Nguyen Nguyen

a été évaluée par un jury composé des personnes suivantes :

Danilo Dantas
HEC Montréal
Président rapporteur

Yany Grégoire
HEC Montréal
Directeur de recherche

Sylvain Sénécal
HEC Montréal
Codirecteur de recherche

Muhammad Aljukhadar
HEC Montréal
Membre du jury

Paul Fombelle
Northeastern University
Examinateur externe

Bogdan Negoita
HEC Montréal
Représentant du directeur de HEC Montréal

Résumé

Cette thèse comprend deux essais explorant les attitudes et les comportements des consommateurs dans divers contextes de services. Le premier essai se concentre sur la phase d'initiation de la gestion de la relation client, examinant l'adoption par les consommateurs des technologies basées sur l'IA dans les services de santé mentale à travers une conception d'enquête en plusieurs étapes. En utilisant un cadre populaire de comportements favorables à la santé (modèle des croyances en matière de santé), nous introduisons de nouveaux éléments conceptuels pour capturer l'intersection entre le marketing des services et la littérature sur l'informatique de la santé. Conformément à des recherches antérieures, nos résultats mettent en évidence que les avantages perçus exercent l'influence la plus significative sur l'adoption par les consommateurs des services basés sur l'IA, ce processus étant médiatisé par les perceptions de négligence de l'unicité - le degré auquel les gens croient que l'IA pourrait ignorer leurs circonstances de santé uniques. De plus, nos preuves empiriques montrent que l'IA empathique peut entraîner des réponses plus favorables par rapport à l'IA analytique, validant ainsi la catégorisation théorique des niveaux d'intelligence de l'IA. De plus, l'essai présente des perspectives nouvelles, avec des investigations supplémentaires révélant que la littératie en santé et la traumatization vicariante induite par les médias agissent comme des conditions limites pour l'impact des croyances en matière de santé sur le sentiment de négligence de l'unicité.

Le deuxième essai utilise une approche multi-méthodes impliquant des expériences en ligne basées sur des scénarios et des enquêtes longitudinales pour étudier comment les consommateurs réagissent et se comportent en réponse à la résiliation

provoquée par l'entreprise. Se déroulant dans la phase de résiliation de la relation, nous élargissons les recherches actuelles sur les stratégies de résiliation en catégorisant davantage les tactiques indirectes en non exposées et exposées, et en examinant leurs effets contrastés avec la résiliation directe. Selon que les consommateurs prennent conscience de la véritable intention de résiliation de l'entreprise, nous démontrons que les stratégies indirectes peuvent se retourner contre l'entreprise, entraînant des réponses plus négatives. L'essai explore comment les individus vivent des sentiments de rejet après avoir été résiliés par des entreprises et comment les perceptions de rejet évoluent avec le temps. Nos recherches éclairent également les comportements simultanés suivant la rupture de la relation, comprenant à la fois des réactions antisociales et prosociales. L'investigation des processus sous-jacents indique que le rejet perçu médie la relation entre les stratégies de résiliation et le désir de vengeance des consommateurs. À l'inverse, les individus s'engagent également dans des comportements prosociaux tels que la réconciliation avec les entreprises, la perception de l'équité servant de mécanisme explicatif pour cette voie.

Mots-clés : gestion de la relation client, modèle des croyances en matière de santé, intelligences artificielles, négligence de l'unicité, littératie en santé, traumatisme vicariant des médias, stratégie de résiliation, rejet perçu, équité perçue.

Méthodes de recherche : expérimentation, enquête, conception, recherche longitudinale, méthode mixte

Abstract

This dissertation includes two essays investigating consumers' attitudes and behaviors in different marketing services. The first essay takes place in relationship initiation stage of customer relationship management, in which we explore how customers view and accept AI-powered technologies in mental health context using an online experiment and a multi-stage survey. Based on a popular framework of health-promoting behaviors (Health Belief Model), we incorporate constructs from digital communication and services marketing to provide unique findings at the intersection of both literature. In line with existing insights, our results show that perceived benefits exert the most significant influence on consumers' adoption of AI-based services. More importantly, uniqueness neglect – the perception of how people believe AI might overlook their unique health condition is the key mediator of the aforementioned relationships. Furthermore, we also find that Empathetic AI can lead to more favorable attitudes compared to analytical AI, thus showing empirical evidences about theoretical categorization of AI intelligence levels. Additionally, the essay presents novel insights, with further investigation revealing that health literacy and media-induced vicarious traumatization act as boundary conditions for the impact of health beliefs on the sense of uniqueness neglect.

The second essay follows a similar multi-method approach with online scenario-based experiments and longitudinal surveys. We examine consumers' responses to firm-induced termination in the relationship termination phase of CRM. By further categorizing indirect tactics into unexposed and exposed ones and study their contrasting effects with direct termination, the essay expand the understanding of the phenomena. Depending on whether consumers are able to detect the firm's true intention, we demonstrate that indirect strategies can backfire, resulting in

more negative responses. This research looks at how individuals experience perceived rejection after being terminated by firms and how this perception changes over time. Our research also highlights the simultaneous behaviors following relationship dissolution, including both antisocial and prosocial reactions. Investigation into the underlying processes indicates that perceived rejection serves as the mediators for than antisocial route linking termination strategies and consumers' desire for revenge. In contrast, individuals also enact prosocial behaviors such as reconciliation with firms, and perceived fairness is the explanatory mechanism for this route.

Keywords: customer relationship management, health belief model, AI intelligences, uniqueness neglect, health literacy, media vicarious traumatization, termination strategy, perceived rejection, perceived fairness,

Research methods: experimentation, survey, longitudinal research, mixed methods

Table of Contents

List of tables and figures

List of abbreviations and acronyms

HBM: Health Belief Model

CRM: Customer Relationship Management

Acknowledgements

Hello! I'm Nguyen Nguyen but given the tongue-twisting nature of my name, many of my foreign friends have affectionately called me "Win Win." And guess what? With this great journey towards my PhD, I truly believe that I've scored a double victory! This is thanks to incredible support from numerous amazing people who have always been with me every step of the way.

First of all, my supervisors definitely top the list. Thank you, Yany Grégoire, for your trust, dedication, and encouragement. You've consistently pushed me beyond my comfort zone in my growth as a researcher. I've always felt you looking out for me as a great mentor whenever I need support. I also want to express my heartfelt thanks to Sylvain Sénécal. You've always there to help me since my early days as a PhD student till the completion of my degree. Your guidance and assistant make my life as a PhD student very enjoyable. I have no doubt that your mentorship will continue to influence me not just during my PhD, but well into the future.

A big thanks goes out to all the professors I had the chance to meet during my PhD as well as other HEC marketing faculty. The valuable courses and discussion greatly enriched my academic journey. I'm also extremely grateful to my committee members, Ruxandra Monica Luca and Muhammad Aljukhadar, for their input and contribution. And a huge thank you to Marie-Louise Radanielina-Hita for her mentorship and support in navigating teaching, research, and life challenges.

Last but not least, I want to thank my family and friends. My family has been my unwavering support during my 12 years of studying abroad. Especially my mother, an incredible

woman, who has always encouraged me, stood by my side, and never once doubted my decisions. I'm only able to break through societal expectations to achieve my dreams thanks to her encouragement. I also want to shout out my friends Quoc-Hao Tran, Tram Pham, and Steven Muller for always being there and cheering me on throughout this challenging journey. Thank you also to all my fellow PhD friends at HEC Montreal for sharing this experience with me and making it more joyful and memorable.

As I embark on this new journey, I do not see it as an end, but as the beginning of an exciting new adventure, and I hope to see you all in this new journey ahead.

Introduction

Knowledge of customer relationship management offers valuable insights for firms to design suitable strategies that drive better economic value. There is a shift from product- or brand-focused marketing to a more consumer-based strategy because companies show increasingly focus on consumers. As a result of this shift, customer relationship management attracts more and more interests, both in practical applications and academia (Hamilton and Price, 2019).

The customer relationship management process

As consumers and firms interact and form connections through various touchpoints across different channels, their connection and linkage with companies involve dynamic and longitudinal processes. Hence, it is crucial to recognize customer relationship management (CRM) as the proactive management of customer relationships throughout their evolution in different phases (Dwyer, Schurr, and Oh, 1987). Reinartz, Krafft, and Hoyer (2004) introduce a comprehensive framework for customer relationship management (CRM) with three fundamental phases. In the relationship initiation phase, marketers aim to foster and establish contact with customers as the groundwork for upcoming interactions in the future. Then, the maintenance phase is about developing the current relationships, forming customer loyalty, and ensuring active engagement over time. Finally, there comes the end of the relationship with exit management in the relationship termination phase. Each phase has their own distinct subdimensions. Both academics and practitioners benefit from gain understanding of consumers' needs, behaviors, and attitudes at each stage because such insights allow effective management of firm-customer relationships. The main purpose of

this research is to investigate consumers' attitudes and behaviors toward firms at different stages of the CRM process. We then suggest relevant managerial implications with strategic recommendations for firms in relevant service contexts. (See Figure 1)

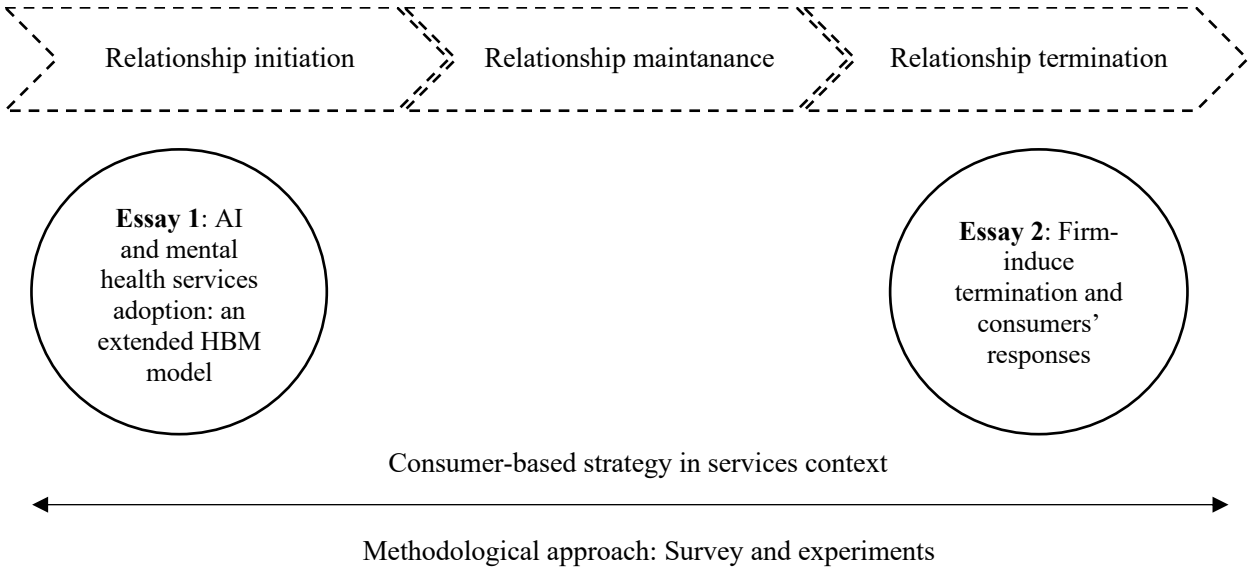


Figure 1: Overview of framework

Essay 1 takes place in the relationship initiation phase. By exploring the adoption of AI-based technology in mental health, we enrich our understanding of the initial firm-consumer interactions. As mental health is a sensitive and new topic in service marketing, it requires comprehensive knowledge of customer-firm connections. Moreover, the adoption of AI-based services has attracted increasing attention in both academia and practices. Therefore, it is of high importance to better understand the interactions between consumers and the firms at the beginning of their relationship.

Regarding Essay 2, we study relationship termination phase which is a critical part of service failures when firms fail to meet customers' expectations and dissolve the relationship. Though such fallouts can elicit strong negative reactions, the topic is seemingly under-

examined. To broaden the understanding of customer relationship management, Essay 2 investigates the core event in which the terminations occur and how consumers engage in different actions to respond to such negative events. Taken together, the two essays provide significant contributions to unlock multi-stage research and integrate the whole customer journey perspectives in customer relationship management. In the next part, we further explain in detail the research focuses, and the expected contribution of each essay.

Exploring consumer behaviors and attitudes toward AI-based solutions in mental health during the relationship initiation phase

Essay 1 studies the adoption of AI-powered tools in the context of mental health. Artificial intelligences, with its diverse potential advantages, have brought a significant transformation in various industries. Healthcare in general and mental health in specific also gradually embrace such applications to improve the frontline services and enhance consumers' experiences. However, as a growing research stream, there has been little literature investigating consumers' attitudes toward AI-enabled tool in mental health context. When it involves healthcare, people are more skeptical about adopting new technologies because of its potential impact on human well-beings. Without proper implementation, using mental health supporting applications could easily trigger services failures affecting individuals' wellbeing.

For example, consumers raise considerable concerns about Replika — an AI-powered chatbot for virtual companionship (Cosic, 2013). Users complained about some inappropriate content, such as sexual texts and images and certain claims relating to privacy invasion, which might cause potential risks to emotionally vulnerable people, especially younger children. To avoid such negative events and to effectively manage customers' relationships,

academics and practitioners are in need to broaden their understanding about consumer receptivity of AI-based technology.

Specifically, knowledge about key factors and beliefs that influence people' usage of AI application would inform researchers and managers about proper practices without eliciting conflicts between consumers and brands. Such findings are also beneficial to gain consumers' insights, leveraging suitable strategic planning for relationship management. For that reason, this research examines consumers' attitudes and behavioral responses toward AI-powered tools in mental health by using the health belief model in combination with elements from services marketing and health informatics. By doing so, Essay 1 aims to make three main contributions to current research and practices.

First, we show that the health belief model is beneficial to understand consumers' adoption of AI-based tools in mental health services. In particular, perceived benefit is the strongest antecedence of consumers' attitudes and behavioral responses toward AI-enabled technologies. This process is mediated through the sense of uniqueness neglect. Marketing managers should then focus on presenting the potential benefits to facilitate better consumers' adoption of AI tools in mental health. Second, this research studies how different AI intelligence levels can drive consumers' adoption of such technologies. In comparison with analytical AI, empathetic AI leads to more favorable attitudes and adoption behaviors. This marks our second contribution. Third, we introduce two important moderators, which are health literacy and media vicarious traumatization to the proposed framework. This broadens our understanding about the way consumers further investigate the consumers' adoption of AI-enabled application in mental health context. While providing new insights to

the AI research stream, we also aim to provide guidelines regarding consumer relationship management process in services marketing.

Understanding consumers responses to firm-induced termination during the relationship termination phase

In the second essay, we study different firm-induced termination strategies and the consumers' responses to such relationship fallout. Customers are different in terms of their profitability to the companies. Currently, given the advanced tools, firms can identify the unprofitable ones. It is logical to terminate the relationship with such customers, making such practices become more and more common in the industry. For instance, ING has closed thousands of accounts and terminated their relationship with customers who are labeled as "unprofitable" and "dead weight" to the company (20 minutes, 2022). We recognize these practices as the company's proactive attempt to end the relationship with their existing customers. This phenomenon has attracted increasing research interests. Recent works have documented the consumers' unfavorable responses, ranging from negative word of mouth to revenge behaviors toward the firms, following such divestments (Haenel, Wetzel and Hammerschmidt, 2019; Nazifi, El-Manstrly and Gelbrich, 2019). Hence, we aim to further broaden the current research stream of service failure by studying consumers' reactions, both antisocially and pro-socially, to different termination strategies and the underlying mechanisms behind such responses.

This research makes several theoretical contributions and has managerial implications. First, depending on whether consumers can detect the firm's true intention, this research further distinguishes indirect strategies into unexposed tactic and exposed tactic instead of considering only direct and indirect termination as in previous literature. It also

shows how indirect termination can backfire and lead to consumers' unfavorable responses in comparison with the honest approach of direct strategy. This guides managers and practitioners to choose the appropriate strategies to achieve a peaceful breakup with customers. Second, contributing to a better understanding of consumers' responses following relationship fallout, this research indicates that people can simultaneously engage in antisocial (revenge) and prosocial reactions (reconciliation) in such situations. More importantly, Essay 2 further investigates the underlying mechanisms of the relationship between termination tactics and consumers' responses. Specifically, rejection appears to be the crucial mediator for the antisocial route, while perceived fairness explains how people enact prosocial actions. Finally, findings reveal that the impact of termination directness on consumers' perceived rejection evolves as a function of time, which demonstrates the dynamic relationship between the brand and consumers in the relevant context.

In studying the proposed research topics, the two essays both rely on surveys and experiments as the methodological approach. For richer data about the dynamic relationship between customers and brand, we rely on longitudinal data and multi-stages design for more insights on consumers' perception and responses. By using diverse methods, we take advantages of complementary approaches to further improve the insightful findings of the topics and address the call for more advanced analytics in the current research streams. Besides, we employ longitudinal surveys to investigate the proposed research questions for Essay 2. Longitudinal data is not commonly used in marketing research. Khamitov et al. (2020) reports that only 2.5% of research regarding service failure, brand transgression and product-harm crisis uses this method. Since longitudinal designs are particularly suitable for capturing changes of internally oriented variables over time, it aligns well with our research

objectives by providing richer data to further explore the evolving connection between consumers and brands, which is still limited in the current research contexts. Hence, this proposal is expected to have methodological contributions to the literature on consumer-based strategy and customer relationship management. In the following sections, we present Essay 1 and Essay 2 with theoretical background, hypotheses development, method, and discussion accordingly.

Chapter 1: Navigating the Path of Adoption: An Extended Health Belief Model of AI-Based Applications in Mental Health

Abstract

The use of artificial intelligence (AI) in for mental self-care is becoming more and more popular. There have been numerous applications with AI integration focusing on managing mental well-being among the general population. Nevertheless, a noticeable research gap exists concerning consumers' decision-making processes in adopting these applications. Using Health Belief Model, a well-established framework for health adoption behaviors, this research explores the impact of various types of AI intelligences, including Empathetic and Analytical AI, on perceived intelligence. This later affect beliefs toward the AI-based application (i.e. perceived benefits and perceived barriers) . Together with the belief about susceptibility to get mental health concerns and the severity of potential mental health problems, these pose influences on whether consumers adopt AI-based applications. Moreover, “uniqueness neglect” emerges as a key mediator linking beliefs to adoption behaviors. Importantly, we also examine the moderating role of media vicarious traumatization and health literacy in predicting the sense of uniqueness neglect towards AI-based applications. This research includes a multi-stage survey with 1,112 respondents, employing both self-report measures and actual behaviors to measure consumers' responses to AI-powered tools in mental health.

Keywords: AI, health belief model, uniqueness neglect, media vicarious traumatization, health literacy

1.1 Introduction

According to The American Psychiatric Association (2023), mental health "is key to relationships, personal and emotional well-being, and contribution to community or society". As artificial intelligence (AI) has revolutionized numerous industries, healthcare in general and mental health services in particular have also embraced this trend for better utilization by different stakeholders, including medical professionals, organizations, and consumers. Examples include AI-based decision support systems and AI-enabled apps for mental health support, such as Wysa and Woebot. Despite considerable research attempts focusing on the effectiveness of AI-based tools from the perspectives of physicians or organizations (Graham et al., 2019; Lee et al., 2021), our understanding of customers' perceptions of such technologies still limited. To contribute to this literature, we use a validated model of behavior change, the Health Belief Model (HBM, Keller and Lehmann, 2008), incorporating elements from service marketing and health information to document these adoption processes.

Although the effectiveness of the HBM in predicting behaviors across health domains has been well-documented through meta-analyses (Carpenter, 2010; Harrison, Mullen, & Green, 1992), the framework has been rarely adopted in mental health prevention, let alone digital mental health services. We argue that the HBM is appropriate for understanding the acceptance of health-related applications because this rich theory has been successfully used in health contexts over the last 70 years.

In response to the call made by Scott, Hassler, and Martin (2022) to incorporate a marketing perspective into mental health research, our work not only aims to apply a well-established model to a different context but also integrates distinct service elements to offer a fresh perspective at the intersection of these two domains, thereby enhancing their respective

bodies of knowledge. For instance, Radanielina Hita et al. (2022), in a recent study using the HBM in the context of service marketing and health, explored the influence of media exposure on consumers' behaviors related to social distancing and panic buying.

In our research, we extend current knowledge by combining the HBM with conceptual elements from digital service marketing (such as AI intelligence levels), health information literature (including media vicarious traumatization and health literacy), and psychological constructs (such as the sense of uniqueness). This interdisciplinary approach allows us to broaden our understanding of the dynamic of consumer behavior in digital mental wellbeing management, offering valuable insights for both service marketing and healthcare literatures. This research makes three theoretical contributions with relevant practical suggestion for better relationship care.

First, we outline how consumers' attitudes and behaviors toward AI-based technology can vary according to different types of AI intelligences, empathetic vs analytical, within the scope of this research. While current research mostly concentrates on the comparative effects of AI technology versus those of medical professionals (Longoni, Bonezzi, & Morewedge, 2019), our study examines the impact of distinct types of AI-based services on individuals' receptivity and adoption. We demonstrate how a higher level of AI technology (empathetic AI) can generate more favorable responses compared to lower-level AI tools (analytical AI) through a serial mediation involving perceived intelligence and health beliefs. This finding should enable healthcare managers to design suitable AI solutions that better promote their respective tools and enhance user acceptance of the technology.

Second, we introduce the role of *uniqueness neglect*, which refers to the extent to which individuals perceive that a particular technology may not adequately address their unique

characteristics and circumstances, in driving consumers' adoption of AI-based services. This research documents how uniqueness neglect serves as a critical mediator, linking the "preferred pathways of action" from the Health Belief Model (HBM)— which involve perceived benefits and perceived barriers beliefs—to the consumers' attitudes and/or behaviors. This sheds light on the essential role of perception about uniqueness consideration in mental health services and provides further theoretical contribution to the application of the HBM in a healthcare service literature.

Third, by incorporating two moderators (i.e., health literacy and media vicarious traumatization), we put emphasis on how individual differences can act as a boundary condition in consumer's acceptance of AI-based technologies for mental health support. Policymakers and designers should consider these factors to promote such tools in an effective way and to ensure that people can fully benefits from such technologies to better manage their well-beings.

To make these contributions and understand consumers' receptivity toward AI-enabled solutions in mental health contexts, we develop a comprehensive conceptual framework. First, we examine the impact of health components in forming the adoption behaviors. (See Figure 2). Then, we place focus on the "preferred paths of actions" of the HBM model which involves perceived benefits and perceived barriers (See Figure 3). Specifically, investigation of the underlying mechanisms reveals how uniqueness neglect mediates the relationships of health beliefs on the downstream variables. Besides, we test how potential moderators (media vicariousness and health literacy) can affect the proposed sequences.

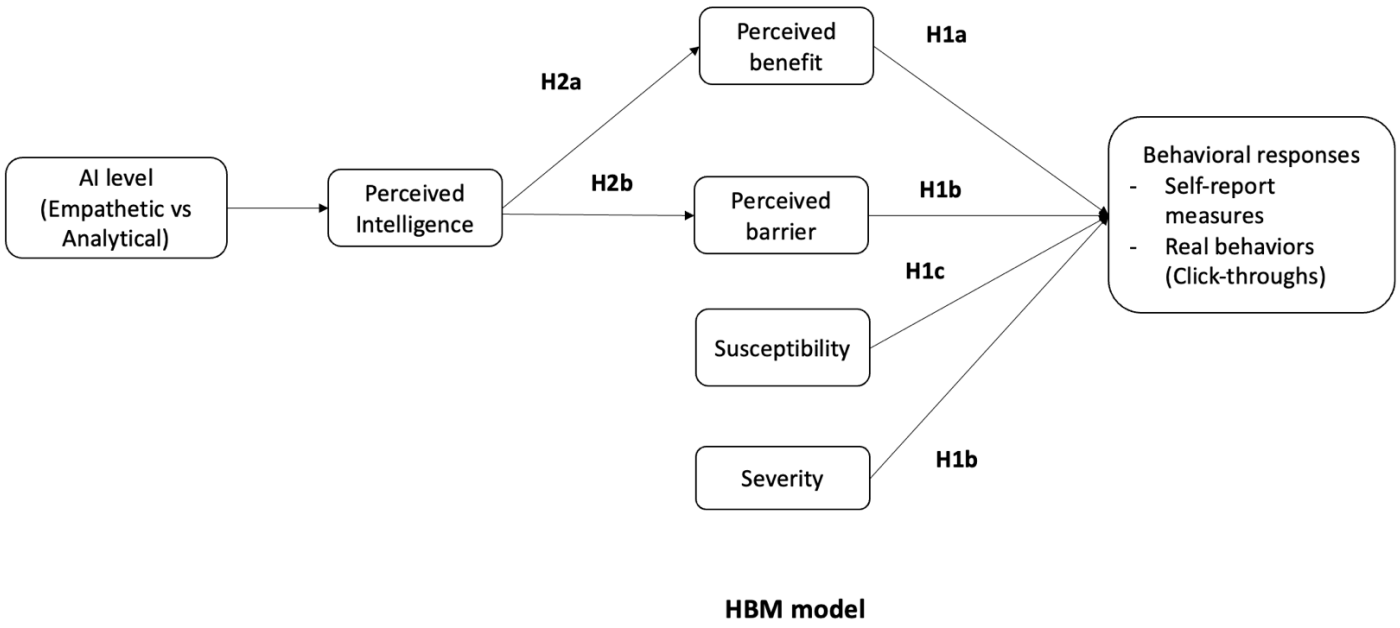


Figure 2: Overall conceptual framework - Essay 1

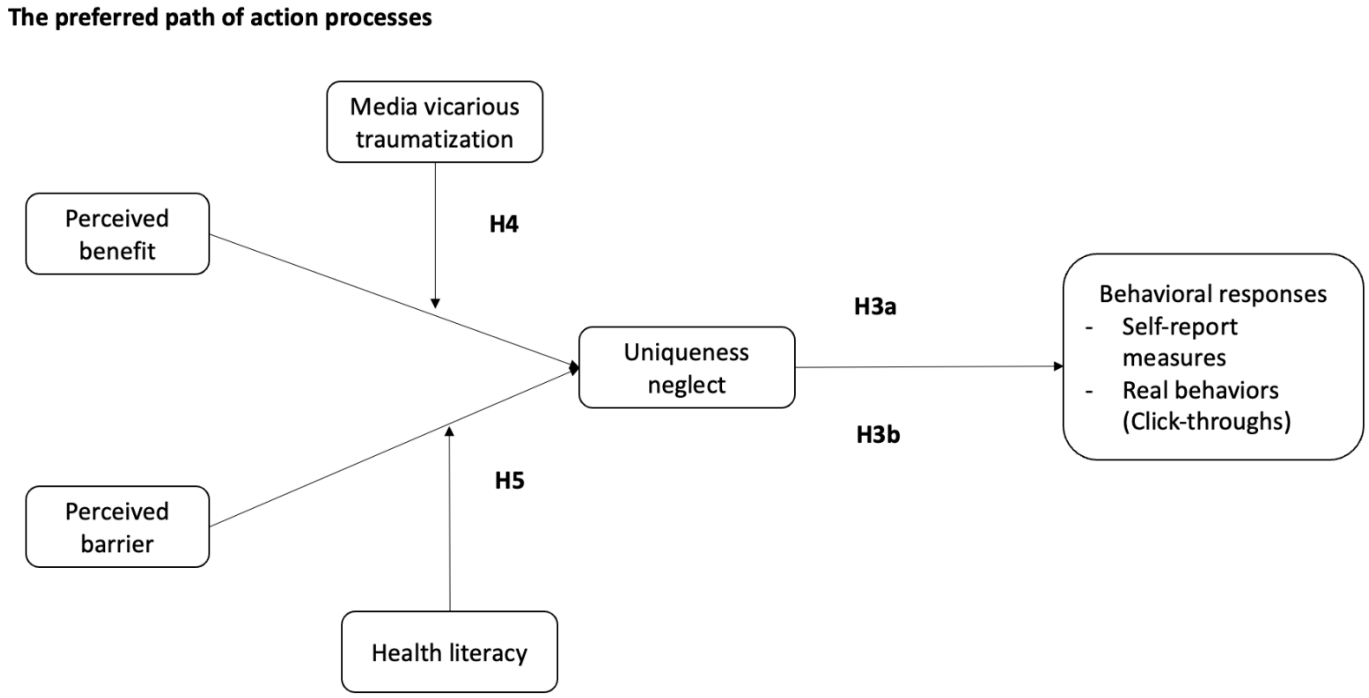


Figure 3: Detailed framework of the preferred path of action processes

1.2. Theoretical development

Health Belief Model

The Health Belief Model (HBM) was first developed in the 1950s to understand health-promoting behaviors (Janz and Becker, 1984). Since then, the HBM has been used across various medical contexts, ranging from adherence to medical devices to cancer screening, with significant empirical evidence supporting its predictive and explanatory power (Chin and Mansori, 2019; Jones, Smith, and Llewellyn, 2014; Sulat et al., 2018). Together with Social Cognitive Theory, the Theory of Reasoned Action, and the Transtheoretical Model, the HBM is among the most popular theories that researchers adopt to investigate behavioral changes (Painter et al., 2008).

The HBM model comprises the following constructs: (1) perceived severity (the belief about the seriousness of the condition and the evaluation of the corresponding consequences, both medically and socially), (2) perceived susceptibility (the extent to which an individual perceives themselves to be exposed and affected by the condition), (3) perceived benefits (the belief in the potential benefits of carrying out a particular health action and reducing the threats of the condition), and (4) perceived barriers (the belief about the negative aspects, such as tangible and psychological costs, of engaging in the target action). The first two constructs form the perception of threat, while the latter two contribute to the preferred path of action to trigger health decision-making (Janz and Becker, 1984). Several meta-analyses indicate that perceived benefits and perceived barriers appear to be the strongest predictors of behavior change (Carpenter, 2010). Specifically, individuals who perceive strong benefits of adopting a behavior are more likely to do so, while a high level of perceived barriers often prevents people from

performing the target action. On the other hand, the impact of susceptibility and severity on the desired action can be weak or insignificant across studies (Carpenter, 2010).

However, we suggest that in the context of mental health, if consumers recognize the importance of their mental well-being, their likelihood of experiencing mental health problems and the potential negative outcomes associated with mental illness, they are more motivated to use supporting applications. A recent study on social distancing and panic buying using a similar approach also find severity and susceptibility to be relevant to consumers' responses (Hita et al., 2022). Hence, we expect the following pattern in how the HBM affects users' usage of AI-based applications. Formally, we hypothesize:

> **H1:** Perceived benefits (H1a), perceived susceptibility (H1b), and perceived severity (H1c) have a positive effect on consumers usage intention while perceived barriers (H1d) have a negative effect on consumers usage intention.

AI intelligences levels

Artificial intelligence refers to technology or machines with the ability to perform human-like tasks (Huang, Rust, and Maksimovic 2019; Huang and Rust 2020). AI is distinguished from other technologies due to its capacity to learn and adapt based on multiple requirements. The literature suggests that AI can accommodate changing needs thanks to two fundamental characteristics: Self-learning through large inputs over time and connectivity with other machines, humans, and objects (Hoffman and Novak, 2018; Huang and Rust, 2018; Huang, Rust, and Maksimovic, 2019). Based on its wide practical applications, multiple domains have utilized AI with numerous examples in service marketing. For instance, firms have used service robots and chatbots to improve customer engagement and experiences (Huang and Rust, 2018).

However, it should be noted that not all AI-based technologies have the ability to learn and adapt (Huang and Rust, 2018).

AI-based tools can differ significantly in their design to serve a wide range of tasks and applications. Huang and Rust (2021) argue that AI in services marketing can be divided into four levels of intelligence, each resembles different aspects of human intelligence. Accordingly, these levels are mechanical, analytical, intuitive, and empathetic; this list is in a sequential order from lower and simpler technologies to higher and more complex ones. Mechanical AI is suitable for standardized and repetitive tasks that require minor changes or modifications. The more consistent the needs are, the more efficient the AI becomes. Analytical AI offers a more rule-based approach where it processes data rationally and logically for problem-solving tasks. Such AI can gain expertise through systematic training with large datasets, making them fit for complex but predictable tasks. Next, intuitive AI, also known as thinking AI, has the capability to offer creative solutions for new problems as it has a a deep understanding of context rather than solely relying on systematic observations. Hence, this type of intelligence can deliver personalized recommendations for users over time. Empathetic intelligence is about how humans process emotionally related information with proper social and interpersonal skills. For empathetic AI, it means the technology can recognize emotions and offer hedonic and affective experiences for consumers. The four levels of intelligence, though ordinal, are not mutually exclusive and can coexist to perform the required service tasks.

There exist inconsistent findings when discussing the effect of human-like robots in past literature concerning anthropomorphism in service marketing. Duffy, 2003, p. 181; Stroessner and Benitez, 2019 indicate that machines with human-like features can lead to a more favorable engagement rate. In contrast, some studies shed light on how a higher level of human likeness,

though offering more psychological warmth, generates less positive consumers attitudes than those with fewer human-like traits (Kim, Schmitt, and Thalmann, 2019). This refers to the Uncanny Valley Effect, which concerns the negative affective state that arises when people feel an eerie sensation towards human-like objects (Ho, MacDorman, and Pramono, 2008; Mori, 1970, p. 33). Extending this logic to our research focus about the acceptances of various AI technologies with different intelligence levels, one might infer that a higher level of AI (Empathetic) could result in a more negative consumers' response in adoption process in comparison to a lower AI level (analytical), since it shows more human-like characteristics.

However, following the suggested categorization of Huang and Rust (2018) in the context of services AI, when reaching the higher level of intelligence, the technology still possesses the abilities to do lower-level tasks. When consumers use the technology long enough and recognize such differences, we believe that compared with "lower" level AI, such a technology with a "greater" intelligence level should result in more perceived intelligence in consumers' mind. This is because people get to know how the AI can handle diverse tasks instead of fulfilling only one or another. Compared to Analytical AI, Empathetic AI is not only more competent, but also better at understanding emotions. We argue that the ability to recognize and effectively communicate emotions allows the Empathetic AI to connect with consumers on a more social level, surpassing the benefits offered by Analytical AI. By creating a more pleasurable interaction experience, Empathetic AI might also be able to mitigate obstacles and barriers for consumers when interacting with it. Hence, we suggest that consumers perceive the Empathetic AI as more beneficial, enjoyable, and with fewer obstacles to overcome, making them more inclined to use the technology, thereby driving their adoption of the relevant technology. Given the above discussion, we propose:

H2: The effect of AI intelligence level on consumer adoption behaviors is mediated by perceived intelligence and two components of the HBM. Specifically, it involves two parallel indirect effects:

a) AI levels (empathetic vs. analytical) → perceived intelligence (+) → perceived benefits (+) → adoption behaviors (+)

b) AI levels (empathetic vs. analytical) → perceived intelligence (+) → perceived barriers (-) → adoption behaviors (-)

Uniqueness neglect

There is multiple psychological and sociological theories focusing on the concept of self-uniqueness (Baumeister, 1998; Brown, 1998). The theory of uniqueness argues that individuals inherently seek distinctiveness and differences from others. Such desires motivate people to have corresponding behavioral responses aimed at setting themselves apart from their peers (Snyder and Fromkin, 1980). When comparing themselves with others, people tend to believe that their abilities, beliefs and skills are more unique. Blanton et al. (2001) provide insights that people rate their ability to cope with negative events much lower than that of others. Another study provides support for the notion that people are often unaware of their own biases, though they can easily detect such biases in their peers (Scopelliti et al., 2015). According to Uniqueness Theory, this motivation for uniqueness stems from discomfort triggered by the perceived high similarities between oneself and others. For instance, students have more favorable responses when receiving feedback that is moderately similar to that of other participants, compared to being told that they are highly similar to other respondents (Fromkin, 1972). When self-uniqueness is threatened, individuals are more inclined to behave in a manner that helps re-establish their distinctiveness and attain the desired uniqueness.

When it comes to healthcare services, especially mental health contexts, we suggest that individuals tend to perceive their conditions as more unique than others. Some early attempts of

the research topics offer insights of how individuals often attribute more uniqueness to their health conditions. These include unusual causes of insomnia or having distinctive symptoms of headaches or anxiety, compared to those experienced by others (Longoni, Bonezzi, and Morewedge, 2019). Uniqueness neglect reflect the degree in which people believe that their their distinctive traits, circumstances, and symptoms might be overlooked or neglected (Longoni, Bonezzi, and Morewedge, 2019). Building upon the research by Longoni, Bonezzi, and Morewedge (2019) on uniqueness neglect as a driver of consumer attitudes toward AI, we argue that it serves as a key mediator linking health beliefs with consumers' attitudes and adoption behaviors regarding AI technologies. Specifically, we investigate two parallel sequences involving the preferred path of actions of the HBM Model with perceived benefits and perceived barriers.

When people form a perception of benefits toward AI-powered solution, they might believe that such technologies can adapt to their unique health condition, thus reducing the uniqueness neglect and lead to more positive responses. This is because by having a high level of benefits makes people think that their individual needs and circumstances have been considered with personalized and tailored services rather than just ignoring them. In contrast, perceived barriers are likely to amplify uniqueness neglect. When users face more challenges with the app, they may perceive the technology as more generic and standardized. Hence, they might feel the AI-based solution is designed for an average individual but not their specific needs. This perception can heighten the feeling of uniqueness neglect and generate the less favorable attitudes and adoption behaviors.

H3: The effect of health beliefs on consumer adoption behaviors is mediated by uniqueness neglect. Specifically, it involves two parallel indirect effects:

a) Perceived benefits → uniqueness neglect (-) → adoption behaviors (-)

b) Perceived barriers → uniqueness neglect (+) → adoption behaviors (-)

Media vicarious traumatization

The advanced media technologies provide easy and instant access to multiple sources of information when people are in need of mental wellbeing management. However, such resources can potentially exceed the individuals' demand (Betterhelp, 2024). It means that while exposure to media can significantly aid in reducing the uncertainty surrounding mental health issues by guiding users with beneficial insights, it can also trigger anxiety if people process too much information. This phenomenon is known as vicarious traumatization (Huff, 2022).

Vicarious traumatization originally described the negative transformation that professional workers experiences after working with trauma survivors (McCann and Pearlman 1990; Sabin-Farrell and Turpin 2003). Some mental health professionals engage in when hearing about traumatic events. This can result in personal and social effects such as changes in beliefs or attitudes (Pearlmann and Saakvitne, 1995; Farrell and Turpin 2003). As media evolves, individuals can look for information easily thanks to pocket devices, allowing them to stay informed about "breaking news" happening around the world. Together with traditional media, social media is a prominent news source. About thirty percent of U.S. adults told that they regularly read news on Facebook while Youtube serves as the regular news source for twenty-six percent of people (Pew Research Center, 2023). The ongoing exposure to traumatic events in a vivid portrayals with articles and videos can evoke negative emotions and empathic involvement from audiences. This can lead them to personally relate to narratives of overwhelming horror, which serves as the primary mechanism for the development of vicarious trauma (McCann and Pearlman, 1990). In the context of this research, we defined media vicarious traumatization as the degree to which individuals have experienced vicarious trauma upon learning or hearing about others' mental health-related traumatic events through media channels.

We propose that media vicarious traumatization has an impact on whether people adopt AI-powered technologies in mental health context. We expect that the amplifying effect of media vicarious traumatization will increase as the perceived benefits rise. In situations where perceived benefits are low, individuals may be less likely think that AI-based apps can adapt to their unique health circumstances, regardless of their levels of media vicarious traumatization. This is because consumers often perceive AI-based apps as standardized, and with low perceived benefits presented, it is logical to assume that these technologies will not adequately account for their uniqueness.

Conversely, we anticipate observing an amplification effect of media vicarious traumatization in cases where perceived benefits are high. Individuals who experience high levels of media vicarious traumatization are likely to perceive a significant difference in how well the app can cater to their uniqueness compared to those with lower degrees of media-vicarious traumatization. Exposure to media trauma may evoke emotional responses such as fear, anxiety, or distress. Due to their skeptical perspectives and negative attitudes toward mental health portrayal in the media, individuals with higher levels of media vicarious traumatization may be more inclined to believe that AI-enabled technologies cannot effectively address their unique conditions. As a result, they perceive the app to have a greater tendency to overlook their uniqueness, in contrast to the perceptions of individuals with lower levels of media vicarious traumatization regarding the app. Formally, we hypothesize:

> **H4:** Perceived benefits interact with media vicarious traumatization to predict sense of uniqueness neglect. As the level of perceived benefits increases, the amplifying effect of media vicarious traumatization increases.

Health literacy

Health literacy is defined as "the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others" (National Library of Medicine, 2024). It can be challenging for people with inadequate health literacy to identify if they are experiencing certain health conditions, make medication errors, and use fewer preventive services. For instance, individuals with inadequate literacy skills are more likely to find it challenging to understand government communication during the pandemic of COVID-19, making them to underestimate the role social distancing and develop misconceptions about the disease and vaccination than those with higher health literacy (McCaffery et al., 2020). Moreover, low health literacy also associates with poor health outcomes including longer hospital stays, frequent emergency visits, or even higher rate of mortality (Cho et al., 2018; Jaffee et al., 2017).

Although the advanced development of technologies has opened more opportunities for people to have better access to health information, prior research reports that many consumers have a low level of health literacy in the context of Internet-based services, including web-based and mobile applications (Kim & Xie, 2017). These consumers might face more obstacles in interpreting the information and suggestions provided by the AI entities. This makes them believe that the AI-based application is more standardized and generic. Conversely, those with sufficient health literacy often have a more comprehensive knowledge of the mental health services. Hence, these individuals might know that the chosen technologies can identify their unique condition and make suitable adaption to their circumstances.

Extending this logic to our research focus, we anticipate that the impact of perceived barriers on uniqueness neglect is mediated by health literacy. When perceived barriers are low,

there will be an amplifying effect. Specifically, individuals with a high degree of health literacy experience significantly less uniqueness neglect than those who have a lower level of literacy skills. We suggest that individuals with better health literacy are more capable of overcoming the psychological costs associated with AI-based applications. This enables them to recognize the benefits of using the applications more readily and understand how the AI-technologies has tailored to work more efficiently according to their personal health conditions. As a result, their perception of uniqueness neglect significantly. In contrast, when perceived barriers are high, people are likely to perceive that AI-based technology will not be able to adapt to their specific health condition, thus leading them to neglect their uniqueness, irrespective of their level of health literacy. Formally, we hypothesize:

> **H5:** Perceived barriers interact with health literacy to predict sense of uniqueness neglect. As the level of perceived barriers increases, the amplifying effect of health literacy is increased.

1.3 Methodology

Sample and study design

We conducted a survey in collaboration with Sago, a firm with an online panel called "Asking Canadians,". This panel has more than one million Canadian profiles which share common characteristic with the general population such as age, sex, language, income, education, and regions (Statistics Canada, 2021). The survey followed a multi-stage design with two waves of questionnaires.

In October 2023, Sago sent the survey link to 16,993 panelists. There were 1,897 respondents who started the questionnaires, corresponding to an initial response rate of 11.16%. Additionally, after excluding incomplete questionnaires, Sago also applied an in-house procedure to eliminate "racers" (47 cases – approximately 2%). Following the removal of these cases, the

final sample resulted in 1,113 completed questionnaires. This implied a final response rate of 6.54%. Though this rate is low, it appeared to be reasonable when compared to recent response rates ranging from 10% to 15% as reported by Chen (2021) and Wielgos et al. (2021. This round of questionnaire mostly concerned about respondents' demographics variables and their individual characteristics (media vicarious traumatization and health literacy).

One week after the first questionnaire, Delvinia distributed the link for the second phase of data collection to participants who had completed the first round of the survey. Out of the 1133 respondents in the original pool, 846 individuals began the second phase. After excluding participants with incomplete responses and those who did not pass the screening section, the final dataset comprised 671 responses (M_{age} = 50.70, SD = 15.62; 47.5% female). Feldman and Lynch (1988) and Podsakoff et al. (2003) suggest that there are a number of factors (i.e. participant characteristics, time intervals between phases) that can have an impact on the response rate. Delvinia typically targets an average response rate of 60%, with a minimum threshold of 50%. With a response rate of 60.28% in the second round, we assess our overall response rates as satisfactory.

To evaluate the potential for non-response bias (Hulland et al., 2018), we examined the demographic factors (including gender, region, and language) and the scores of our primary variables across a random selection of participants who joined early versus those who joined later. No statistically significant differences were observed across any of these variables.

In the second questionnaire, participants first read an introduction about AI in general and a description of a real AI-based mobile application which focuses on meditation. Then they were randomly exposed to one of the two AI-based technologies condition (analytical vs empathetic). In the analytical condition, we show that how the application can process data logically and its

abilities to analyze information to deliver the useful solution based on the given input. Participants in the empathetic condition saw that apart from rational decision making, the application can communicate emotionally with users. Next, they were provided with a brief information about different types of AI in services including empathetic and analytical AI, and asked to choose which AI-based technologies they were using. Participants then answered questions about the realism of the scenarios, manipulation checks and the other constructs of our theoretical model (HBM beliefs, uniqueness neglect, intention to use, propensity to follow and satisfaction with the app) with established scales from the literature.

Common method bias

We applied several remedies to account for common method bias. First, our study design allows us to collect data of the main variables at different time points. While demographics and individual characteristics – acting as predictors, were reported at Time 1, respondents answered questions regarding health beliefs and behavioral measures at Time 2. The purpose of introducing this temporal gap between measurements is to reduce respondents' inclination and/or incentive to rely on previous responses to fill in missing information, speculate about absent details, or respond to subsequent questions (Feldman and Lynch, 1988; Podsakoff et al., 2003).

Additionally, during the design phase, we implemented measures to mitigate common method bias by minimizing order effects through randomization. In online studies, we randomized the sequence in which questions within a block are presented to each respondent.

Scales and measurements

Unless otherwise specified, all scales reported used a seven-point Likert scale (1 = Strongly Disagree; 7 = Strongly Agree). We use established scales with adaptation to mental health contexts to measure key variables including HBM components (severity, susceptibility,

perceived benefit, perceived barriers) (Fall, Izaute and Chakroun-Baggioni, 2018), uniqueness neglect (Longoni, Bonezzi, and Morewedge 2019), health literacy (Noblin et al., 2012), media vicarious traumatization (Liu & Liu, 2020). To evaluate the adoption's attitudes of participants toward the AI-based services, we use several constructs including propensity to follow (H.-W. Kim & Kankanhalli, 2009; Promberger and Baron, 2006), intention to use (Kim and Kankanhalli, 2009) and satisfaction (Gelbrich et al 2021; Voss, Parasuraman, and Grewal, 1998).

We develop a new scale to measure the perceived intelligence of AI-based applications. We identify several items from related literature of service robots including anthropomorphism, animacy, perceived intelligence (Bartneck et al., 2019) and the conceptual definition based on Huang and Rust (2021). In line with Bagozzi's (1980) recommendations, only the items with loadings of more than 0.7 were included. Eventually, the pretest questionnaire included six items that were considered the most indicative of the construct. Overall, the items generally represent the underlying factor it is intended to measure (See Web Appendix). Apart from self-report measures for adoption responses, participants also engage in real behaviors in which they chose to take actions (click-throughs) for finding more information about the app, downloading the app (download) or sharing the app through social platform (referral).

Table 1: Scale statistics: Means, standard deviations and correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Perceived intelligence	4.12	1.38	1										
2. Perceived benefits	3.90	1.42	.56**	1									
3. Perceived barriers	4.1	1.26	-.14**	-.20**	1								
4. Susceptibility	4.41	1.27	.24**	.38**	.03	1							
5. Severity	5.05	1.30	.16**	.21**	.007	.44**	1						
6. Intention to use	3.05	1.67	.50**	.82**	-.19**	.40**	.15**	1					
7. Propensity to follow	3.05	.90	.43**	.74**	.-.15**	.35**	.16**	.82**	1				
8. Satisfaction	3.70	1.47	.53**	.78*	-.19**	.33**	.20**	.81**	.75**	1			
9. Media vicarious	4.56	1.44	.008	.09*	.08*	.35**	.22**	.08	.06	.02	1		
10. Health literacy	2.78	1.50	.28**	.36**	-.001	.21**	.04	.39**	.35**	.40**	.04	1	
11.Uniqueness	4.55	1.39	-.25**	-.27**	.55**	.05	.09*	-.28**	-.21**	-.28**	.14**	-.10*	1

****p < .01, * p <.05**

Manipulation check

The manipulation check was assessed using a one-item scale (What type of AI do you think this is? Analytical - Empathetic). Analytical AI is more rule-based and it learns and adapts systematically based on data. Empathetic AI, apart from being information-based, is also social, emotional, and highly interactive. Participant first read an introduction about the two types of AI and then asked to indicate which one that they think they were exposed to in the experiment. A Chi-squared test indicates that their response is dependent on the manipulated scenarios ($p = .05$), which confirms the success of the manipulation.

Results

HBM model. We first conduct analyses to test the impact of HBM belief on behavioral variables (H1).

Self-report measures. We first examined the impact of the Health Belief Model (HBM) components on participants' self-reported measures through linear regression analysis. Perceived benefits, perceived barriers, severity, and susceptibility were entered as predictors for intention to use, propensity to follow, and satisfaction with the application in the respective linear regression models. The overall regressions yielded statistically significant results (intention to use: $R^2 = .69$, $F(4, 666) = 377.35$, $p < .01$; propensity to follow: $R^2 = .53$, $F(4, 666) = 206.19$, $p < .001$; satisfaction with the app: $R^2 = .53$, $F(4, 666) = 275.43$, $p < .001$).

Perceived benefits appear as the most prominent predictors of the downstream variables (all p's $< .001$ and β's $>.70$). Furthermore, the other three HBM components exhibit significant effects on intention to use. Additionally, perceived susceptibility is found to be a predictor of propensity to follow ($\beta = .10$, $p = .02$), while perceived barriers marginally predict satisfaction

with the app (β = -.04, p = .09). These findings provide support for H1a, while H1b, H1c, and H1d are partially supported (See Table 2).

Table 2: Descriptive statistics – Self-report measures

Variables	Standardized Estimate	SE	95% CI		p
			LL	UL	
Intention to use					
Perceived benefits (H1a)	.78	.02	.854	.964	*<.001*
Perceived barriers (H1b)	-.04	.02	-.114	.000	*.05*
Perceived susceptibility (H1c)	.03	.03	.116	.247	*<.001*
Perceived severity (H1d)	-.07	.03	-.155	-.035	*.002*
Propensity to follow					
Perceived benefits (H1a)	.70	.02	.411	.482	*<.001*
Perceived barriers (H1b)	-.01	.02	-.047	.028	*.62*
Perceived susceptibility (H1c)	.10	.02	.025	.110	*.002*
Perceived severity (H1d)	-.30	.02	-.060	.019	*.20*
Satisfaction with the app					
Perceived benefits (H1a)	.76	.03	.732	.839	*<.001*
Perceived barriers (H1b)	-.04	.03	-.104	.008	*.09*
Perceived susceptibility (H1c)	.29	.03	-.030	.098	*.30*
Perceived severity (H1d)	.26	.03	-.030	.088	*.33*

Behavioral measures. A binary logistic regression was conducted to examine the influence of perceived benefits, perceived barriers, perceived susceptibility, and perceived severity on the probability of participants clicking to access more information about the AI-based application. The Health Belief Model (HBM) components are included as independent variables in the logistic regression, with click behavior as the dependent variable. The same methodology

is applied to investigate the impact of HBM beliefs on the likelihood of clicking to download the app and share it on social media.

The findings reveal that perceived benefits and perceived barriers are significant predictors of participants' inclination to click for more information about the app ($\beta = .54$, $p < .001$; $\beta = -.20$, $p = .015$). Concerning the click for downloading the app, perceived benefits ($\beta = .68$, $p < .001$), perceived barriers ($\beta = -.24$, $p = .008$), and perceived susceptibility ($\beta = .30$, $p = .01$) are identified as significant predictors. As for the referral click, regression analyses indicate significant effects of perceived benefits, perceived susceptibility, and perceived severity on participants' likelihood to recommend the AI-enabled application to friends or family on social media ($\beta = .60$, $p < .001$; $\beta = .34$, $p = .013$; $\beta = -.31$, $p = .01$). Overall, these results provide support for H1a, while H1b, H1c, and H1d receive partial support (See Table 4).

Table 3: Descriptive statistics – Behavioral measures

Variables		**Frequency**	**Total**
Click for information	Yes	154	671
	No	517	
Click to download	Yes	103	671
	No	568	
Click to refer	Yes	85	671
	No	556	

Table 4: Results of the regression analyses

Variables	Estimate	SE	p
Click for information			
Perceived benefits (H1a)	.53	.09	<.001
Perceived barriers (H1b)	-.20	.08	.02
Perceived susceptibility (H1c)	.14	.10	.15
Perceived severity (H1d)	-.11	.09	.23
Click to download			
Perceived benefits	.68	.11	<.001
Perceived barriers	-.24	.09	.01
Perceived susceptibility	.30	.12	.01
Perceived severity	-.006	.11	.95
Click to refer			
Perceived benefits	.60	.12	<.001
Perceived barriers	-.08	.10	.42
Perceived susceptibility	.34	.14	.01
Perceived severity	-.31	.12	.01

Perceived intelligence. We conducted an ANCOVA with AI type as the independent variables and perceived intelligence as the dependent variable. As expected, results indicate a significant main effect ($F(1, 670) = 7.40$, $p = 0.01$; partial $\eta^2 = 0.011$). Participant in the empathetic condition find the app to be more intelligent than that in the analytical one ($M_{Analytical} = 3.97$, $M_{Empathetic} = 4.26$, $t = 2.72$, $p = 0.01$).

Mediation analyses. For Hypothesis 2, we test the sequences involving perceived benefits, which posits AI technology → perceived intelligence → perceived benefits → intention

to use/propensity to follow/satisfaction with the app, respectively, using PROCESS Model 6 (Hayes, 2022) with 5000 bootstrap samples. We code AI technology using a dummy variable in which Analytical AI and Empathetic AI have the value of 0 and 1 respectively. The results reveal that Empathetic AI leads to a higher perception of intelligence compared to analytical AI (β = .29, p = .007). As respondents perceive the AI-based application to be more intelligent, they also report a higher degree of perceived benefits towards the technology (β = .58, $p < .001$). Moreover, the greater the perceived benefits, the more likely individuals are to use the app (β = .93, $p < .001$), follow its recommendations (β = .46, $p < .001$), and express higher satisfaction with it (β = .73, $p < .001$). The indirect effects through the two proposed paths also reached significance (intention to use: β = 0.16, 95% CI [0.042; 0.277]; propensity to follow: β = 0.07, 95% CI [0.022; 0.135]; satisfaction with the app: β = 0.12, 95% CI [0.033; 0.218]) (See Table 5). These findings support H2a.

We then conducted three additional mediation analyses with paths involving perceived barriers following a similar procedure (H2b). The indirect effects for the sequences of interest slightly miss the significance level (intention to use: β = 0.01, 95% CI [0.005; 0.018]; propensity to follow: β = 0.01, 95% CI [0.00; 0.007]; satisfaction with the app: β = 0.05, 95% CI [0.00; 0.015]) (See Table 5). Specifically, Empathetic AI led to a higher degree of perceived intelligence (β = .29, p = .007) than Analytical AI, which later results in a lower degree of perceived barriers (β = -.13, $p < .01$). Subsequently, perceived barriers have a negative effect on behavioral variables (intention to use: β = -.17, $p < .001$; propensity to follow β = -.06, p = .01; satisfaction with the app: β = -.14, $p < .001$). Considering that all individual paths are significant and aligned with our expectations, and the sequences of interest are approaching significance levels, we find marginal support for H2b.

Table 5: Results of mediation test (Based on 5000 Bootstrap samples)

	Estimate	Standard Error	Confidence Intervals Low	High
H2a: AI level (analytical vs empathetic) → Perceived intelligent → Perceived benefits → Intention to use	.16	.06	.042	.277
AI level (analytical vs empathetic) → Perceived intelligent → Perceived benefits → Propensity to follow	.08	.029	.023	.135
AI level (analytical vs empathetic) → Perceived intelligent → Perceived benefits → Satisfaction with the app	.12	.05	.033	.218
H2b: AI level (analytical vs empathetic) → Perceived intelligent → Perceived barriers → Intention to use	.006	.004	.00	.017
AI level (analytical vs empathetic) → Perceived intelligent → Perceived benefits → Propensity to follow	.002	.002	.00	.007
AI level (analytical vs empathetic) → Perceived intelligent → Perceived benefits → Satisfaction with the app	.005	.004	.00	.015

Uniqueness neglect. We investigated the mediating role of uniqueness neglect in the relationship between HBM beliefs (perceived benefits and perceived barriers) and participants' attitudes toward the AI-enabled application using Hayes Model 4. In terms of the sequences involving perceived benefits (H3a), the results indicated that when respondents perceived the app to be beneficial, they are less likely to believe that the app would neglect their unique conditions ($\beta = -.26$, $p < .001$). Uniqueness neglect had a negative influence on intention to use ($\beta = -.07$, $p = .01$) and satisfaction with the app ($\beta = -.07$, $p = .005$), but not on propensity to follow ($\beta = -.002$, $p = .57$). Therefore, only the indirect effects through intention to use and satisfaction achieved significance ($\beta = 0.02$, 95% CI [0.003; 0.381]; $\beta = .02$, 95% CI [.003; .041]). Thus, H3a is partially supported.

Next, we examine how uniqueness neglect mediates the impact of perceived barriers on the downstream variables (H3b). Mediation analyses showed that perceived barriers positively influence the perception of uniqueness neglect ($\beta = .60$, $p < .001$). Individuals who believed that the AI-based technology could not adapt to their personal health circumstances are less inclined to use the application ($\beta = -.29$, $p < .001$), follow its recommendations ($\beta = -.12$, $p < .001$), and express satisfaction with the technology ($\beta = -.25$, $p < .001$). All three sequences of interest are significant, as the confidence intervals did not contain zero (intention to use: $\beta = -.18$, 95% CI [-.252; -.103]; propensity to follow: $\beta = -.07$, 95% CI [-.112; -.035]; satisfaction with the app: $\beta = -.16$, 95% CI [-.221; -.091]). Taken altogether, these findings confirm H3b.

Media vicarious traumatization. For Hypothesis 4, we examined the interaction between perceived benefits and media vicarious traumatization, using PROCESS Model 1 (Hayes, 2022) with 5000 bootstrap samples. Initially, we observed significant main effects of perceived benefit on uniqueness neglect (perceived benefits: $\beta = -.50$, $p < .001$). Additionally, the interaction between perceived benefits and media vicarious traumatization was found to be significant ($\beta = 0.05$, $p = .03$) (See Table 6). To better understand the pattern of the moderation effect, we plotted the interactions by presenting the predicted means of the dependent variables for different values (-1 and +1 standard deviation) of perceived benefits and media vicarious traumatization (See Figure 4).

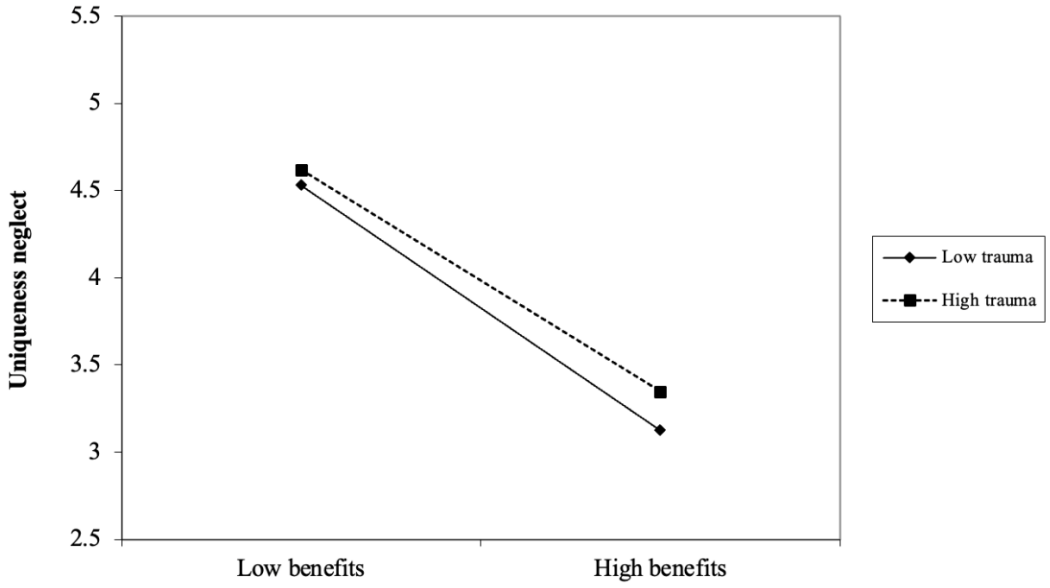


Figure 4: Interaction of perceived benefits and media vicarious traumatization on uniqueness neglect

The results show notable differences across media vicarious conditions in contexts where individuals perceived high benefits of the application. Specifically, individuals with higher levels of media traumatization were more likely to perceive that the app neglects their unique health conditions compared to those with lower levels of media impact. Conversely, when respondents had low perceived benefits, the perception of uniqueness neglect remained high regardless of individual differences in media vicarious traumatization. Therefore, H4 is supported.

Health literacy. We then conducted a moderation analysis of health literacy on how perceived barriers predict uniqueness neglect to test H5. Specifically, the main effects of perceived barriers and health literacy were significant ($\beta = .48$, $p < .001$; $\beta = -.26$, $p = .002$). Additionally, the interaction effect of perceived benefits and health literacy yielded a significant result ($\beta = .04$, $p = .03$). (See Table 6)

In situations where perceived barriers were low, individuals with higher health literacy were much less likely to perceive that the AI-based tool neglected their unique condition compared to those with inadequate health literacy. This effect became less pronounced as perceived barriers increased. Hence, this provides supporting evidence for H7. (See Figure 5)

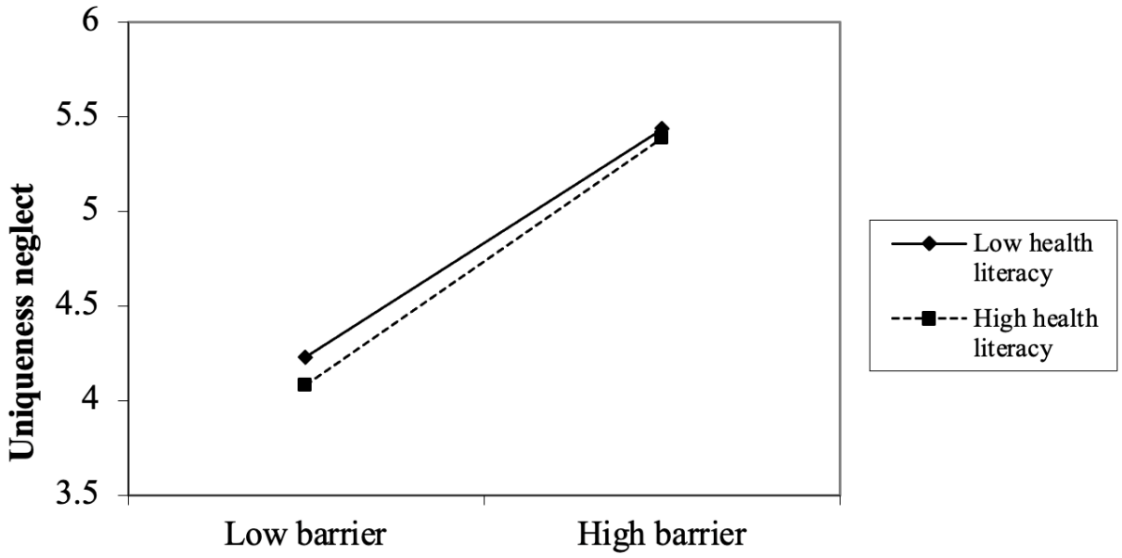


Figure 5: Interaction of perceived barriers and health literacy on uniqueness neglect

Table 6: Results of the moderation analyses

H4: Variables	**Uniqueness neglect**		
	Coeff.	***t***	***p-value***
X: Perceived benefits	-.50	-4.69	<.001
W: Media vicarious traumatization	-.03	-.32	.75
$X \times W$	.05	2.21	.03
R^2	.007		
[ΔF (1, 667) = 4.89, p = .03]			
H5: Variables	**Uniqueness neglect**		
	Coeff.	***t***	***p-value***
X: Perceived barriers	.48	7.14	<.001
W: Health literacy	-.26	-3.05	.002
$X \times W$	.04	2.16	.03
R^2	.005		
[ΔF (1, 667) = 4.65, p = .03]			

1.4 General discussion

Theoretical contributions and managerial implications

The current research advances our understanding of consumers' adoption attitudes and behaviors toward AI technology in the context of mental health. Building on an established model of health-promoting behaviors, the Health Belief Model (HBM), we propose a unique process that explains consumers' adoption intentions and behaviors. Our study gives insightful theoretical and managerial contribution that are beneficial not only for app developers and employers but also policy makers. Following such insights, we propose corresponding recommendation to promote AI-based technologies for better management of mental health.

Our first theoretical contribution involves how HBM model can be used to understand health promoting behaviors context of digital mental health services. By adopting the HBM framework, our study represents one of the initial efforts to explore digital mental healthcare services for a deeper understanding of consumer attitudes toward AI-powered tools. The HBM effectively outlines the mechanisms that may lead consumers to use mental health apps. Consistent with prior research (Carpenter, 2010; Sulat et al., 2018), we outline that that perceived benefits have the most predictive power on consumers' attitudes or behaviors regarding AI-based applications across various measurements. Despite being less influential than that of perceived benefits, perceived barriers still appear to be a good indicator of how individuals use AI-enabled tools to manage their mental care. Consequently, app developers and marketers should put more emphasis on developing strategies with better presentation of perceived benefits while also addressing and mitigating any perceived barriers.

Furthermore, although there are inconsistent results about the role of susceptibility in determining whether people adopt a health action (Carpenter, 2010), our findings reconfirm predictive power of this health belief. The degree to which an individual believe that they might have mental health problems is an influential factor of their adoption behaviors toward AI-based solution. This finding is consistent with Janz and Becker's (1984) assertion that perceived susceptibility plays a more significant role in driving preventive behaviors rather than treatment actions, as well as with the findings of Hilta et al. (2022), which discuss how perceived susceptibility can prompt behavioral responses during the Covid-19 period. We show that susceptibility is particularly relevant in mental well-being, given the increasing focus and information provided by media, organizations, and individuals on this topic. This heightened awareness of the risk of mental health problems, especially in the post-pandemic era, encourages

individuals to adopt AI-based applications. Hence, policymakers can design appropriate integrated marketing communication (IMC) campaigns aimed at educating users about their susceptibility to mental health problems. These campaigns can promote the adoption of AI-supported tools for managing overall well-being.

As a third contribution, building on the categorization of different AI levels (Huang and Rust, 2018), we provide empirical evidence of how people perceive AI across two levels of intelligence, which subsequently influences their attitudes and behaviors toward AI-based applications. Specifically, Empathetic AI elicits more favorable responses compared to Analytical AI, mediated by perceived intelligences and health beliefs. While previous research in services and human-like robots suggests that those with more humanlike features can lead to less desirable outcomes (Kim, Schmitt, and Thalmann, 2019), our study offers another insight. Our results indicate that in the context of mental health, AI-based technology with enhanced emotional recognition and interpersonal skills, capable of performing a wide range of tasks, is more beneficial in encouraging people to use the tools compared to those that are merely rule-based and logical. This is in line with what uncanny valley effect suggests (Mori, 1970; Broadbent et al., 2011). In particular, people tend to have a positive response toward robots with a few of human-like features. However, when such technologies possess a higher degree of human resembles, it often results in feelings of eeriness, thus generating some discomfort and less favorable attitudes. We posit that unlike robots capable of exhibiting both physical features such as a face, head, and body, and behavioral gestures like gaze, movement, and voice, an AI-based chatbot is less likely to closely resemble human characteristics with just text and emotional interaction, without exceeding the level of being too human and becoming creepy. For this reason, Empathetic AI still elicits more positive reactions than Analytical AI. Thus, we make an

additional contribution to the literature of anthropomorphism, which has predominantly focused on robots compared to chatbots (Blut et al, 2021).

Our forth contribution involves examining the mediating role of a sense of uniqueness neglect in the impact of perceived benefits and perceived barriers on individuals' acceptance attitudes and behaviors toward AI-powered tools in the current context. We effectively show that individuals show a sense of uniqueness when it comes to their mental well-being conditions. The perception of whether AI technology can adapt to the unique health circumstances of users is the key mediator that links perceived benefits and perceived barriers with their corresponding adoption actions. The two novel sequences for the preferred paths of action processes, perceived benefits/ perceived barriers → uniqueness neglect → adoption behaviors, contribute to theoretical understanding not only of the application of the HBM but also integrate unique elements to expand knowledge about consumers' adoption of AI-enabled applications in mental wellbeing.

Last but not least, the findings from the current research extend our understanding of the role of individual differences in how people perceive the neglect of uniqueness demonstrated by AI-based tools. Our findings suggest that health literacy and media vicarious traumatization serve as boundary conditions that facilitate the impact of health beliefs on the sense of uniqueness neglect. When the situation is less than ideal—characterized by high perceived barriers or low perceived benefits—the influence of individual differences is not very prominent, as consumers perceive the application as more standardized and less able to tailor to their unique mental health needs, regardless of the conditions. Conversely, in ideal situation (low barriers or high benefits), we note a substantial variation in uniqueness neglect across individuals depending on their media exposure or literacy skills. People with high health literacy or low media vicarious

traumatization exhibit a significantly lower perception of uniqueness neglect toward the app than those with less health knowledge or high exposure to negative media.

Limitations and future research

Our research is not without limitation. We highlight certain limitation and provide suggestion for future research avenues. We used scenario-based experiments and multi-stage survey to address the main research questions. This approach, though having certain advantages, can be improved by complementing with additional objective measures such as archival data, social media metrics or physiological indicators. This complementary and diverse methodological strategy would enhance the external validity of the research. Moreover, as our study focuses on meditation applications, it would be beneficial to consider investigating consumers' adoption of AI with other applications that feature mood tracking, sleeping improvements or depression.

Researchers have shown increasing interests toward AI application in services marketing (Huang and Rust, 2021). As the field is still not matured, there are numerous potential research avenues for explore and contribute further to this field. Firs, due to AI's abilities to learn and adapt over time, it would be interesting to leverage longitudinal data to further understand the consumers' adoption behaviors of AI-enabled solution across different time points. Future research can investigate the dynamics of the relationship between consumers and AI and how it evolve over time. Second, our research focused on the comparative effects of two types of AI technologies: Analytical and empathetic. Upcoming works can broaden the scope of study by integrating all four types of AI intelligences. Additionally, to further expand our knowledge, the relative effect of AI versus human involvement and the corresponding consumers' responses is another promising avenue for researchers and practitioners to examine. Future works can

investigate how different combinations of AI-powered solution and human professional advices can lead to different consumers' attitudes toward the technologies. Third, due to the relative complexity of our model, we examined only two moderators including media vicarious traumatization and health literacy. Some other potential boundary conditions that can be added to the models are health anxiety, risk aversion to media content, social desirability, or social belongingness.

References

American Psychiatric Association (2023). What is mental illness? Retrieved January 31, 2023, from https://www.psychiatry.org/patients-families/what-is-mental-illness

Baldauf, M., Fröehlich, P., & Endl, R. (2020, November). Trust me, I'm a doctor–user perceptions of AI-driven apps for mobile health diagnosis. In Proceedings of the 19th International Conference on Mobile and Ubiquitous Multimedia (pp. 167-178).

Baumeister, Roy F. (1998), "The Self." In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), The Handbook of Social Psychology (Vol. 3, pp. 680– 740). Boston: McGraw-Hill.

Blanton, Hart, Danny Axsom, Kimberly P. McClive and Simani Price (2001), "Pessimistic Bias in Comparative Evaluations: A Case of Perceived Vulnerability to the Effects of Negative Life Events," Personality and Social Psychology Bulletin, 27(12), 1627–36.

Blut, M., Wang, C., Wünderlich, N. V., & Brock, C. (2021). Understanding anthropomorphism in service provision: a meta-analysis of physical robots, chatbots, and other AI. Journal of the Academy of Marketing Science, 49, 632-658.

Brown, Jonathon D. (1998), The Self, Boston: McGraw-Hill.

Calvani, A., Fini, A., Ranieri, M., & Picci, P. (2012). Are young generations in secondary school digitally competent? A study on Italian teenagers. Computers & Education, 58(2), 797-807.

Carpenter, Christopher J. (2010). "A meta-analysis of the effectiveness of health belief model variables in predicting behavior". Health communication, 25(8), 661-669.

Chen, J. (2021). A structural model of purchases, returns, and return-based targeting strategies, A structural model of purchases, returns, and return-based targeting strategies, Journal of the Academy of Marketing Science.

Chin, Jing Huey, and Shaheen Mansori (2019). "Theory of planned behaviour and health belief model: Females' intention on breast cancer screening." Cogent Psychology 6 (1): 1647927.

Cho, Y. I., Lee, S. Y. D., Arozullah, A. M., & Crittenden, K. S. (2008). Effects of health literacy on health status and health service utilization amongst the elderly. Social science & medicine, 66(8), 1809-1816.

Feldman, J. M., & Lynch, J. G. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention, and behavior. Journal of applied Psychology, 73(3), 421.

Fitzpatrick, K. K., Darcy, A., & Vierhile, M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): a randomized controlled trial. JMIR mental health, 4(2), e7785.

Fromkin, H. L. (1972). Feelings of interpersonal undistinctiveness: An unpleasant affective state. Journal of experimental Research in Personality.

Gaczek, P., Pozharliev, R., Leszczyński, G., & Zieliński, M. (2023). Overcoming Consumer Resistance to AI in General Health Care. Journal of Interactive Marketing, 10949968221151061.

Graham, S., Depp, C., Lee, E. E., Nebeker, C., Tu, X., Kim, H. C., & Jeste, D. V. (2019). Artificial intelligence for mental health and mental illnesses: an overview. Current psychiatry reports, 21, 1-18.

Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). "The future of technology and marketing: A multidisciplinary perspective". Journal of the Academy of Marketing Science, 48, 1-8.

Harrison, J. A., Mullen, P. D., & Green, L. W. (1992). A meta-analysis of studies of the health belief model with adults. Health education research, 7(1), 107-116.

Hita, Marie Louise Radanielina, Yany Grégoire, Bruno Lussier, Simon Boissonneault, Christian Vandenberghe, and Sylvain Sénécal (2022). "An extended health belief model for COVID-19: understanding the media-based processes leading to social distancing and panic buying". Journal of the Academy of Marketing Science, 1-21.

Ho, C. C., MacDorman, K. F., & Pramono, Z. D. (2008, March). Human emotion and the uncanny valley: a GLM, MDS, and Isomap analysis of robot video ratings. In Proceedings of the 3rd ACM/IEEE international conference on Human robot interaction (pp. 169-176).

Hoffman, D. L., & Novak, T. P. (2018). Consumer and object experience in the internet of things: An assemblage theory approach. Journal of Consumer Research, 44(6), 1178-1204.

Huang, M. H., & Rust, R. T (2018). "Artificial intelligence in service". Journal of service research, 21(2), 155-172.

Huang, M. H., & Rust, R. T. (2021). Engaged to a robot? The role of AI in service. Journal of Service Research, 24(1), 30-41.

Huang, M. H., Rust, R., & Maksimovic, V. (2019). The feeling economy: Managing in the next generation of artificial intelligence (AI). California Management Review, 61(4), 43-65.

Hyman, R. B., Baker, S., Ephraim, R., Moadel, A., & Philip, J. (1994). Health Belief Model variables as predictors of screening mammography utilization. Journal of behavioral medicine, 17, 391-406.

Jaffee, E. G., Arora, V. M., Matthiesen, M. I., Meltzer, D. O., & Press, V. G. (2017). Health literacy and hospital length of stay: an inpatient cohort study. Journal of Hospital Medicine, 12(12), 969-973.

Janz, Nancy K., and Marshall H. Becker (1984). "The health belief model: A decade later". Health education quarterly, 11(1), 1-47

Jones, C. J., Smith, H., & Llewellyn, C. (2014). Evaluating the effectiveness of health belief model interventions in improving adherence: a systematic review. Health psychology review, 8(3), 253-269.

Keller, P. A., & Lehmann, D. R. (2008). Designing effective health communications: A meta-analysis. Journal of Public Policy & Marketing, *27*(2), 117-130.

Kim, S. Y., Schmitt, B. H., & Thalmann, N. M. (2019). Eliza in the uncanny valley: Anthropomorphizing consumer robots increases their perceived warmth but decreases liking. Marketing letters, 30, 1-12.

Kim, H., & Xie, B. (2017). Health literacy in the eHealth era: a systematic review of the literature. Patient education and counseling, 100(6), 1073-1082.

Lee, E. E., Torous, J., De Choudhury, M., Depp, C. A., Graham, S. A., Kim, H. C., & Jeste, D. V. (2021). Artificial intelligence for mental health care: clinical applications, barriers, facilitators, and artificial wisdom. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 6(9), 856-864.

Longoni, C., Bonezzi, A., & Morewedge, C. K. (2019). Resistance to medical artificial intelligence. Journal of Consumer Research, 46(4), 629-650.

McCaffery, K., Dodd, R., Cvejic, E., Ayre, J., Batcup, C., Isautier, J., ... & Wolf, M. (2020). Health literacy and disparities in COVID-19–related knowledge, attitudes, beliefs and behaviours in Australia. Public health research & practice, 30(4).

McCann, I. L., & Pearlman, L. A. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. Journal of traumatic stress, 3, 131-149.

Mossberger, K., Tolbert, C. J., & Stansbury, M. (2003). Virtual inequality: Beyond the digital divide. Georgetown University Press.

Mori, M. (1970). The uncanny valley: the original essay by Masahiro Mori. IEEE Spectrum.

National library of Medine (2023). What is Health literacy? Retrieved January 31, 2023, from https://www.nnlm.gov/guides/intro-health-literacy

Nguyen, B., & Simkin, L. (2017). The Internet of Things (IoT) and marketing: the state of play, future trends and the implications for marketing. Journal of marketing management, 33(1-2), 1-6.

Noblin, A. M., Wan, T. T., & Fottler, M. (2012). The impact of health literacy on a patient's decision to adopt a personal health record. Perspectives in Health Information Management/AHIMA, American Health Information Management Association, 9(Fall).

Palmatier, R. W., Dant, R. P., & Grewal, D. (2007). A comparative longitudinal analysis of theoretical perspectives of interorganizational relationship performance. Journal of marketing, 71(4), 172-194.

Painter, J. E., Borba, C. P., Hynes, M., Mays, D., & Glanz, K. (2008). The use of theory in health behavior research from 2000 to 2005: a systematic review. Annals of behavioral medicine, 35(3), 358-362.

Pearlman, L. A., & Saakvitne, K. W. (1995). Trauma and the therapist: Countertransference and vicarious traumatization in psychotherapy with incest survivors. WW Norton & Co

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. Journal of applied psychology, 88(5), 879.

Sabin-Farrell, R., & Turpin, G. (2003). Vicarious traumatization: implications for the mental health of health workers? Clinical psychology review, 23(3), 449-480.

Scopelliti, I., Morewedge, C. K., McCormick, E., Min, H. L., Lebrecht, S., & Kassam, K. S. (2015). Bias blind spot: Structure, measurement, and consequences. Management Science, 61(10), 2468-2486.

Scott, M. L., Hassler, C. M., & Martin, K. D. (2022). Here comes the sun: Present and future impact in marketing and public policy research. Journal of Public Policy & Marketing, 41(1), 1-9.

Snyder, Charles R., and Harold L. Fromkin (1980), Uniqueness: The Human Pursuit of Difference, New York: Plenum.

Sulat, J. S., Prabandari, Y. S., Sanusi, R., Hapsari, E. D., & Santoso, B. (2018). The validity of health belief model variables in predicting behavioral change: A scoping review. Health Education.

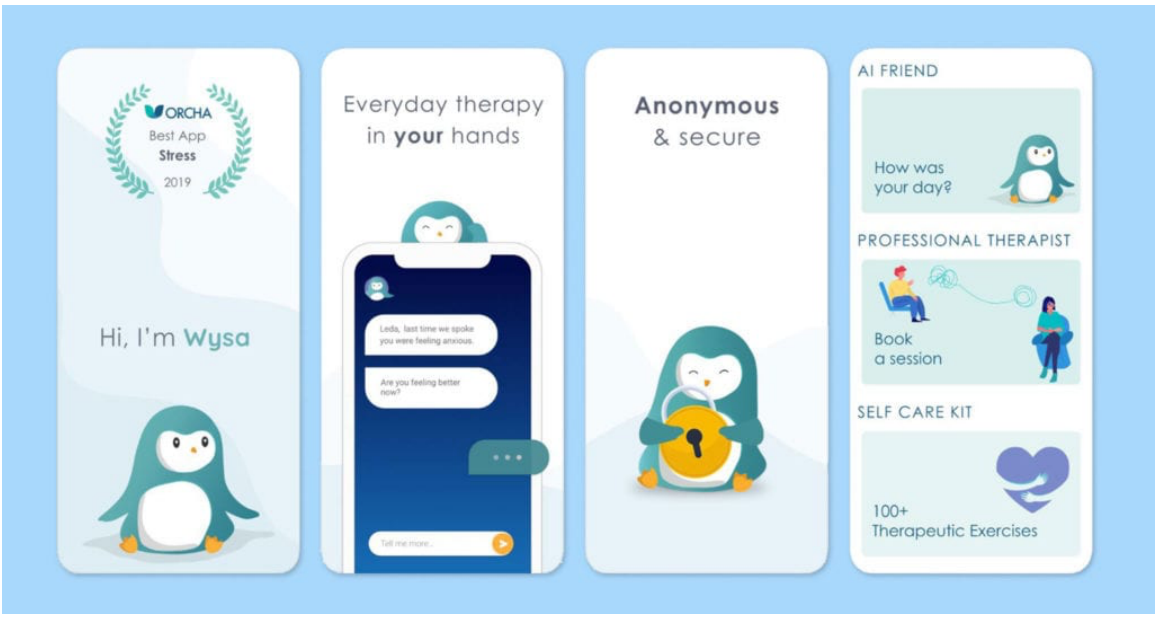
Van Deursen, A. J., & Van Dijk, J. A. (2014). The digital divide shifts to differences in usage. New media & society, 16(3), 507-526.

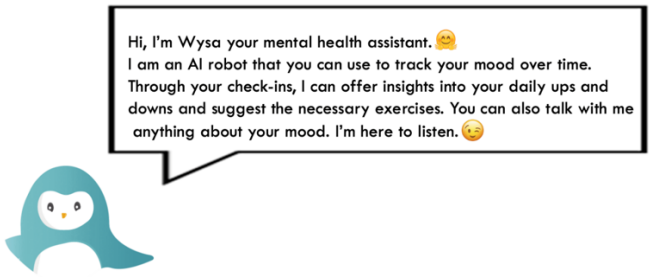
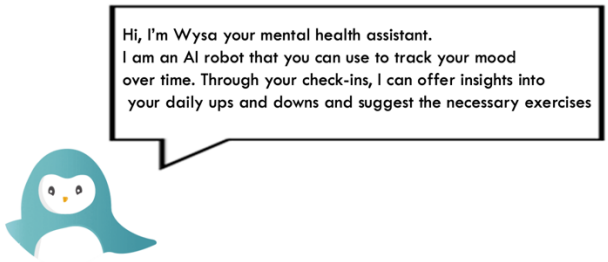
Wielgos, D. M., Homburg, C., & Kuehnl, C. (2021). Digital business capability: its impact on firm and customer performance. Journal of the Academy of Marketing Science, 49(4), 762–789.

Wong, M. C., Wong, E. L., Huang, J., Cheung, A. W., Law, K., Chong, M. K., ... & Chan, P. K. (2021). Acceptance of the COVID-19 vaccine based on the health belief model: A population-based survey in Hong Kong. Vaccine, 39(7), 1148-1156.

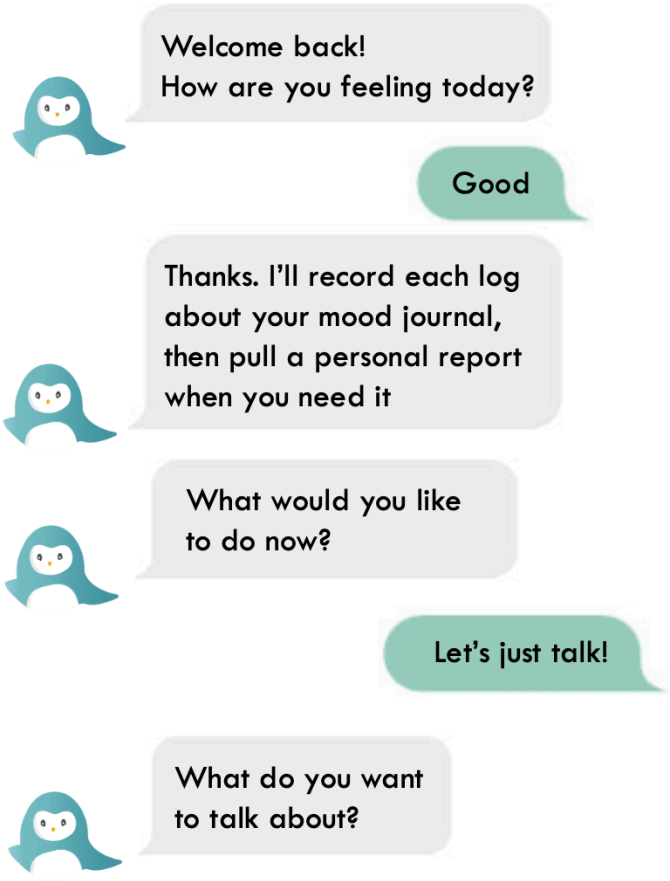
Appendices – Essay 1

Appendix A*:* The stimuli for AI- based mental health application

Basic scenario – Stimuli 1
Artificial intelligence (AI) makes it possible for machines to **learn from experience**, **adjust to new inputs** and **perform human-like tasks**. Using these technologies, computers can be trained to accomplish specific tasks by processing large amounts of data and recognizing patterns in the data. We will now describe an example of AI-based applications. Please read these scenarios carefully. Wysa is an AI-based app to support mental health. The app includes **chatbot** and **daily mood tracker** to identify negative symptom and infuse positive changes. Mood-tracking tools can help you monitor how your mood varies. The more you use a mood tracker, the more you would notice how specific situations trigger specific moods. It boosts your self-awareness and help manage your mental health. With **machine learning technology**, it can learn how to support you better the more you interact with it. The chatbot is available 24/7 at no cost. All the information entered is anonymized and confidential.   

Stimuli 2: Analytical vs Empathetic	
Empathetic	**Analytical**
You have been using Wysa for a while. When you interact with Wysa, it gathers data, breaks down information and then generates the necessary solution based on your inputs. It also **talks with you**, **understands your problems** and **shows some encouragement**. Wysa can **express emotions** (feeling sad, happy etc.). It is helpful and will never judge. 	You have been using Wysa for a while. When you interact with Wysa, it gathers data, breaks down information and then generates the necessary solution based on your inputs. Wysa is logical and useful. 

Stimuli 3: Empathetic vs Analytical



Appendix C: Scales and measurements

Table 1: Scales reliability (Cronbach's Alpha)

Construct (reference)	Items	
Perceived intelligences (New developed)	Please indicate your perception of this app • Cold -Warm • Machine-like – Human-like • Analytical - Empathetic • Mechanical – Organic • Unintelligent – Intelligent • Incompetent - Competent	.89
Uniqueness neglect (Longoni, Bonezzi and Morewedge, 2019)	When I think of this AI-based application, I feel like • It would not recognize the uniqueness of my mental health condition. • It would not consider my unique circumstances. • It would not tailor the recommendation to my unique case.	
Perceived barrier (Fall, Izaute and Chakroun-Baggioni, 2018)	• Using this AI-based app for mental health care is not convenient for me. • Using this AI-based app to maintain my mental health is time-consuming. • Using this AI-based app to manage my mental health interferes with my daily activities. • The instructions on how to use AI-based app like Wysa seem complicated. • There are too many risks in using this AI-based app for mental health care.	.87
Perceived benefits (Fall, Izaute and Chakroun-Baggioni, 2018)	• Using this AI-based app will decrease my chances of getting mental health issues. • Using this AI-based app will help me maintain my mental health. • I would be less afraid of getting mental health problems if I use this AI-based app to manage my well-being. • Using this AI-based mental health app will help me manage stress better. • Using this AI-based mental health app will help me boost my mental health. • AI-based applications like Wysa seem user-friendly.	.95

Perceived Severity (Fall, Izaute and Chakroun-Baggioni, 2018)	• Having a mental health problem would result in serious consequences. • Experiencing issues that may affect my mental health will negatively affect my professional life. • Having a mental health problem would negatively affect my family's life. • Struggling with my mental health would make my daily activities more difficult. • Having a mental health problem would change my whole life.	.93
Perceived Susceptibility (Fall, Izaute and Chakroun-Baggioni, 2018)	• Everybody may struggle with their mental health at some point during their life. • There is a good possibility that I may struggle with my mental health in the future. • I feel that my chances of getting mental health problem in the future are good. • I am concerned about my risk of getting mental health problem.	.87
Satisfaction (Gelbrich et al 2021; Voss, Parasuraman, and Grewal, 1998)	• I trust that this AI-based app will help me maintain my mental health • I trust the AI algorithms used in this mental health app. • I trust this AI 's ability to generate appropriate exercises that may help me manage my mental health • I trust that this AI-based app can adapt to specific and unforeseen mental health situations	.95
Intention to use (Esmaeilzadeh, 2020)	• I could see myself using AI-based apps like Wysa to help maintain my mental health. • Using this AI-based app to help maintain my mental health is something I would consider. • I would like to use this AI-based app to manage my mental health better. • In the future, I am willing to use this AI-based app to boost my mood and manage stress, anxiety, etc.	.98
Propensity to follow (H.-W. Kim & Kankanhalli,	• I will feel responsible for the decision that I made by following this AI - based mental health app's recommendations.	.87

2009; Promberger and Baron, 2006)	• I will feel responsible for the decision that I made by not following this AI-based app's recommendation. • I am likely follow this AI-based app's recommendations. • I am likely to utilize this AI-based mental health application.	
Media vicarious traumatization (Liu & Liu, 2020)	• I find myself distressed by reading the stories and situations about what is currently going on in the world • It is hard to stay positive and optimistic given what is currently going on • I find myself thinking about distressing news when reading about the current state of affairs • Sometimes I feel overwhelmed by reading information about what is currently going on in the world	.91
Health literacy (Noblin et al., 2012)	• I know what AI-based mental health apps are available out there to help manage my mental health. • I feel confident in using the information and exercises developed by AI-based mental health apps to manage my stress. • I know where to find helpful mental health apps to help maintain my mental health. • I know how to use AI-based mental health apps to help answer questions about my mental health. • I can tell high-quality mental health apps from low-quality ones. • I can quickly analyze attributes and characteristics of AI-based mental health apps.	.95

Appendix D: Pretest

Design and procedure

The pretest is a single factor (AI levels: analytical vs empathetic) between-subjects design in an online scenario-based setting. The context features two AI-based mobile applications that provide support for mental wellbeing. The two applications include chatbots that use conversational AI to promote mental health positive practices. One focuses on meditation while the other mainly revolves around mood-tracking features. Participants were recruited through the crowdsourcing platform Prolific and exposed to one of the two apps. To participate in the survey, the respondents have to be US residents and at least 18 years old. In total, the questionnaire has a final sample of 238 participants (40.2% female, M_{Age} = 35.49 years old, SD = 13.30).

Participants first read an introduction about AI in general and the mobile application in specific. Then participants were randomly assigned to one of the two AI-based technologies condition (Analytical vs Empathetic). In the analytical condition, we show that how the application can process data logically and its abilities to analyze information to deliver the useful solution based on the given input. Participants in the empathetic condition saw that apart from rational decision making, the application can communicate emotionally with users. Next, they were provided with a brief information about different types of AI in services and asked to choose which AI-based technologies they were using. Participants then answered questions about the realism of the scenarios, manipulation checks and the other constructs of our theoretical model with established scales from the literature.

Dependent variables

Most scales were reported using seven-point Likert scale (1 = Strongly disagree; 7 = Strongly agree). We use established scales to measure HBM components (severity, susceptibility, perceived benefit, perceived barriers) (Fall, Izaute and Chakroun-Baggioni, 2018) and intention to use (Kim and Kankanhalli, 2009) and the newly developed scale for perceived intelligences. Overall, the items generally represent the underlying factor it is intended to measure. Apart from self-report measures, participants also engage in real behaviors in which they chose to take actions (click-throughs) for finding more information about the app, downloading the app (download) or sharing the app through social platform (referral).

Manipulation check

The manipulation check was assessed using a one-item scale (What type of AI do you think this is? Analytical - Empathetic). Analytical AI is more rule-based and it learns and adapts systematically based on data. Empathetic AI, apart from being information-based, is also social, emotional, and highly interactive. Participant first read an introduction about the two types of AI and then asked to indicate which one that they think they were exposed to in the experiment. A Chi-squared test indicates that their response is dependent on the manipulated scenarios ($p < .001$), which confirms the success of the manipulation. A one-sample t-test also show that participants rated the scenario as realistic ($M = 5.32$, $t = 15.75$, $p < 0.01$).

Results.

HBM model. We first conduct analyses to test the impact of HBM belief on behavioral variables (H1).

Self-report measures. We first test the impact of HBM component on participants self-reported measures of intention to use following the scenario using linear regression. We plot perceived benefit, perceived barrier, severity, and susceptibility as the predictors for intention to

use in the linear regression model. The overall regression was statistically significant (R^2 = .68, F (1, 233) = 122.52, p < .01). It is found that perceived benefits, perceived barriers, and perceived susceptibility significantly predicted intention to use Per. However, perceived severity is not a predictor of intention to use (β = -.05, p =.26). These results lend support for H1a, H1b and H1c while H1d is not supported (See Table 2).

Behavioral measure. A binary logistic regression was performed to ascertain the effects of perceived benefits, perceived barriers, perceived susceptibility and perceived severity on the likelihood that participants click to find out more information about the AI-based application. We insert the HBM components as the independent variable for the binary logistic regression and the clicks info as the dependent variables. We apply the same procedure to test the impact of HBM beliefs on the likelihood of clicking for app download and referral on social media. The results indicate that the perceived benefit is a significant predictor of how participants click to obtain more information about the app (β = .72, p =.03) while perceived barrier is near-marginal significance (β = -.41, p =.09). Regarding the download click, it is found that only perceived benefit significantly predicts the attempt to download the app through the connecting link (β = .77, p =.03). For the referral click, the regression analyses reveal a significant effect of perceived barriers on the likelihood of whether participants suggest the AI-enabled application for relatives or friends on social media (β = -.93, p =.04). Taken together, H1a and H1b is partially supported.

Table 2: Results of the regression analyses

Variables	Estimate	SE	95% CI		p
			LL	UL	
Intention to use					
Intercept	1.648	.632			
Perceived benefits	.52	.08	.647	.949	<.001
Perceived barriers	-.36	.07	-.659	-.379	<.001
Perceived susceptibility	.14	.05	.091	.296	<.001
Perceived severity	-.05	.06	-.192	.051	.26
Click for information					
Intercept	-5.10	2.43			
Perceived benefits	.72	.32	.247	1.560	03
Perceived barriers	-.41	.24	-.958	.010	.09
Perceived susceptibility	.26	.21	-.173	.725	.22
Perceived severity	.07	.21	-364	.661	.73
Click to download					
Intercept	-6.26	2.70			
Perceived benefits	.77	.36	.152	1.840	.03
Perceived barriers	-.39	.27	-1.078	.134	.14
Perceived susceptibility	.30	.24	-.225	.948	.21
Perceived severity	.12	.24	-.360	.741	.60
Click to refer					
Intercept	1.108	3.175			
Perceived benefits	.13	.45	-.863	1.313	.77
Perceived barriers	-.93	.44	-2.235	-.111	.04
Perceived susceptibility	-.42	.26	-1.205	.229	.10
Perceived severity	.17	.29	-.330	.687	.52

Perceived intelligence. We conduct an ANOVA with AI type as the dependent variables and perceived intelligence as the dependent variables. As expected, results indicate a significant main effect ($F(1, 237) = 12.29$, $p < .001$; partial $\eta^2 = 0.045$). Participant in the empathetic condition find the app to be more intelligent than that in the analytical one ($M_{Analytical} = 3.95$, $M_{Empathetic} = 4.57$, $t = 3.51$, $p < .001$).

Mediation analyses. To test hypothesis 2, we employed the PROCESS Macro model 6 (Hayes, 2022) to examine the path from AI technology to perceived intelligence to perceived benefits/perceived barriers to intention to use. Our mediation analyses were conducted with 5000 bootstrapping subsamples. We coded AI level using a dummy variable, where analytical AI and empathetic AI were assigned values of 0 and 1, respectively.

The indirect effects for the sequences of interest were found to be significant, as the confidence intervals did not include zero (perceived benefits: $\beta = 0.28$, 95% CI [0.114; 0.506]; perceived barriers: $\beta = 0.15$, 95% CI [0.054; 0.270]). Specifically, empathetic AI was associated with a higher degree of perceived intelligence ($\beta = 0.61$, $p < 0.001$) compared to analytical AI. This, in turn, led to a higher degree of perceived benefits ($\beta = 0.43$, $p < 0.01$) and a lower degree of perceived barriers ($\beta = -0.29$, $p < 0.001$). Subsequently, perceived benefits were found to have a positive effect on intention to use ($\beta = 0.52$, $p < 0.001$), while individuals encountering obstacles with the application were less likely to use it ($\beta = -0.36$, $p < 0.001$). Hence, hypothesis 2 is supported.

For hypothesis 3, we examine the sequential relationships: perceived benefits/perceived barriers → uniqueness neglect → intention to use, respectively. The greater the perceived benefits of the AI-based solution, the less likely individuals are to believe it will neglect their unique conditions ($\beta = -0.69$, $p < 0.001$). Moving downstream, uniqueness neglect negatively affects intention to use ($\beta = -0.25$, $p < 0.001$). Conversely, perceived barriers positively influence uniqueness neglect ($\beta = 0.67$, $p < 0.001$), resulting in lower intention to use ($\beta = -0.34$, $p < 0.001$). The indirect effects through the two proposed paths also attain significance (perceived benefits: $\beta = 0.17$, 95% CI [0.082; 0.264]; perceived barriers: $\beta = -0.23$, 95% CI [-0.342; -0.135]). These findings confirm H3a and H3b

Discussion of the pretest

In sum, the pretest first confirms that different types of AI levels hold varying impact on customers' perception about the intelligences of AI. This later affect health beliefs and consumers' attitudes and adoption toward AI-generated technologies through serial mediation with uniqueness neglect. Overall, the data indicates that Empathetic AI can lead to a more favorable responses in compared with Analytical. Moreover, we provide initial empirical evidence for our proposed framework about the application of HBM model in mental health promoting behaviors. Perceived benefits and perceived barriers are found to be the most influential drivers of adoption behaviors, which is consistent with findings of previous literature (Carpenter, 2010). Based on these preliminary results, we have supporting evidence for our framework and will continue to investigate our research questions further in the main study.

Chapter 2: The effect of firm-induced relationship strategies on customer rejection and perceived fairness with antisocial and pro-social responses

Abstract

Though firing unprofitable customers appears to be a common practice across marketplaces, the marketing literature still pays little attention to the customer farewell management. This research examines how customers feel and react to distinct firm-induced termination strategies through three studies. Study 1 with 231 participants shows the basic differential effect of termination tactics (direct vs. indirect) on perceived rejection and perceived fairness. Study 2 involving 222 participants later extends the logic by distinguishing indirect strategy into two forms which are exposed and unexposed. Study 3 further examines 446 responses of consumers who are actually terminated by the firms and how their perception evolves as a function of time. We find that unexposed termination elicits the lowest degree of perceived rejection, while customers in the direct condition feel as rejected as those in indirect exposed strategy. Over time, perceived rejection also follows distinct patterns depending on how the firm ends the relationship with them. Moreover, people in the direct and exposed indirect show a lower perceived fairness than those who do not detect the firm's true intention. Overall, customers seem to exhibit multiple responses toward the firm simultaneously after being terminated. Importantly, perceived rejection is the crucial mediator that links firm-induced termination strategies with antisocial reactions (revenge) while perceived fairness is the key underlying mechanism for prosocial (reconciliation) behaviors.

Keywords: perceived rejection, perceived fairness, termination strategies, customer relationship management

2.1 Introduction

Though customers are valuable assets to the firms, they require multiple management tasks to keep them satisfied and loyal. Unfortunately, such activities are not without a cost and some customers require much more resources and spending to serve than others. A customer calls the service support for numerous times on the same issue despite it has been solved; a buyer keeps returning clothes to the store after ordering online; or a regularly late-paying customer already has generated a high level of bad debt for a bank. These are typical examples of unprofitable customers. Thanks to advanced metrics, it is possible to gain information on customer profitability, which helps to identify low-cost and high-cost customers. Past literature emphasizes that firms should prioritize their most profitable customers (Homburg, Droll and Toczek 2008). Following this notion, marketing scholars find it rational to remove the "bad" segment as a viable strategic option (Haelein, Kaplan and Schoder 2006; Zeithaml, Rust and Lemon 2001). Moreover, the press reports a frequent occurrence of termination events across industries, suggesting its high relevancy for marketers and managers (Haenel, Wetzel and Hammerschmidt, 2019; Nazifi, El-Manstrly and Gelbrich, 2019). Together with managerial implication, researchers have shown an increasing interest in firm-induced termination strategies (Haelein and Kaplan 2010; Shin, Suhir and Yoon 2012).

To guide managers' actions and contribute to the current research addressing customer relationship dissolution, the current paper investigates the impact of termination strategies on customers' responses toward the focal firms. We pay special attention to the following unanswered issues:

1. Do customers feel more or less rejected depending on how directly they are terminated? How do firm-induced termination strategies affect consumers' perception of fairness?
2. When do customers respond to firm-induced termination in a prosocial manner versus the more obvious antisocial responses?
3. How does the impact of firm-induced termination on perceived rejection and its downstream variables change over time?

Answering the first question is highly crucial for marketers to understand how customers feel after being terminated by distinct strategies. Firms mostly implement two major forms of termination tactics which are direct and indirect termination (Halein, Kaplan and Schoder, 2006; Zeithaml, Rust and Lemon, 2001). The former implies that firms explicitly state their desire to exit the relationship. Engaging in the latter strategy means companies try to hide their true intent and encourage customers to leave by making their products and offers less attractive through cost escalation. On one hand, relying on social exclusion theory (Smart, Richman, and Leary, 2009; Ward and Dahl 2014), we introduce perceived rejection as a core concept of this paper. It refers to the degree that an individual feels excluded and devalued by the firm. This article reveals that while the direct termination tends to lead to a high level of rejection, the impact of indirect technique is not that straightforward. When being terminated indirectly, customers who discover about the brand's motives can feel as rejected as those in the direct condition. If the firm's intent does not get exposed, the level of perceived rejection remains low. This differential impact of termination directness on customer perceived rejection marks our first contribution. On the other hand, we rely on justice theory which is among the most well-discussed theories in service failure and recovery (Khamitov, Grégoire and Suri, 2019) to further broaden our understanding

about consumers' responses of relationship termination. Justice perception is the subjective evaluation of an individual about the organization (Tax, Brown and Chandrashekaran, 1998; Smith, Bolton, and Wagner, 1999). When a company fails to deliver the desired products or services, consumers often assess the firm's action in different justice dimensions and forming their attitudes and behaviors accordingly (Gelbrich and Roschk, 2011). Applying the logic to our research focus, this study shows how firm-induced termination tactics can trigger distinct levels of perceived fairness, enriching our knowledge of consumers' perception after relationship dissolution.

Given the sensitive situation of relationship dissolution, managers should know the potential reactions of customers to apply the appropriate move. Thus, in the third question, we test the potential responses that customers exhibit through the antisocial and prosocial chains of behaviors. We document that the effect of firm strategies and consumers' downstream variables is explained by perceived rejection for the antisocial route and perceived fairness for the prosocial path. The results of the antisocial route are consistent with previous literature in service marketing (McColl-Kennedy et al., 2009; Grégoire and Fisher, 2008). More intriguing, customers could also engage in prosocial behaviors by having the desire to reconcile with the rejecting brand given how they believe the firm is treating them fairly.

The rest of this manuscript is organized as follows. We first develop our hypotheses revolving around our research questions. Then, three studies examine the effect of direct and indirect termination techniques on consumers' perception which later influences the prosocial and antisocial reactions of customers. In light of these findings, we extend our logic by further categorize indirect strategies into unexposed and exposed form and test the hypotheses accordingly.

2.2 Theoretical development

We present our conceptual framework in Figure 6. We first examine the differential impact of distinct termination strategies (direct vs. indirect) on perceived rejection and perceived fairness. Such impact depends on whether the firm-induced tactics get exposed or not. We then investigate the link between such tactics and consumers' downstream reactions, including antisocial and prosocial responses with perceived rejection and perceived fairness as the key mediating role, respectively. Importantly, we note that after being terminated, consumers' feeling of rejection also evolves as a function of time.

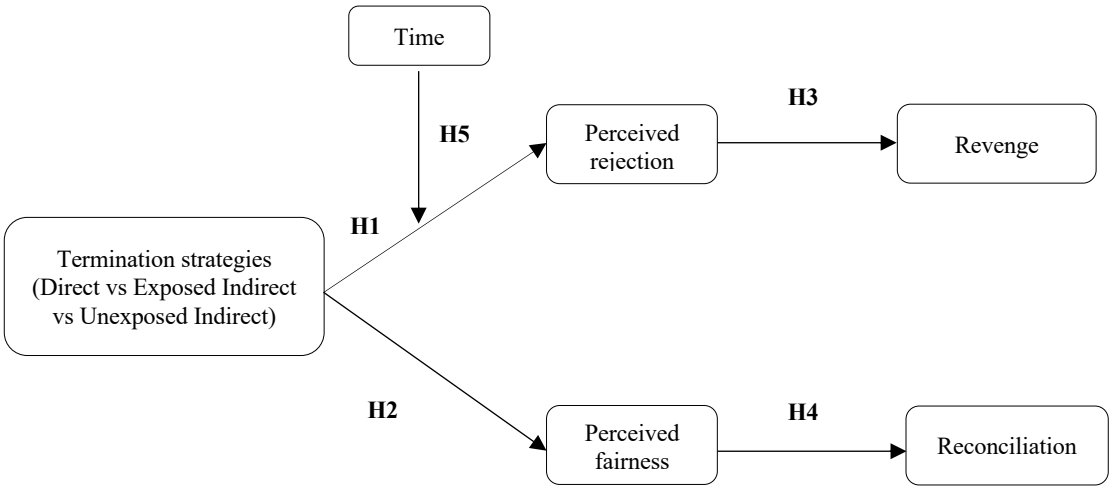


Figure 6: Conceptual framework - Essay 2

Defining different termination strategies

Past research on relationship dissolution among romantic partners indicates individuals use different strategies with directness of termination as the central dimension for their tactics (Wilmot, Carbaugh & Baxter, 1985). Specifically, people can choose between indirect and direct

strategy to dissolve their interpersonal ties. When engaging in a direct strategy, one party explicitly specifies their desire to end the relationship (Baxter and Wilmot, 1985). By contrast, an indirect strategy attempts to accomplish the breakup without declaring the statement explicitly and such an approach helps the party the disguise their genuine wish of leaving the relationship. Drawing from Baxter's distinction of interpersonal ties dissolution, the marketing literature explores the termination process between firms and customers with the associated impact and implications. To abandon the unwanted customers, the literature proposes hard and soft techniques which correspond to the characteristics of direct and indirect strategies (Haenlein, Kaplan, and Schoder, 2006). Avery and Founier (2012) suggest companies can facilitate an indirect strategy by decreasing the value proposition of their products and services to fire unwanted customers. The indirectness of termination is carried out through a cost escalation model by raising the relationship or transaction costs. Firms can also stop sending promotion material to customers and implementing extra fee (Haenlein, Kaplan, and Schoder, 2006). By doing so, the targeted customers might be motivated to leave on their own to find better options available in the marketplace.

Choosing the suitable strategy for relationship termination is a critical decision for firms, especially when both tactics receive support from the prior works. On the one hand, one party feels the need to state clearly about the breakup and such straightforward communication appears to be appreciated because of its honest social dictate (Rousseau 1995). On the other hand, an indirect strategy allows individuals to avoid negative emotion associated with direct tactic as well as to give the partners some respect when the relationship ends (Wilmot, Carbaugh, and Baxter, 1985). Additionally, customers generally show unfavorable attitudes toward the direct techniques, whether they are the targets or the observers of the situation (Lepthien et al., 2017).

Thus, indirect termination seems to have become the "go-to" option for marketers who need to deal with the delicate topic of firing customers (Shin, Sudir, and Yoon, 2012; Zeithaml, Rust and Lemon, 2001). The current research challenges this view by showing that indirect termination can lead to negative responses under some circumstances.

The central idea of indirect termination is to disguise firms' true intentions by using some deceptive practices relying on cost escalations. Based on that principle, we argue this technique can be further categorized into two forms: unexposed and exposed strategy. In the former cases, firms that choose to terminate customers indirectly successfully cover up their motives. Thus, consumers might believe that they leave on their own. On the contrary, it is not uncommon that individuals recognize the intent behind that tactic. For instance, when one party tries to accomplish the breakup through indirect strategy, the other can deduce that such a dissolution technique is applied and understood (Wilmot, Carbaugh, and Baxter, 1985). We then believe that customers can guess firms' goal of ending the relationship by making some inferences about the changing value of their current offers. We then categorize those cases as exposed strategy. For that reason, instead of having two termination strategies—like most prior articles—we investigate the impact of three techniques, including direct, indirect unexposed and indirect exposed on different dependent variables in this manuscript.

Social exclusion and justice theory

It is well-established that people reinforce their self-concepts by associating themselves to the corresponding social groups (Tajfel and Turner, 1979). Hence, humans tend to suffer negative consequences in both physical and mental health when encountering social exclusion and social isolation (Baumeister and Leary, 1995; Cacioppo and Hawkley, 2009). When studying the above phenomenon in psychology, many authors focus on social rejection—i.e., the degree to

which people feel rejected. Interestingly, people can engage in both antisocial and prosocial behaviors after being rejected by their social groups (Twenge et al., 2003; Williams, 2007). This concept is highly relevant in the context of relationship termination, as the perceived rejection from customers' perspective can have an influence on their reactions toward the firms. Consumers generally feel rejected when they think that firms or brands exclude them from the group network, making them go through a loss of relational value or social connection (Modlen et al., 2009). The marketing literature on perceived rejection is still limited. One rare example is Ward and Dahl (2014) in which they study how consumers elevate their perception to gain approval following a brand rejection. For the focus of the paper, we propose that three different termination tactics will elicit different levels of rejection.

Prior research on service failure and brand transgression suggests justice or fairness perception is among the key concepts to explain consumers' responses following negative incidents with the brand (Gelbrich and Roschk, 2011, Khamitov, Gregoire and Suri, 2019). Justice perception involves several dimensions including distributive justice (perceived outcome in relation of costs and benefits of the exchange), interactional justice (how the company communicates with consumers with respects) and procedural justice (fairness and transparency of the procedure used in decision-making) (Tax et al., 1998). Based on justice theory, we argue consumers experience a low level of fairness after relationship termination. When firm take proactive action in ending the relationship, people might feel unfairly treated. This is because the firms go against their promises to deliver the respective services to consumers, resulting in some equity violations in different aspects and affect their justice perception accordingly. Given different termination strategies, we argue that they can lead to distinct levels of perceived fairness and trigger the consumers' response accordingly.

Compared to direct and indirect exposed termination, unexposed strategy should trigger a low degree of perceived rejection and a higher degree of perceived fairness. This is based on the following logic. In these cases, customers believe that they take the initiative to exit the relationship. It is then unlikely that they would feel excluded or devalued by the firms, leading to a low level of perceived rejection. Moreover, putting an end to the relationship entirely seems to be a bigger change of relationship outcomes in comparison with just changing the offerings with reduced benefits. Hence, customers in the indirect unexposed condition perceive a higher level of fairness as opposed to those in the direct termination situation.

Regarding the contrasting effect of direct termination and indirect exposed termination on perceived rejection and perceived fairness, there lies different logics and explanations for the prediction. As previously noted, direct dissolution often produces negative emotional reaction. Moreover, in the commercial context, such practices are one-sided from the firm, leaving the customers shocked and unprepared for the sudden loss of connection by breaking the social and economic contract between the two parties. This also undermines their belongings to in-group identities. Consumer might also find themselves treated disrespectful by such procedure. Conversely, indirect exposed technique allows time for people to digest the information, move on the from breakup and save face by withdrawing from the relationship on their own. Hence, customers who got terminated directly are more inclined to feel a higher extent of perceived rejection and lower extent of perceived fairness in compared with those who go through indirect exposed tactics.

There exists a rival explanation for the comparative effect of indirect exposed and direct termination strategies. Accordingly, we expect that people in the former cases are prone to experience a similar or even a greater degree of rejection than customers in the later ones.

Aggarwal (2004) suggests communal and exchange norms can operate in the context of services. Thus, the relationship between a firm and customers which are characterized by economic exchanges resembles an exchange interaction rather than a communal one. According to exchange norms, both parties should receive a comparable benefit while they do not have to be sensitive to the others' needs (Aggarwal, 2004; Clark and Mills, 1993). A direct strategy allows clear communication and time efficiency for customers, giving them opportunities to discover better partners. This approach seems to align more with the norms. In contrast, it might be time-consuming for consumers to detect the leaving intent behind the indirect techniques. When the strategy finally gets exposed, it might elicit the feeling of betrayal. Though indirect exposed strategy can pay respect to customers, it violates the norms of exchange relationship and triggers negative emotion consequences. Besides, we look at the impact of exposed indirect strategy on justice perception in compared with direct tactic. Following the similar logic, exposed indirect strategy lowers distributive justice by making consumers use more time and costs to figure out the firm's intention and look for solution than direct tactic. The communication procedure between consumers and firms in the former one is also less transparent, which leads to reduced procedural justice. Hence, it is expected that the overall justice perception of exposed indirect strategy is lower or similar to that in the direct termination. For those reasons, we formulate:

> **H1:** The firm's termination strategies influence perceived rejection, such that: a) unexposed indirect termination triggers the lowest rejection, b) exposed indirect termination triggers a similar level of rejection as direct termination does.
>
> **H2:** The firm's termination strategies influence perceived fairness, such that: a) unexposed indirect termination triggers the highest perceived fairness, b) exposed indirect termination triggers a similar level of fairness as direct termination does.

Antisocial and prosocial reactions

Past literature in psychology concerning social exclusion outlines that people can exhibit multiple reactions after social exclusion, such as rejection and ignorance. Smart, Richman and Leary (2009) show that people can have different behavioral responses with distinct motives when they perceive threats to their social acceptance. Given that rationale, we speculate customers can display antisocial and prosocial behaviors simultaneously to respond to a relationship termination. As illustrated in Figure 7, we propose that rejection should be a crucial mediator for the antisocial route and perceived fairness is the key construct to explain prosocial processes with some other involving factors in each route.

On one side, people are likely to have aggressive and grumpy behaviors when they get rejected. Some examples include reduction in cooperating and helping others (Twenge et al., 2007), avoidance to reconnect with the involved party (Maner et al., 2007), negative appraisal to damage the partner (Twenge, Tice and Stucker, 2001) and increased tendencies of aggression (Buckley, Winkel and Leary, 2003). Customers can engage in some antisocial responses toward the rejecting firms after their relationship dissolution. When consumers are getting back to the firm after a negative incidence, several authors draw their interests to revenge and its related concepts like desire for vengeance (Bechwati and Morrin, 2007) and customer retaliation (Grégoire and Fisher, 2008). Together with previous findings about social exclusion causing negative emotional and psychological health (Baumeister and Leary, 1995; Cacioppo and Hawkley, 2009), we propose that rejected customers are motivated to take revenge, as they believe the relationship fall out is of the firm's control and responsibility. Building on these insights, we then expect the sequence of antisocial responses "direct-indirect termination strategy → perceived rejection → revenge". Thus:

H3: Perceived rejection mediates the path between termination strategies and antisocial response such that termination strategies → (+) perceived rejection → (+) revenge.

On the other side, another research stream posits people are prone to act on prosocial behaviors following negative events. Many papers in service failure and recovery literature often place the focus on double deviations. These situations occur when firms fail to redress the inconveniences of the initial service failure or breakdown. Consumers often develop rage, spread negative word-of-mouth and engage in revenge behaviors only after the firm's second failed attempt (Komarova, Haws and Bearden, 2018; Joireman, Grégoire and Tripp, 2016). This means that people still offer companies a second chance to repair their mistakes without immediately jumping on negative behaviors and attitudes. Applying to the context of this research, we believe customers might develop some prosocial response when the relationship with the firm comes to an end. We propose a prosocial sequence response that involves perceived fairness and reconciliation. As discussed in Hypothesis 2, when the firm attempts to withdraw from the relationship, we argue consumers will experience varying perceptions of fairness. Substantial empirical findings outline the link between justice perception and post-complaint satisfaction, positive word-of-mouth, and forgiveness (Gelbrich and Roschk, 2011; Joireman et al., 2016). In this research, we direct our interests to reconciliation. Aquino, Tripp and Bies (2006) define reconciliation as "an effort by the victim to extend acts of goodwill toward the offender hoping to restore the relationship." Prior works show that some customers are willing to give the firm second chances following service failures (Joireman, Grégoire, Devezer and Tripp, 2013). According to different levels of perceived fairness, they would give the firm an opportunity to reconcile and restore the relationship. Formally, we suggest:

H4: Perceived fairness mediates the path between termination strategies and prosocial response such that termination strategies → perceived fairness → (+) reconciliation.

The effects of termination strategies on perceived rejection as a function of time

Some research in the literature regarding service failure, brand transgression, and product harm crises adopt time as the research lenses in studying these incidents. For example, after making online public complaining, consumer revenge and desire for avoidance follow two different patterns over time (Grégoire, Tripp and Legoux, 2013). Other works concerning recovery tactics also show an effect of time on consumers responses (Tang et al., 2018; Hogreve et al., 2017). Responding to the call of Khamitov, Grégoire and Suri (2019) about the underappreciation of time in these research streams and further understand the dynamic connection between consumer and brand, we investigate how consumer perceived rejection changes as a function of time.

We propose that after getting terminated by the firm, consumers perceived rejection decrease over time. This is because negative state like getting hurt and rejected costs significant resources, both mentally and physically, affecting human well-beings. Hence, it is natural and logical for people to apply different strategies to reduce such energy consumption and get back into a more stable state. These insights suggest that rejection triggers mechanisms that contribute to emotional healing over time (DeWall et al., 2011). First, consumers in the unexposed indirect termination believe they end the relationship with the firm. Even though they might feel hurt since the brand changes their promises, they do not experience much social isolation and rejection. They do not use any coping strategies to reduce the negative feelings and the level of rejection stays low across time. Second, when firm use direct termination tactic, consumers suddenly face the unpredicted situation, causing strong negative emotions. However, given the strong relationship between the consumer and the brand, some people might find it confusing and do not go immediately to the healing process. They might blame the firm and

expect some recovery actions such as explanation, apologies, and compensation. Over time, consumers gradually accept the truth and let go of the feelings. This results in a moderate change of perceived rejection as a function of time. Third, for exposed indirect consumers, due to their highest level of rejection, they are more likely to enter the recovery phase quickly to repair the damage. Moreover, these consumers have more autonomy about ending the relationship with the firm than those in the direct termination. This encourages the use of self-mechanisms to balance their emotion and avoid resources over-burnt rather than relying on the firm. Thus, they overcome the situation and the bounce back to the less intense state more quickly. Building on this logic, we propose that perceived rejection decrease in a fast pace when firm employ unexposed indirect terminations.

H5: The termination strategies interact with time to predict the evolution of perceived rejection, such that: a) for unexposed-indirect termination, customers' level of rejection remains low and stable over time; b) for direct termination, the level of rejection decreases at a slow pace; and c) for exposed-indirect termination, the level of rejection decreases at a relatively faster pace.

2.3 Overview of studies

To test the conceptual framework, we apply a multi-method approach with three studies. Studies 1 and 2 are scenario-based ones which are useful in addressing casual relationships as well as examining the underlying mechanisms of the effects. Specifically, Study 1 aims to show the differential impact of direct and indirect termination strategies on perceived rejection and perceived fairness in a service context. This later affects the customer's prosocial and antisocial reactions through various processes accordingly. Study 2 extends the findings of Study 1 by discriminating indirect termination into exposed and unexposed strategy to show contrasting effects in a similar context. The role of perceived rejection and perceived fairness as the main mediator are also tested, as predicted in Hypotheses 2 and 3. Study 3 using a longitudinal method

with real customer termination further establishes the impact of termination strategies on consumers' feeling of rejection and fairness; and how these responses evolve as a function of time.

Study 1: A scenario study for the basic differential effect of direct and indirect

Design and procedure

This study is a scenario-based experiment that involves one factor with two conditions: direct and indirect terminations. Participants were recruited through Prolific. To participate in the study, respondents were required to be US citizen and at least 18 years old. The final sample includes 231 participants (73.2% female, M_{Age} = 31.61 years, SD = 12.62).

Participants first read a basic description. They were asked to imagine themselves as customers of a fictional telecommunication company (Telecom). Specifically, they were having a long-term mobile phone contract with the firm. Although they are satisfied with the provided services, they received an unexpected email indicating the changes of their current mobile package. The company disclosed having difficulties in meeting its business goals, so it had to issue a new policy for some specific customer segments (please see web appendix A for detailed stimuli).

In the direct termination condition, the company mentioned that to remain profitable, it decided to cancel the mobile plan of some unprofitable customers and those customers are the recipients of this email. The changes came effectively starting from the next month. In turn, the email in the indirect condition indicated Telecom modified the mobile plan for some clients which are the ones receiving this notice. Specifically, this includes fee increases and benefit cuttings in compared with the original plan.

Dependent variables

Unless otherwise indicated, all measures are based on seven-point Likert scales (1 = Strongly disagree to 7 = Strongly agree). Perceived rejection is measured using four items: "I feel excluded by my cell phone company", "I feel rejected by my cell phone company", "I feel like my cell phone company did not value our relationship", "I feel like my cell phone company did not consider me as a valued customer." Participants' desire for revenge was measured using an established scale (McColl-Kenedy et al. 2009). The scale comprises four items: "I feel like taking action to get revenge on the firm or its employees", "I feel like considering ways to get revenge on the firms or its employees", "I feel like making insulting remarks to the service employees", I feel like causing inconvenience to the firm". We measure overall perceived fairness with three items: "Overall, I was treated fairly by previous insurer", "My previous insurer gave me an opportunity to voice my concerns before my relationship ended" and "The outcomes received from my previous insurer were fair" (Tax et al., 1998). Finally, participants judge their desire of reconciliation using a scale adapted from Aquino et. al (2001) ("I feel like trying to make amends", "I feel like giving them a new start, a renewed relationship", "I feel like making an effort to be more friendly and concerned" and "I feel like accepting the firm regardless of the relationship ending or being close to end".

Manipulation check

To check the directness of termination strategies, we ask the respondents to judge the condition using a four-items scale (α= 0.92) (Hänlein and Kaplan, 2011; Mende et al., 2015; Ward and Dahl, 2014) (see Web Appendix C). The aggregated score of termination indirectness is higher in the indirect rather than the direct condition ($M_{Indirect} = 3.22 > M_{Direct} = 2.16$, $F(1, 230) = 25.23$, $p < 0.01$, partial $\eta^2 = .10$). Of note, contradicting with our expectation, the average score for indirect termination strategy does not exceed the neutral score of "4". We recognize

this as a limitation of Study 1 that we aim to improve in further studies. However, as the obtained means follow the expected direction, we conclude the manipulation check was successful.

Scales and Measurements

Prior to process the analyses and hypotheses testing, we assess the reliability of all constructs in several criteria. Web Appendix C presents the statistics across three studies. First, we examine the factor loadings of items in each construct. Though there are three loadings of .51, .61 and .69, the remaining values surpass the acceptable minimum range of 0.7. Thus, the items generally represent the underlying factors it is intended to measure accordingly. Next, we rely on the method of Fornell and Larcker (1981) to measure the composite reliability. The results report the lowest value of composite reliability is .88, which meets the threshold of .8. Then, the convergent validity of each construct is evaluated by considering the average variance extracted (AVE). Typically, an AVE value of .50 or higher is used to determine acceptable convergent (Fornell and Larcker, 1981) and each AVE in all three studies satisfies this requirement (See Web appendix C). This means that the indicators of the construct are highly related to each other and are good measures of the underlying construct. Besides, in terms of discriminant validity of each construct, it is noted that no item exhibited stronger associations with a different construct than its intended ones. Finally, the Cronbach alphas of all scales are all above .7, showing high internal consistencies. (See Table 7).

Table 7: Scale statistics: Means, Standard Deviations and Correlations – Study 1

Variable	M	SD	1	2	3	4	5	6
1.Directness	2.70	1.70	1					
2. Rejection	5.58	1.28	.05	1				

3. Revenge	2.11	1.27	.05	.23**	1			
4. Fairness	2.46	1.18	-.08	-.58**	-.13	1		
5. Reconciliation	2.19	1.09	-.07	-.30**	.01	.47**	1	
6. Severity	6.03	.95	-.01	.54**	.17**	-.54**	-.41**	1

**Correlation is significant at the .01 level*

Results

For the following analyses, we control for demographic variables (age and gender) and failure severity which is an important confound in the literature of service marketing.

Perceived rejection. We first conduct an ANOVA with termination directness as the independent variable and perceived rejection as the dependent variable. The result reveals a significant main effect ($F(1, 26) = 11.30$, $p < 0.001$; partial $\eta^2 = 0.34$). A simple t-test shows that participants who get terminated directly felt more rejected compared to those in the indirect termination strategies ($M_{Direct} = 5.91$, $M_{Indirect} = 5.24$, $t = 4.14$, $p < 0.001$). This provides initial support for Hypothesis 1.

Perceived fairness. An ANOVA with termination strategies as the independent variable and perceived fairness as the dependent variable shows a marginal significant main effect ($F(1, 226) = 3.18$, $p = .076$; partial $\eta^2 = 0.308$). Participants in the direct condition perceived less fairness than those who get terminated indirectly ($M_{Direct} = 2.26$, $M_{Indirect} = 2.67$, $t = -2.7$, $p = 0.004$). Overall, the results are consistent with H2.

Post-hoc analyses. Given the moderate correlation between perceived rejection and perceived fairness (r =-.58**), we proceed to test whether the main effect of termination strategies on perceived rejection and perceived fairness is dependent on each other. Specifically, when we insert perceived fairness as the covariate, the effect of termination strategies on

perceived rejection is still robust and significant. However, the main effect of the independent variable on perceived fairness is no longer significant when perceived rejection is introduced to the model. This suggest that the feeling of rejection is more dominant than the perception of fairness does when people experience relationship fallout.

Mediation analysis. To test H3 and H4, we use the PROCESS (Model 4) developed by Preacher and Hayes's (2008) to examine the indirect effect through perceived rejection. Our mediation analyses are based on 5000 bootstrapping subsamples. We test two sequences to understand the antisocial and prosocial responses of consumers following the termination notice. The first path posits: "direct-indirect termination strategy → perceived rejection → revenge. The second one concerns: "direct-indirect termination strategy → perceived fairness → reconciliation. Termination directness was coded as a dummy variable representing direct (value = 1) and indirect (value = 0) termination accordingly.

In the first model, consistent with H3, direct termination is associated with a higher level of rejection than indirect termination ($\beta = .46$, $p < .001$). Then, the more rejection that customers perceived, the more likely that they take revenge ($\beta = .20$, $p = .01$). The indirect effect through this sequence is significant (effect = .09, 95% CI = [.026; .184]). These results confirm how rejection mediates the effect between direct (compared with indirect termination) and the antisocial reactions through the expected route.

Second, we run a similar model for the prosocial responses. In this sequence, direct termination results in less perceived fairness than indirect one ($\beta = -.24$, $p = .07$). We find that fairness indeed turns into to more reconciliation ($\beta = .30$, $p < .001$). The confidence interval of the indirect path slightly misses the significance level (effect = -.07, 95% CI = [-.171; .006]).

However, this sequence is significant at a 90% confidence level CI = [-.153; -.004]); thus, we find a marginal support for hypothesis H4.

Alternative explanation. We proceed to test whether perceived rejection and perceived fairness are interchangeable in the proposed framework due to their strong correlation. Concretely, perceived rejection is used as the mediator for the prosocial path and perceived fairness becomes the underlying mechanism that explain the antisocial responses. As shown in Table 8, neither the first indirect effect (Termination strategies → rejection → reconciliation) nor the second one (Termination strategies → fairness → reconciliation) reach the statistically significant results. We then rule out these rival explanations.

Table 8: Results of mediation test (Based on 5000 Bootstrap samples) – Study 1

Indirect Effect (Reference group: indirect termination)	Estimate	Standard Error	Confidence Intervals Low	High
H3: Direct termination → rejection → revenge	.009	.004	.026	.184
H4: Direct termination → fairness → reconciliation (95%)	-.07	.046	-.171	.006
H4: Direct termination → fairness → reconciliation (90%)	-.07	.046	-.153	-.004
Alternative analyses Direct termination → fairness → revenge	.016	.029	-.041	.077
Direct termination → rejection →reconciliation	-.036	.038	-.125	.024

Discussion of Study 1

In sum, Study 1 first confirms that direct and indirect termination hold different impact on customers' rejection and fairness perception. The data shows that being terminated directly makes customers feel more rejected rather than when they believe to leave on their own, lending an initial support for Hypothesis 1. Moreover, people who are terminated indirectly also report a

higher level of perceived fairness, which confirms Hypothesis 2. This supports the idea that direct termination is likely to be more painful for customers.

Study 1 also provides evidence that people respond in a destructive and antisocial manner after experiencing rejection. As per H3, our mediation analyses reveal that the directness of termination triggers distinct levels of rejection, which drive customers to seek revenge. These results once again are supportive of the dark side of firm-consumer relationship in previous research (Grégoire, Laufer and Tripp, 2010; McColl-Kennedy et al., 2009), but offer novel findings in the context of customer farewell management.

As per H4, we also find support for the serial mediation effect through the "fairness-reconciliation" path. This result is consistent with the findings about how people still put their effort into fixing the relationship when firms cannot meet customer's expectation (Joireman, Grégoire, Devezer and Tripp, 2013). Taken together, results of Study 1 support the idea that rejected consumers may respond with multiple competing motives at the same time—some being prosocial whereas others are antisocial.

Study 2. When indirect termination strategy loses its advantages

Study 2 extends how distinct termination strategies can lead to different degrees of rejection/fairness, which later leads to antisocial and prosocial reactions. Instead of focusing on the impact of indirect and direct termination only, we discriminate between two distinct types of indirect termination: unexposed and exposed. We show that while terminating customers indirectly holds certain advantages beyond direct termination, it is not always a "silver bullet." Such practices can backfire when customers become aware that the firm is trying to get rid of them.

Design and procedure

Similar to Study 1, Study 2 also follows a single factor between-subjects design (termination directness: direct vs. indirect (unexposed) vs. indirect (exposed). The data collection took place on the crowdsourcing platform Prolific. To be included in this study, participants needed to be at least 18 years old and US citizen. The results come with a final sample of 222 respondents (48.6% male, M_{Age} = 32.60 years, SD = 12.95). The participants were assigned randomly to one of the three conditions.

Participants were asked to imagine themselves to be in a stable relationship with a Telecommunications firm. In the first stage, they were first given the basic scenario, as in Study 1 by receiving the email from the company which corresponds to their changing offers or cancellation of services. Then, corresponding to the form of termination strategy, participants read a first stimuli that manipulate termination directness. Specifically, in the direct condition, they were told about reading a podcast in which an analyst discussed how Telecom had ended the relationship with some customers. In turn, the analyst in the indirect unexposed strategy said the company had modified its plans accordingly to remain profitable. The exposed termination condition, however, stated Telecom had changed its plan as a tactic to get rid of the unprofitable customers (see Web Appendix B for details). Participants then answered questions relating dependent variables and completed the manipulation check as in Study 1.

Manipulation check

We check the manipulation using the scale as in Study 1 (four items, M = 4.29, SD = 2.06, $\alpha = 0.93$). The aggregate score for termination indirectness is highest for the exposed tactic, then follows by unexposed and direct termination ($M_{\text{Indirect-exposed}} = 5.34$ vs. $M_{\text{Indirect-unexposed}} = 4.43$ vs $M_{\text{Direct}} = 3.14$, $F(2, 219) = 26.16$, $p < .001$, partial $\eta^2 = .193$). Simple effects indicate all

the means differ significantly from each other (*p's* < .005). Additionally, the score of the direct condition is significantly below the midpoint value (4) ($p < .001$) while unexposed and exposed termination generate values higher than 4 ($t_{Indirect\text{-}unexposed} = 1.956$, $p = 0.054$, $t_{Indirect\text{-}exposed} = 6.645$, $p < .001$). We argue that through exposed termination, company fails to disguise their motives, which results in the highest score of termination indirectness in customers' perception. By contrast, such effort is straightforward and clear in the direct termination condition. As per unexposed tactic, customers are not aware of the situation, thus making them have a moderate perception about the firm's true intention. By that logic, the results display the intended effect, showing the manipulation check is successful. Participants also report the realism of the scenario by indicating whether the scenario is realistic, familiar, and possible ($\alpha = .77$). Overall, the scenario is considered realistic ($M = 4.61$, $SD = 1.41$), and we note no difference across conditions (See Table 9).

Results

Table 9: Scale statistics: Means, Standard Deviations and Correlations – Study 2

Variable	M	SD	1	2	3	4	5	6
1.Directness	4.29	2.06	1					
2. Rejection	5.97	1.12	.22**	1				
3. Revenge	2.40	1.36	.11	.09	1			
4. Fairness	2.09	1.12	-.18**	-.52**	-.07	1		
5. Reconciliation	1.89	1.11	-.23**	-.38**	.01	.59**	1	
6. Severity	5.89	1.18	-24**	.41**	.08	-.35**	-.37**	1

Perceived rejection. To test Hypothesis 1, we conduct an ANOVA with the manipulation as the independent variable and rejection as the dependent variable. Termination directness influenced perceived rejection significantly ($F (2, 216) = 5.08$, $p < .01$; partial $\eta^2 = .223$). Independent t-tests reveal unexposed indirect termination triggers less rejection when comparing with the other two termination strategies ($M_{\text{Indirect-unexposed}} = 5.60$ vs $M_{\text{Indirect-exposed}} = 6.12$ vs $M_{\text{Direct}} = 6.20$, all p's < 0.01). Conversely, there were no significant differences in the mean of rejection among participants who got terminated directly and those who successfully identify the firm's true motives ($t = .51$, $p = NS$). The results are consistent with H1.

Perceived fairness. Using an ANOVA analysis, we find that the main effect of termination strategies on perceived fairness do not lead to significant results ($F (2, 214) = 1.66$, $p = NS$; partial $\eta^2 = 0.141$). Looking at the means, unexposed indirect termination triggers the highest level of perceived fairness, followed by exposed indirect and direct tactics accordingly ($M_{\text{Indirect-unexposed}} = 2.29$ vs $M_{\text{Indirect-exposed}} = 2.10$ vs $M_{\text{Direct}} = 1.89$). We then conduct an additional ANOVA with only two conditions for termination strategies (Direct vs Unexposed Indirect). The results indicate the impact of termination on perceived rejection is at the margin of statistically significant ($F (1,144) = 3.60$, $p = .06$; partial $\eta^2 = .161$). An independent t-test result reveals perceived fairness in direct condition is significantly lower than that in the unexposed indirect one ($t = -2.28$, $p = .02$). By contrast, there are no significant differences in the mean of direct and exposed indirect termination ($t = -1.20$, $p = NS$) nor exposed indirect and unexposed indirect tactics ($t = -.97$, $p = NS$). This is partially consistent with H2.

Mediation analyses. Study 2 allows to test the prosocial and antisocial routes as in Study 1. Following the same procedure, we first code dummy variables representing direct (value = 1) and unexposed (value = 0) indirect termination to examine the sequences involving these two

strategies. We then replicate these analyses with indirect exposed (value = 1) and unexposed (value = 0) tactics to show the contrasting effect.

For the antisocial route, we find that direct and exposed indirect strategies make consumers feel more rejected than unexposed indirect does (β =.49, $p < .01$; β =.44, p =.01). However, as rejection does not necessarily turn into revenge (β =.02, p = NS; β =.01, p =NS). Thus, the overall indirect effect does not yield a significant result (direct vs unexposed: β =.009, 95% CI [-.110; .141]; exposed vs unexposed: β = .04, 95% CI [-.149; .050]), so H3 is not supported.

As per H4, for the first set of contrast, participants in the direct terminations have a lower level of perceived fairness than those in the unexposed indirect one (β =.320, p =.06). The path from fairness to reconciliation is also significant (β = .484, $p < .001$). Thus, the indirect effect relating the sequence termination directness (direct vs unexposed) → perceived fairness → reconciliation achieves the significance level (β = .155, 95% CI [-.352; -.001]). For the contrast regarding exposed indirect and unexposed indirect, there is no significant impact of termination directness on perceived fairness. Hence, we do not test the prosocial path for this contrast. To sum up, these results are partially supportive of H4 (See Table 7).

Alternative explanations. Similar to study 1, we examine the rival explanation for the effect of termination strategies on revenge and reconciliation respectively. Given the rival model, table 3 presents the results for the indirect effects with two contrasts (direct vs indirect unexposed and Exposed indirect vs Unexposed indirect) for each of the alternative model. Among the four tested sequences, only the indirect effect of termination strategies (Exposed vs Unexposed) on reconciliation through perceived rejection is significant (β = -.16, 95% CI [-.293;

-.039]). We then cannot eliminate the possibility that perceived rejection is a crucial mediator for the prosocial response. Therefore, we would pay specifical attention to further examine this route in the next study.

Table 10: Results of mediation test (Based on 5000 Bootstrap samples) – Study 2

Indirect Effect (reference group: unexposed indirect)	Estimate	Standard Error	Confidence Intervals Low	High
H3: Direct termination → rejection → revenge	.009	.064	-.110	.141
H3: Exposed termination → rejection → revenge	.043	.048	-.149	.047
H4: Direct termination → fairness → reconciliation	-.155	.09	-.352	-.001
Alternative analyses				
Direct termination → rejection → reconciliation	-.08	.054	-.213	-.003
Direct termination → fairness → revenge	.009	.038	-.071	.089
Exposed termination→ rejection → reconciliation	-.161	.064	-.293	-.039
Exposed termination → fairness → revenge	.008	.028	-.038	.079

Discussion of Study 2

The objectives of Study 2 involve three main ones. It first aims to examine the impact of three distinct termination strategies on perceived rejection by further categorizing indirect tactic into unexposed and exposed technique. While Study 1 shows indirect strategy is a promising choice to minimize the degree that customers feel rejected, Study 2 extends the findings and argues that such practices can be a risky move. We confirm that indirect termination leads to a lower extent of perceived rejection compared to the direct condition, but only when participants do not detect the true motives of the firm. Interestingly, when they realize the situation, they can experience a similar level of rejection to those who get terminated directly. These results are consistent with H1.

Second, it investigates whether consumers' perceived fairness toward the firm can vary depending on three different firm-induced termination strategies. As we propose, unexposed indirect tactic produces a higher degree of fairness perception than direct condition does. On the other hand, consumers who figure out the firm's attempt to show a moderate level of perceived fairness. We believe it takes more time for these people to process and recognize how firms are treating them unfairly given the conflicting information available. For that reason, though the mean differences of exposed indirect strategy in compared with other conditions are not significant, we believe results of Study 2 still show some initial support about the impact of three distinct termination strategies on perceived fairness.

Third, based on the responses of human to social exclusion, Study 2 analyses the mediation effect of perceived rejection on termination directness and consumers' antisocial behaviors. When investigating the "rejection-revenge" route, we do not find a significant indirect effect since rejection does not affect the desire for revenge. This might be because revenge is rarely the first response that consumers think of and such actions are more likely to happen in extreme conditions such as double deviation or high severity (Joireman et al., 2016, Grégoire et al., 2018).

Finally, Study 2 documents customers might strive to restore the relationship with the firm through the prosocial route depending on how they believe the firm is treating them right. On one hand, we recognize perceived fairness mediates the effect between termination strategies (direct vs unexposed indirect) and reconciliation. Customers who get terminated indirectly without discovering the firm's intention develop a higher perception of fairness, thus motivating them to reconcile the relationship with the brand. Conversely, the contrasting effect of direct and unexposed indirect do not demonstrate the mediating role of perceived rejection. Hence, H4 is

only partially supported. Overall, findings of Study 2 suggest customers are inclined to exhibit prosocial behaviors in responding to fairness perception. Interestingly, we find that indirect exposed strategy can be as damaging as direct technique in eliciting rejection. Hence, it is of high importance to note that indirect strategy is a double-edge sword that can backfire when the firm's motives are revealed.

Study 3: The effect of time on termination strategy

In Study 3, we continue to examine the impact of firm-induce termination strategies on the variables of interests in a realistic setting with real termination. Using a longitudinal data from consumers base of an insurance company in Canada, we also test how consumers' perception of rejection evolves as a function of time.

Design and procedure

We partnered with a Canadian insurance company to get in touch with customers who were terminated by the firm in a year prior to the data collection. To examine how termination strategies affect consumers' perceived rejection as a function of time, we send out a series of three questionnaires to the desired population in a six-week time frame. From a customer pool of 3500 individuals, we receive 310 responses for the first wave corresponding to 8.1% responses rate. The sample includes 284 participants (62% male, 35% were between the ages of 31- 45, 31% were college educated, and 35% earned an income above $60,000 a year). Two weeks after the first round, consumers answer questions about their sense of rejection and attitudes in the second questionnaire. This results in 107 responses. The third wave with the same questions takes place in the next two weeks and results in 55 completed answers. Before testing our hypotheses, we conduct a series of t-test to check whether there were any differences in terms of key constructs between the final sample and respondents who did not complete all three waves

(p's > .14). This ensures our missing data is random and the longitudinal data were unbiased by attrition (Grégoire et al., 2018).

Three termination strategies

Our Time 1 survey helps to indicate what type of firm-induced termination strategies is applied to customers. We use several questions to identify whether consumers believe the relationship is terminated due to the firm's direct initiatives or their own motives. There are six different tactics that the insurance company adopts to end the relationship with customers, including directly cancelled the policy (22.9%); declined coverage during a claim (3.8%); raised the rates (72.5%); raised the deductible (14.5%); decreased the service offered (9.2%); and reduced the policy's benefits (14.5%). If consumers choose any of these strategies, they either belong to the direct termination condition or indirect exposed one as they recognize the firm's termination attempt. There are 131 individuals that satisfy the criteria. We then measure the customers' perceived directness of firm termination strategies using a four scale items (see Web Appendix C). The results come with 61 participants for the direct termination with a score lower than 4.0 and 70 people for the exposed-indirect condition with a score higher than 4.01. We categorize the remaining 153 participant who report that they "left for other reasons" as those in the indirect unexposed condition as they do not detect the firm's termination effort.

Common methods bias. We apply Lindell & Whitney (2001)' s approach to account for common methods bias. As the first step, we identify two manifest variables in the dataset with the lowest correlations. These variables then serve as the estimate of method bias which is utilized to create a discounted correlation matrix. This discounted matrix is compared to the original unadjusted one. Accordingly, there are no changes either in the sign or the significance between the two matrixes with the largest differences of only .03. Following Brady et al., (2014), we

conclude that the presence of methods bias does not represent a substantial threat to the interpretation of the data.

Results

Perceived rejection. We conduct an ANOVA with termination strategies as the independent variable and perceived rejection at Time 1 as the dependent variable, respectively. Consistent with H1, termination strategy has a significant impact on perceived rejection at Time 1 ($F (2, 260) = 54.30$; $p < .001$). Specifically, exposed indirect termination trigger the highest degree of perceived rejection ($M_{Indirect\text{-}exposed} = 5.40$), followed by direct termination ($M_{Direct} = 4.02$) and unexposed indirect strategy ($M_{Indirect\text{-}unexposed} = 2.82$). Independent t-tests show that three means differ significantly at time 1 (p's $< .01$). Thus, H1 is supported.

Perceived fairness. A similar analysis of perceived fairness reveals a significant effect of termination strategies at Time 1 ($F (2, 260) = 44.48$; $p < .001$). We then perform independent t-tests to compare the means of different conditions ($M_{Indirect\text{-}unexposed} = 5.17$ vs $M_{Direct} = 4.46$ vs $M_{Indirect\text{-}exposed} = 3.10$, all p's < 0.01). These results are supporting of H2.

Mediation analyses. For H3 and H4, we use Hayes' (2022) model 4 to test the indirect effect with the bootstrapping procedure. We code the termination strategies as two dummy variables for exposed-indirect termination/ direct termination (1) against the unexposed-indirect termination (0).

For the antisocial route following relationship termination, we find the unexposed indirect elicits less perceived rejection than exposed indirect and direct termination ($\beta = .45$, $p < .001$; $\beta = .27$, $p < .001$). Then, people who feel more rejected are more inclined to take revenge on the firm ($\beta = .04$, $p = .05$; $\beta = .08$, $p < .001$). The confidence intervals for the two sets of

contrast does not contain zero (Exposed vs Unexposed: β = .08, 95% CI [.00; .173]) (Direct vs Unexposed β = .09, 95% CI [.043; .142). Overall, these results give support for H3.

For the prosocial sequences, we note that participants have more perceived fairness in the unexposed condition, compared with those in the exposed condition (β =.42, $p < .01$) and direct condition (β =.19, $p <.01$). This later affects their desire for reconciliation toward the firm (β =.188, $p < .01$; β =.273, $p < .01$). In line with the logic explained by H4, perceived fairness mediates the effect of termination directness on reconciliation (β = -.327, 95% CI [-.477;.-.192]) when comparing exposed vs unexposed and direct vs unexposed termination strategies (β = -.22, 95% CI [-.337; -.139]). These results are supportive of H4.

Alternative explanations. To enhance our confidence about the centrality of two suggested routes (i.e., H3 and H4), we conduct additional analyses to rule out alternative model like in the previous studies. Table 4 states that for the contrast involving direct and unexposed indirect strategies, perceived rejection and perceived fairness both work as the process variable for the impact of termination strategies on revenge and reconciliation. Across our three studies, these sequences show inconsistent results in compared with the proposed model. Overall, these findings reinforce our argument that perceived rejection is a more suitable mediator for the antisocial responses while the reasons why consumers engage in prosocial actions can be explained through their perception of fairness (See Table 11).

Table 11: Results of mediation test (Based on 5000 Bootstrap samples) – Study 3

Indirect Effect (Reference group: unexposed indirect)	Estimate	Standard Error	Confidence Intervals Low	High
H3: Direct termination → rejection → revenge	.09	.025	.043	.142
H3: Exposed termination → rejection → revenge	.08	.044	.002	.173
H4: Direct termination → fairness → reconciliation	-.23	.053	-.337	-.132
H4: Exposed termination → fairness → reconciliation	-.33	.073	-.477	-.192
Alternative analyses				
Direct termination → rejection → reconciliation	-.13	.048	-.231	-.041
Direct termination → fairness → revenge	.05	.015	.019	.078
Exposed termination→ rejection → reconciliation	-.041	.071	-.179	.109
Exposed termination → fairness → revenge	.015	.038	-.059	.090

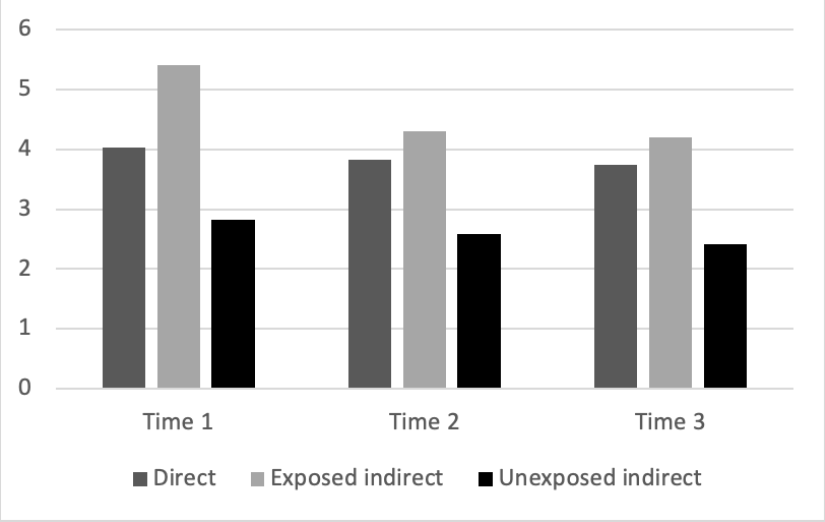
Time effect. To investigate whether the impact of termination directness on perceived rejection changes over time, we use a mixed linear model. The analyses show that both two variables (termination strategies and time) have significant direct effects (Type 3 tests of fixed effects) on the dependent variable (p's<.001) (see Table 5). The interaction effect of time and termination directness also achieves significance level ($F(4, 182) = 3.28$; $p = .012$) (See Table 12). This provides supporting evidence for H5.

Table 12: Results of the mixed model (Study 3)

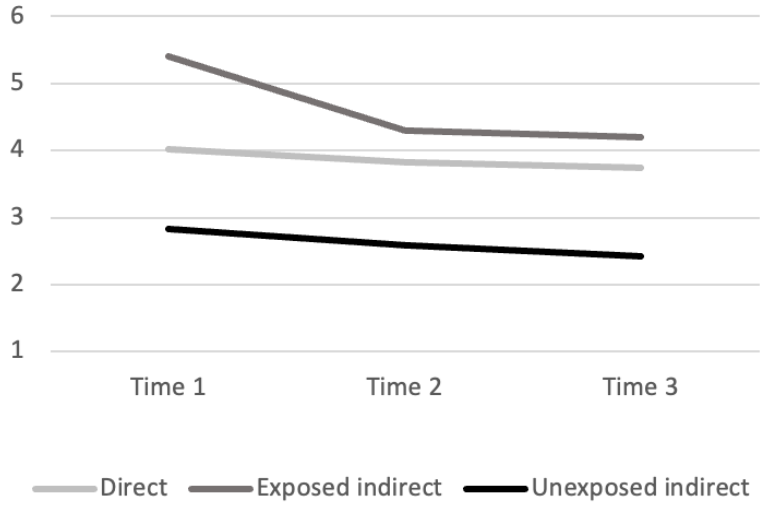
Type 3 Tests of Fixed Effects

Fixed effect	**DF[1] - Numerator**	**DF - Denominator**	**F-value**	**p-value**
Time	1	182	11.34	.000
Termination Strategies	2	264	19.14	.000
Time by Termination Strategies	4	182	3.28	.012
Control variables				
• Failure Severity	1	264	14.39	.000
• Age	1	264	0.12	.728
• Gender	1	264	0.43	.513

To further understand the pattern of development, we plot these interactions for each time and termination strategy (see Figure 2b). For exposed indirect strategy, consumer perceived rejection is relatively high at Time 1 and then decreases at a fast pace, which confirms Hypothesis 3a. Participants in the direct and unexposed indirect terminations both show a slow decrease of rejection over time. However, as people in the direct condition have a higher level of rejection than those in the unexposed indirect do to begin with, their negative feeling is still moderately high at Time 3 with a value of 3.74. In sum, these results are consistent with H5 (See Figure 8).



a)



b)

Figure 7: The impact of termination strategies on perceived rejection over time

Discussion of Study 3

Study 3 serves several purposes. It first shows how firm-induced termination strategies can trigger differential impact on perceived rejection and perceived fairness with real consumers' responses. Consistent with findings from Study 1 and Study 2, unexposed indirect strategies lead to the lowest level in sense of rejection and the highest perception of fairness. This encourages

companies to adopt the indirect termination tactic instead of direct strategy to avoid potential damages of relationship fallout. However, this is only beneficial to go with if consumers do not recognize the firm's true intent.

When consumers detect the firm's attempt to get rid of them, an indirect strategy can backfire. In particular, these consumers report a higher degree of rejection and lower level of perceived fairness than those who get terminated directly (H1 and H2). More importantly, although their negative feelings seem to fade relatively quickly with time, the perceived rejection stays high with a value of 4.19 at Time 3. On the other hand, a direct termination results in a moderate sense of rejection and fairness right after the incidence (H1 and H2). After six weeks, they gradually let go and their perceived rejection slowly decreases with time (H5b). Though companies with a direct tactic can be brutally honest and damaging the brand-connections at first, consumers have the chances to acknowledge the situation, express all their feelings right away and get over it slowly. By contrast, people in the exposed indirect, despite the fast pace of recovery over time, their perceived rejection is still more severe in the end. This means that indirect strategy can be a risky move that can lead to more unfavorable perception if it is not implemented properly as opposed to direct tactic.

Study 3 reconfirms that consumers exhibit multiple responses after being terminated by the firm. For the antisocial route, we find that perceived rejection is the crucial mediator that explains why people take revenge on the firm (H3), which is consistent with findings of Study 1. By contrast, how people engage in prosocial responses following firm-induced termination depends on their perception of fairness (H4). Consumers who believe that the company is treating them right are more likely to reconcile with the firm. Across three studies, we document more consistent results about the impact of termination directness on prosocial responses in

compared with the antisocial responses. This suggests consumers do not necessarily act on negative reactions, and they focus on repairing the relationship with the brand given how the firm deal with them in a fair manner.

2.4. Discussion

In studying the relationship between buyers and sellers, Dwyer, Schurr and Oh (1987) believe customer dissolution is a fruitful avenue for future research development. Given that call, the marketing literature still overlooks customer farewell management despite frequent evidence of termination attempts in business practices. Our research shed lights on the topic by showing how customers respond to firm-induced termination tactics. Insights from our studies offer several theoretical and managerial implications.

Theoretical contributions

First, we demonstrate that the directness of termination strategy poses an impact on customer's feeling of rejection and fairness perception. While many marketers consider indirect strategy as a potential technique to minimize the damages of relationship break-up, we find that it only works in some certain cases. Our research contributes significantly to the research by distinguishing indirect tactics into unexposed and exposed strategies to examine its effect on rejection and fairness. Accordingly, customers with unexposed termination perceive the lowest level of rejection and highest degree of perceived fairness since they do not detect the firm's motives. When the true intent of the firm is uncovered, customers can feel as rejected as they do when being terminated directly. Besides, the perceived fairness of consumers in the exposed indirect tactic can be lower than that in the direct termination.

As a second contribution, building on the literature of social exclusion (Lakin et al., 2008; Leary et al., 1995; Twenge et al., 2001; 2007) we find customers engage in antisocial

reactions toward the firm after termination. In this process, customer perceived rejection appears as a key mediator. In particular, consumers who feel more rejected tend to enact revenge behaviors against the firm. While consumer revenges following negative event is well-established in the service failure literature (Grégoire et al., 2018), our research adds the element of rejection and shows how this sequence can also be applied to the context of relationship dissolution. On the contrary, our findings on prosocial reactions suggest a novel contribution. Surprisingly, even after being terminated, customers still offer the firm a chance to restore their relationship. Specifically, termination strategies trigger distinct level of perceived fairness, thus leading to reconciliation. To our knowledge, our research is the first one stating customers' positive effort to engage with the firm in this context. More importantly, these two routes indicate that people simultaneously consider antisocial and prosocial responses after relationship fallout. This implies that people seek to confront relationship ending in various ways with a higher degree of complexity to predict than some simple thoughts.

Our last contribution involves the comparative effect of direct, indirect exposed and indirect unexposed strategies. Though some past works favor indirect strategy over the direct tactic for several reasons (Shin, Sudhir and Yoon., 2012; Zeithaml, Rust and Lemon., 2001), we document that is not always the good move. In Studies 2 and 3, indirect exposed termination behaves like direct termination in triggering a high level of rejection and resulting in more prosocial and antisocial desire in compared with unexposed strategy. Importantly, though consumers who detect the firm's intention have a faster decrease in perceived rejection over time than the other two strategies, they still report the highest degree of negative feelings in the end. Hence, it is crucial to note the three distinct forms of termination techniques instead of focusing on two only. This is beneficial to open more research avenues in the future.

Managerial implication

To achieve a peaceful break-up with customers, we advise the firms to consider the following suggestions to mitigate the negative consequences of relationship termination.

Direct vs Indirect termination strategies. Dismissing unprofitable customers is a strategic move that firms sometimes need to carry out to save resources and leverage their competitive advantages. Firm-induced termination strategy is still a delicate topic that managers find difficulties to deal with. The impact of indirect termination is tricky as it depends on if the firm can successfully disguise their motives. Hence, manager need to be careful when going with indirect termination. By contrast, direct termination seems to trigger more predictive responses thanks to its honest approach. Firms then need to evaluate their customers to make a proper judgment about which strategy to implement.

Customers regain and relationship improvement. Additionally, our research indicates that termination is not exactly the end of customer relationship management. Even if the firms actively initiate the breakup, customers are not completely over the relationship, thus offering the firms chances to restore their original status. This insight is somehow similar to previous works in which consumers have positive attitudes and higher willingness to pay after rejection (Ward and Dahl 2004). Given such reactions from customers, companies can take this opportunity to turn unprofitable segments into more profitable ones. It also offers the focal firms more advantages to regain the relevant customers base if their profitability becomes more attractive and strategic important in the future.

Limitations and future research

We face certain limitations with this manuscript. Our methodology includes scenario-based experiments. Though this approach holds certain benefits, it possesses weaknesses because

of its lack of external validity and generalizability in which we complement by using a field study. Besides, we only use telecommunication and insurances services for the context of our studies. It might be necessary to replicate results using different industries. Alternative methodologies and diverse samples are desirable to strengthen the robustness of our findings.

Customer farewell management, despite its potential research, is still neglected in the marketing literature. We believe that there are some promising avenues for future scholars to explore and make further contribution to this area. First, there are other possible mediators to examine the responses to firm-induced relationship termination. For instance, in service failure research, many papers propose perceived betrayal is a crucial concept in evaluating customers' attitudes and reactions toward the firms (Grégoire and Fisher, 2008; Grégoire, Tripp and Legoux, 2011). This can be a potential mechanism to investigate. Second, other contextual factors can also influence the situations. In some industries, it is much common to see termination practices. The frequent occurrence of such events might pose an impact on customers' perception of termination practices. Third, this stream of research can be extended to inter-firm relationships of the B2B settings instead of B2C only. Since B2B relationship is often characterized by strong ties and long-term agreement, settling relationship breakup can be more challenging and complicated, which suggests multiple directions to dig in the topic.

References

20 minutes (2022). La banque en ligne ING congédie plus de 300.000 clients en France. Retrieved July 7, 2022, from https://www.20minutes.fr/economie/3212991-20220107-banque-ligne-ing-congedie-plusieurs-milliers-clients-france.

Aggarwal, P (2004), "The Effects of Brand Relationship Norms on Consumer Attitudes and Behavior," Journal of Consumer Research, 31 (June), 87-101.

Aquino, K., Tripp, T., & Bies, R. (2006), "Getting Even or Moving On? Power, Procedural Justice, and Types of Offense as Predictors of Revenge, Forgiveness, Reconciliation, and Avoidance in Organizations," Journal of Applied Psychology, 91 (March), 653–58.

Avery, J., & Fournier, S. (2012). Firing your best customers: How smart firms destroy relationships using CRM. In *Consumer–Brand Relationships* (pp. 301-316).

Baxter, L. A., & Wilmot, W. W. (1985). Taboo topics in close relationships. *Journal of Social and Personal Relationships*, 2(3), 253-269.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological bulletin*, 117(3), 497.

Bechwati, N. N., & Morrin, M. (2007). Understanding voter vengeance. Journal of Consumer Psychology, 17(4), 277-291.

Buckley, K., Winkel, R., & Leary, M. (2004). Reactions to acceptance and rejection: Effects of level and sequence of relational evaluation. Journal of Experimental Social Psychology, 40, 14–28.

Cacioppo, J. T., & Hawkley, L. C. (2009). Perceived social isolation and cognition. Trends in cognitive sciences, 13(10), 447-454.

Cosic, M (2023). My AI is sexually harassing me: Replika users say chatbot has become too aroused. Retrieved March 18, 2023, from https://www.mirror.co.uk/news/world-news/ai-sexually-harassing-me-replika-28959736

Clark, S. and Mills, J (1993), "The Difference between Communal and Exchange Relationships: What It Is and Is Not," Personality and Social Psychology Bulletin, 19 (December), 684–91.

DeWall, C. N., & Baumeister, R. F. (2006). Alone but feeling no pain: Effects of social exclusion on physical pain tolerance and pain threshold, affective forecasting, and interpersonal empathy. Journal of Personality and Social Psychology, 91(1), 1.

Dwyer, F., Schurr, P.H. & Oh, S. (1987), "Developing Buyer-Seller Relationships," Journal of Marketing, 51 (April), 11-27.

Gelbrich, K., & Roschk, H. (2011). A meta-analysis of organizational complaint handling and customer responses. Journal of Service research, 14(1), 24-43.

Grégoire, Y., & Fisher, R. J. (2008). Customer betrayal and retaliation: when your best customers become your worst enemies. Journal of the Academy of Marketing Science, 36, 247-261.

Grégoire, Y., Tripp, T. M., & Legoux, R. (2011). When your best customers become your worst enemies: does time really heal all wounds?. NIM Marketing Intelligence Review, 3(1), 26-35.

Haenlein, M., Kaplan, A. M., & Beeser, A. J. (2007). A model to determine customer lifetime value in a retail banking context. *European Management Journal*, 25(3), 221-234.

Haenlein, M., Kaplan, A. M., & Schoder, D. (2006). Valuing the real option of abandoning unprofitable customers when calculating customer lifetime value. *Journal of Marketing*, 70(3), 5-20.

Haenel, C. M., Wetzel, H. A., & Hammerschmidt, M. (2019). The perils of service contract divestment: When and why customers seek revenge and how it can be attenuated. *Journal of Service Research*, 22(3), 301-322.

Hogreve, J., Bilstein, N., & Mandl, L. (2017). Unveiling the recovery time zone of tolerance: When time matters in service recovery. Journal of the Academy of Marketing Science, 45, 866-883.

Joireman, J., Grégoire, Y., Devezer, B., & Tripp, T. M. (2013). When do customers offer firms a "second chance" following a double deviation? The impact of inferred firm motives on customer revenge and reconciliation. Journal of Retailing, 89(3), 315-337.

Joireman, J., Gregoire, Y., & Tripp, T. M. (2016). Customer forgiveness following service failures. Current Opinion in Psychology, 10, 76-82.

Komarova Loureiro, Y., Haws, K. L., & Bearden, W. O. (2018). Businesses beware: Consumer immoral retaliation in response to perceived moral violations by companies. Journal of Service Research, 21(2), 184-200.

Lakin, J. L., Chartrand, T. L., & Arkin, R. M. (2008). I am too just like you: Nonconscious mimicry as an automatic behavioral response to social exclusion. Psychological Science, 19, 816–822.

Lepthien, A., Papies, D., Clement, M., & Melnyk, V. (2017). The ugly side of customer management–consumer reactions to firm-initiated contract terminations. *International Journal of Research in Marketing*, 34(4), 829-850.

McColl-Kennedy, J. R., Patterson, P. G., Smith, A. K., & Brady, M. K. (2009). Customer rage episodes: emotions, expressions, and behaviors. Journal of Retailing, 85(2), 222-237.

Molden, Daniel C., Gale M. Lucas, Wendi L. Gardner, Kristy Dean, and Megan L. Knowles (2009), "Motivations for Prevention or Promotion Following Social Exclusion: Being Rejected versus Being Ignored," Journal of Personality and Social Psychology, 96 (2), 415–31.

Nazifi, A., El-Manstrly, D., & Gelbrich, K. (2019). Customers' reactions to different organizational tactics in a service termination context. *European Journal of Marketing*, 54 (1), 26-48.

Rousseau, D. M. (1995). *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements*. SAGE Publications, Inc.

Shin, J., Sudhir, K., & Yoon, D. H. (2012). When to "fire" customers: Customer cost-based pricing. *Management Science*, 58(5), 932-947.

Smart-Richman, L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review*, 116(2), 365.

Smith, A. K., Bolton, R. N., & Wagner, J. (1999). A model of customer satisfaction with service encounters involving failure and recovery. Journal of marketing research, 36(3), 356-372.

Tang, X., Chang, E. C., Huang, X., & Zhang, M. (2018). Timing and compensation strategies in service recovery. Journal of Services Marketing

Tax, S. S., Brown, S. W., & Chandrashekaran, M. (1998). Customer evaluations of service complaint experiences: implications for relationship marketing. Journal of marketing, 62(2), 60-76.

Twenge, J. M., Catanese, K. R., & Baumeister, R. F. (2003). Social exclusion and the deconstructed state: time perception, meaninglessness, lethargy, lack of emotion, and self-awareness. Journal of Personality and Social Psychology, 85(3), 409.

Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. Journal of personality and social psychology, 92(1), 56.

Turner, J. C., Brown, R. J., & Tajfel, H. (1979). Social comparison and group interest in ingroup favouritism. European journal of social psychology, 9(2), 187-204.

Ward, M. K., & Dahl, D. W. (2014). Should the devil sell Prada? Retail rejection increases aspiring consumers' desire for the brand. *Journal of Consumer Research*, 41(3), 590-609.

Williams, K. D. (2007), "Ostracism," *Annual Review of Psychology*, 58 (1), 425–52.

Wilmot, W. W., Carbaugh, D. A., & Baxter, L. A. (1985). Communicative strategies used to terminate romantic relationships. *Western Journal of Communication* (includes *Communication Reports*), 49(3), 204-216.

Zeithaml, V. A., Rust, R. T., & Lemon, K. N. (2001). The customer pyramid: Creating and serving profitable customers. *California Management Review*, 43(4), 118-142.

Appendices – Essay 2

Web Appendix A: The stimuli for the rejection letter (Study 1)–Essay 2

<table>
<tr><td colspan="2">Basic scenario

You are currently having a cell phone contract with a company called Telecom. You are happy with the services that you receive. Unexpectedly, you receive the following letter in the email.

Dear Cell phones customer,

Due to the recent changes within our business model, we are unable to meet the wireless needs of all the customer segments with the current policy. (Stimuli 1). To do so, (Stimuli 2).

We apologize for the inconveniences.

Sincerely,

Telecom</td></tr>
<tr><td colspan="2">Stimuli 1: direct vs indirect</td></tr>
<tr><td>We have then decided to terminate the relationship with some customers.</td><td>We have then decided to reduce benefits of some customers.</td></tr>
<tr><td colspan="2">Stimuli 2: Direct vs Indirect</td></tr>
<tr><td>Direct:

We had to withdraw all your services starting from the beginning of next month.</td><td>Indirect:

We had to increase the services fee by 30% and cancel the free voicemail and long-distance calls from the beginning of next month.</td></tr>
</table>

Web Appendix B: The stimuli for the rejection letter (Study 2)–Essay 2

<table>
<tr><th colspan="3">Basic scenario as in study 1</th></tr>
<tr><td colspan="3">After receiving the letter from Telecom company, you come across a newspaper in which a respected analysist discusses about Telecom recent activities. In the article, he stated “Stimuli 3”.</td></tr>
<tr><th colspan="3">Stimuli 3: Direct vs Indirect (Exposed vs Unexposed)</th></tr>
<tr><th>Direct</th><th>Indirect Exposed</th><th>Indirect Unexposed</th></tr>
<tr><td>“Telecom company had to terminate the relationship with some customers in order to remain profitable”</td><td>“Telecom company reduced the value of its offering to some customers as a form of deceiving tactic to terminate the relationship with unprofitable customers”</td><td>Telecom company reduced the value of its offering to some customers in order to remain profitable”</td></tr>
</table>

Web Appendix C: Scales and measurements - Essay 2

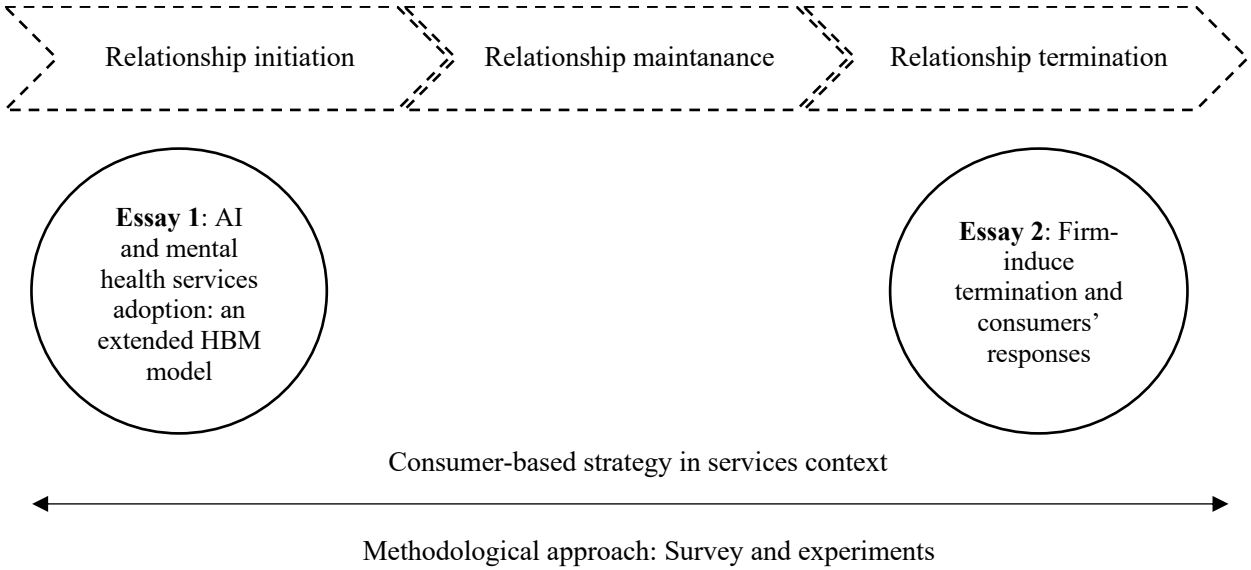
Variables	Study 1	Study 2	Study 3
Termination Indirectness (Haenlein & Kaplan, 2011; Mende et al., 2015; Ward & Dahl, 2014)			
AVE	.81	.81	.73
CR	.94	.95	.91
α	.91	.93	.88
How would you describe the ending of your insurance relationship?			
• Direct – Indirect	.89	.92	.71
• Straightforward – Not straightforward	.92	.95	.90
• Ambiguous – Unambiguous	.88	.84	.87
• Clear - Unclear	.92	.91	.92
Rejection (Newly developed)			
AVE	.78	.75	.78
CR	.93	.92	.94
α	.91	.89	.91
Please indicate your level of agreement with the following statements			
• I felt excluded by my cell phone company	.86	.87	.85
• I felt rejected by my cell phone company	.92	.89	.92
• I felt like my cell phone company did not value our relationship	.88	.89	.90
• I felt like my cell phone company did not consider me a good customer	.87	.82	.87
Desire for revenge (McColl-Kennedy et al., 2009)			
AVE	.76	.71	.84
CR	.93	.92	.95
α	.88	.86	.93
Please rate how much you agree with the following statements			
• I feel like taking action to get revenge on the firm or its employees	.91	.90	.96

• I feel like considering ways to get revenge on the firms or its employees	.92	.93	.95
• I feel like making insulting remarks to the service employees	.82	.71	.86
• I feel like causing inconvenience to the firm	.83	.83	.89
Perceived fairness (Tax et al., 1998)			
AVE	.74	.74	.67
CR	.90	.90	.86
α	.83	.83	.79
Please rate how much you agree with the following statements			
• Overall, I was treated fairly by previous company	.85	.86	.80
• My previous company gave me an opportunity to voice my concerns before my relationship ended	.82	.81	.80
• The outcomes received from my previous company were fair	.92	.92	.86
Reconciliation (Aquino et. al., 2001)			
AVE	.65	.76	.66
CR	.88	.93	.88
α	.82	.89	.89
Please rate how much you agree with the following statements			
• I feel like trying to make amends	.88	.90	.89
• I feel like giving them a new start, a renewed relationship	.86	.95	.92
• I feel like making an effort to be more friendly and concerned	.86	.92	.85
• I feel like accepting the firm regardless of the relationship ending or being close to end	.61	.69	.51
Severity (Grégoire, Laufer & Tripp, 2010)			
AVE	.83	.87	.96
CR	.91	.93	.98
A	.86	.89	.96

Please rate how much you agree with the below statements. The email sent by Telecom has caused me: • No inconveniences – Major inconveniences • No problem – Major problem	 .91 .92	 .92 .94	 .98 .98

Conclusion

A consumer-based strategy allows firms to develop suitable strategies for customers based on the knowledge of customers' needs and wants. This approach takes consumers as the analysis unit to form appropriate plan instead of relying on firm-level variables (Hamilton, 2016). This dissertation unfolds several objectives, with the main focus on deriving consumer insights at various stages of the customer relationship management process which helps to assist firms in forming marketing strategies to gain both economic and relationship output. The two essays expand our understanding of consumers' responses in different service contexts, which can be a potential risk for services failures at two relationship phases (i.e. relationship initiation and relationship termination). The dissertation offers significant theoretical contribution to the literature of Customer Relationship Management. Additionally, we provide suggestion for marketing managers and practitioners to better manage an effective relationship with their customers.



Key findings

- The HBM model is useful for documenting consumers' adoption of AI-based solution.
- Empathetic AI leads to more favorable consumers responses compared to Analytical AI.
- Uniqueness neglect is a key mechanism linking HBM beliefs to consumers' adoption behaviors.
- Media vicarious traumatization and health literacy serve as boundary conditions for the impact of HBM beliefs on uniqueness neglect.

Key findings

- Indirect termination can backfire if consumers detect the firm's true intention.
- Perceived rejection evolves over time following distinct patterns depending on different termination strategies.
- Consumers simultaneously engage in prosocial and antisocial reactions following termination events.
- Perceived rejection serves as the mediator for the antisocial route (revenge).
- Perceived fairness explains how people exhibit prosocial response (reconciliation).

Facilitating AI-Based technology adoption during the relationship initiation stage

The first essay "Navigating the Path of Adoption: An Extended Health Belief Model of AI-based application in Mental Health" takes place in the initiation phases of CRM process. Drawing on the established framework of health-promoting behaviors – the Health Belief Model (HBM) – this essay integrates elements from service marketing, psychology, and health informatics to study how individuals demonstrate attitudes and behaviors towards adopting AI-based solutions for managing mental well-being. Our insights reveal that AI-based services equipped with empathetic intelligences can lead to more positive responses and enhanced acceptance rate compared to those with a purely analytical approach.

Among the beliefs that pose a significant impact on customers' adoption behaviors, perceived benefits appear to be the strongest driver. Uniqueness neglect is the key mediator linking health beliefs and the downstream variables. The more individuals perceive AI-based services as beneficial, the less likely they are to believe that the app neglects their unique health circumstances, resulting in more positive attitudes. As people often show skepticism toward technologies in the healthcare domain, uniqueness neglect is an important add-on of the model to better capture the theoretical contribution of the intersection between mental health literature and services marketing. Furthermore, Essay 1 examines the role of individual differences as boundary conditions to facilitate the effect of health belief on sense of uniqueness neglect. With two moderators, namely media vicarious traumatization and health literacy, our results show that such individual differences have much more pronounced impact on uniqueness neglect in situations where perceived benefits are high or perceived barriers are low. In contrast, consumers often perceive the technology as neglecting their unique condition regardless their health knowledge or exposure to media trauma when their health beliefs are not ideal.

Together with valuable theoretical contribution of consumers' reactions toward AI-based technologies, Essay 1 also suggests crucial practical implications in the relationship initiation phase. Since Empathetic AI can elicit more favorable responses from its users, companies should allocate more resources on developing technologies with enhanced interpersonal and emotional skills to improve acceptance rate. Besides, our findings indicate that the presentation of benefits should be upfront and straightforward as this health belief is the most influential factor on driving consumers' adoption. Moreover, Essay 1 shows how two moderators (media vicarious traumatization and health literacy) interact with health beliefs to predict uniqueness neglect. We recommend that policymakers should consider designing marketing communication materials aimed at enhancing public health literacy. They can also formulate marketing campaign with a positive portrayal of mental well-being management in the media to reduce potential media trauma. This approach can help reduce the perception of uniqueness neglect that individuals may feel towards AI-based services.

Consumer insights for effectively dissolving relationships during the termination stage

The second essay, "The effect of firm-induced relationship strategies on customer rejection and perceived fairness with antisocial and prosocial responses", explores consumer insights during the relationship termination phase. Through a series of three studies, the essay investigates how consumers react to different termination strategies. Instead of relying on two termination strategies (indirect vs direct), we broaden the conceptual categorization of termination tactics with three different strategies (direct vs indirect exposed vs indirect unexposed) based on consumers' inferences about firm's motives. Across three studies, we find that indirect termination is a double-edged sword that can lead to higher perceived rejection than direct strategy when customers detect the truth about the firm. Furthermore, perceived rejection

evolves over time, following distinct patterns depending on the firm-induced termination strategy. While unexposed indirect termination triggers the lowest level of rejection and remains low over time, this decrease occurs more rapidly for the exposed indirect strategy and more moderately for the direct strategy. In addition, our essay sheds light on the fact that consumers exhibit both antisocial and prosocial responses simultaneously when they receive termination notices from the firm, thereby contributing to a deeper understanding of the complex and dynamic nature of customer relationships during the termination phase. Perceived rejection acts as the mediator for the antisocial path when consumers seek revenge. Conversely, the extent to which individuals feel fairly treated determines whether they are willing to reconcile with the firm later in the prosocial sequence.

We offer several strategic recommendations for companies to better handle relationship dissolution. Despite being a promising approach to reduce the negative impact from consumers at the first glance, indirect strategies can backfire if consumers make inferences about the companies' intentions. A direct strategy follows a more straightforward approach with clear communication. This can generate more predictable and positive responses by helping both firms and consumers mitigate relationship costs. Since perceived rejection is the key mediator that connects termination strategy and desire for revenge, firms should carefully manage media and craft messages to effectively convey their intentions to customers in termination notices, thereby minimizing potential rejection. In addition, we provide evidence that rejected consumers can engage in prosocial responses after termination events. This means that relationship termination is not necessary the end of the relationship and past customers may still try to reconcile with the firm. On one hand, companies can take advantages of these opportunities and offer consumers with other options to regain the customer segment or turn them into a more profitable one. On

the other hand, these past customers still hold potential as their economic values can increase in the future. Therefore, firms should maintain records of past relationships and implement corresponding strategies to re-engage with these customers.

Concluding remarks

These two essays explore consumer attitudes and behaviors throughout various stages of CRM processes. They complement each other, enhancing our understanding of consumer insights for the entire customer journey. Our findings emphasize the importance of proactive relationship management by firms across different stages.

On one hand, by utilizing consumer insights at each stage, we propose tailored activities that either nurture relationships or facilitate peaceful disengagement between firms and consumers. On the other hand, it is crucial to adopt a holistic view of CRM processes to formulate consumer-based strategies effectively. Having insights about customers at the relationship initiation phase can be beneficial to formulate appropriate exit management at the relationship termination phase. Furthermore, as customer relationship management is not a linear process, we can expect some reconciliation between firms and customers in the future. Thus, firms can leverage insights from termination management to develop strategy to reconnect with customers and facilitating the initiation of new CRM processes.

In summary, the dissertation broadens our understanding of how to manage an effective relationship with customers in various relationship stages for better formulation of consumer-based strategies within the services context. It also allows firms to capture the dynamics of consumers responses and reactions over time.