Department of Marketing

Transformative Service Experiences in Mundane Service Settings

by

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A thesis presented in fulfilment of the requirements for the degree of Doctor of Philosophy

2023

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PUBLICATIONS

Parts of this thesis have been presented and published in various academic events during the development of the research:

Abu, M.L., Alexander, M., and Wilson, J. (2022). Unintended consequences in mundane service settings, Paper presented at *ANZMAC*, Perth, Australia.

Abu, M.L., Alexander, M., and Wilson, J. (2018). Transforming mundane experiences: Exploring customer well-being of the commuting journey, *Proceedings of the 10th SERVSIG Conference: Opportunities for Services in a Challenging World*, IESEG School of Management, Paris, France, pp. 369 – 373.

Abu, M.L. (2018). Transforming mundane experiences: a suggested framework and research propositions, Paper presented at the *7th International Research Conference in Marketing*, University of Strathclyde, Glasgow.

Abu, M.L., Alexander, M., and Wilson, J. (2017). Transformative service experiences in everyday service settings, Poster presentation at *Frontiers in Service Conference*, University of Fordham, New York, United States.

Abu, M.L. (2017). Transforming Service Experience in Everyday Service Settings, Paper presented at the *6th International Research Conference in Marketing*, University of Strathclyde, Glasgow.

ACKNOWLEDGMENTS

First and foremost, all praises to Allah and His blessing for the completion of this thesis. I have experienced so much during this process; indeed, "there is no power nor strength except through Allah" (HR At-Tabrani).

Completing this thesis has not been easy, but it would have been so much more difficult without the constant guidance, encouragement, kindness, and patience from both supervisors, Dr Matthew Alexander and Dr Juliette Wilson. Matthew, despite having rather a number of other tasks to perform as a director of PGR programmes and an associate dean of PGR (and a supervisor of five other PhD students), thank you for always having time to meet regularly, provide prompt feedback, meticulous insights, constructive comments and valuable advice. You have made graduate school a richer experience by encouraging me to participate in various conferences, networking, and organise enjoyable group meetings. Juliette, I also thank you for your guidance and devoted involvement in every step throughout the process. You once said, "We are a good team", but really it is you and your positivity that keeps us together. I am very grateful and indebted to both of you!

I would like to thank the Ministry of Education, Malaysia and Universiti Putra Malaysia for funding this doctoral study. I would also like to thank all the professors and administrative staff in the Department of Marketing at Strathclyde Business School for their help and support. I specially thank Christina for her help with all the problems I had in the department.

God has given me an incredible community of people to go through graduate school with. To my fellow PhD comrades, especially Jib, Jane, Jaylan, Esraa, Joyce, and Lu, thank you for the coffee talks, laughs, understanding, silliness, and all the memories I will forever cherish. To my other friends, Liyana, Fatin, and Sharina (among others), who have been there for me at various times – you were my family away from home. Thank you for the delicious food, cakes and coffee, and for the good times we spent together!

I want to thank my mom, Bariah, for her constant prayers and encouragement throughout my years of study; it is your prayers that have sustained me this far (My

ABSTRACT

Improving customer well-being through services has been highlighted as a research priority in recent years, with traditional service research being criticised for rarely considering the broader outcomes resulting from service experiences (Anderson et al., 2013; Ostrom et al., 2015). With continuous service usage and a variety of interactions that customers have with services and service systems in their daily lives, it becomes critical for researchers to look beyond traditional service measures such as customer satisfaction and loyalty, and investigate the transformative outcomes that can potentially result from service experiences. To date, studies, particularly within the context of transformative service research (TSR), have neglected mundane service experiences in favour of explicitly transformative contexts. Even for mundane services such as public transport, it is becoming increasingly challenging for researchers to understand customer experiences as customers now interact with firms through a myriad of touchpoints at multiple stages, resulting in more complex customer journeys (Lemon & Verhoef, 2016). To date, there has been limited empirical work addressing the customer journey (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). Accordingly, the relevance and rationale for this research are mainly grounded in knowledge gaps across both TSR and service experience. Based on a sequential exploratory design consisting of interviews and survey data, this mixed-methods research adopts the perspective of the customer journey to explore customer service experiences in a public transportation context and investigate their impact on customers' well-being. The qualitative study (Study 1), conducted through semi-structured interviews, revealed a clear idea of the salient touchpoints of everyday commuter experiences and the subsequent well-being, as well as potential indicators of halo effects. Building on this, particularly in the selection of items for the survey instrument and hypotheses formulation, the quantitative study (Study 2) was then conducted. The strong relationships among physical, hedonic, and eudaimonic aspects of well-being in the case of brand/partner-owned and customer-owned touchpoints confirm the significant impact of mundane service experiences on well-being, although this kind of experience does not have an implicitly transformative

goal as opposed to more traditional transformative services such as healthcare and financial services. Critically, the findings suggest that negative well-being may be an unintended consequence of otherwise seemingly satisfactory experiences, and that service firms should consider alternative measures when evaluating performance. The research also reveals a previously unreported but important finding about the occurrence of halo effects within and across service touchpoints, and how customer well-being could be reduced or increased by halo effects at specific touchpoints – a distinctive finding to both customer experience and TSR literature.

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EPIGRAPH

From : Dantheman020@gmail.com
To   : Martin.Harbottle@premier-westward.com
Re   : 07.31 Premier Westward Railways train from Oxford to London Paddington, June 1. Amount of my day wasted: 12 minutes.

Dear Mr Martin Harbottle,

My name is Daniel and I am a customer of Premier Westward trains. Every morning, five days a week, I catch a Premier Westward train from Oxford to London and every evening I catch one home.

Before you just pass me on to your customer 'service' department, you'll notice I've attached a bunch of emails I've sent them over the last six weeks or so. Guess how many replies I've had, Martin? None.

So now I'm writing directly to you – as Managing Director of PW- because, not to put too fine a point on it, the service you run is a shambles. And I thought you should know. But you know what? I have a better idea than simply complaining. By sending you an email every time I'm on one of your delayed trains, I shall waste some of your time, just as you have wasted mine. In fact, I shall be presumptuous enough to assume that the prospect of receiving many, many more emails like this from me – some of which, let's not kid ourselves here, will be longer and far more tedious to match the longer, more tedious delays that your train company will doubtless waste mine with – fills you with dread and ennui. Of course, it does! And that's how I feel every morning at Oxford and every evening at Paddington.

Au revoir!

Dan

1/99 emails written in a book titled *Martin Harbottle's Appreciation of Time* by Dominic Utton.

CHAPTER 1

INTRODUCTION

1.1 Research Background

The pursuit of uplifting changes and improvements in customer well-being through services has been highlighted as a research priority since a decade ago (Anderson et al., 2013; Ostrom et al., 2015). This research responds to the recent call for transformative service research (TSR), which focuses specifically on the relationship between service experiences and customer well-being. While TSR has typically focused on settings with more explicit transformational goals, such as healthcare and finance (Xie et al., 2020), this study investigates the transformative impact of service experiences in mundane service settings. The term mundane is used here to describe activities that a customer engages in on a regular or everyday basis (Mattila et al., 2003; Mattila & Enz, 2002), and such experiences are frequently negative or detrimental, making them an ideal context for TSR. In fact, services that are not transformational by design can adversely affect customer well-being due to issues related to the service environment, organisational policies, employee actions, or other factors (Rosenbaum et al., 2011; Xie et al., 2020).

Psychological research shows that even everyday experiences can trigger pleasure and significantly affect well-being (Robert et al., 1992; Zhang et al., 2014). A good example of a mundane activity is commuting, which is a ubiquitous part of people's lives and takes up a lot of personal time and resources (Chatterjee et al., 2019). In the US, the average amount of time spent commuting has risen over the past three decades, reaching the equivalent of nine full calendar days in 2018 (Ingraham, 2019). In the UK, daily commute times have also increased, with public transport users enduring the longest commute times (on average, 38 to 59 minutes per day) (Department for Transport, 2019). The recent COVID-19 pandemic has reduced the use of transport services (about 34% less in January 2021 compared to January 2020 in the UK) and negatively changed attitudes towards public transport

(Musselwhite et al., 2021; Thomas et al., 2021). As people across the globe have eventually begun to return to a new kind of normal, and employees have returned to the office, the quality of commutes still matters and the concern of public health and well-being continues to take the centre stage (MacLeod et al., 2022).

With this background, it is not surprising that there is a growing concern about the detrimental impact of commuting on health and well-being. Commuting is often a strain on workforces, especially with the huge amount of time spent travelling, with a lasting impact on their stress levels and well-being long after reaching work or returning home. Studies reported that commuting might affect personal well-being, including life satisfaction, a sense of worth, happiness, and anxiety (Office for National Statistics, 2014, 2018). These effects are more pronounced among public transport users, as factors such as delays, overcrowding, anti-social behaviour, uncomfortable temperatures, and a long commute are commonly associated with higher levels of stress, lower levels of health satisfaction, and lower levels of well-being (Künn-Nelen, 2015; Novaco & Gonzalez, 2009; Royal Society for Public Health, 2016). Among the potential benefits of commuting, it may provide workers with some personal time and time to transition from work to home (Chatterjee et al., 2017; Cornet et al., 2021; Ettema et al., 2012). However, previous research has tended to focus on the effects of commuting in general, without investigating the specific components of the experience or how specific service touchpoints contribute to customer well-being.

To date, current research lacks empirical work on the customer experience and customer journey (Lemon & Verhoef, 2016), as the extant literature tends to measure customer experience either at a touchpoint or as an aggregate evaluation of experiences (Becker & Jaakkola, 2020; Stein & Ramaseshan, 2016). Contemporary research (e.g., Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015) also places increasing emphasis on more holistic insights into the customer experience by exploring touchpoints beyond those controlled by organisations. Among the multiple touchpoints that shape the broader experience of the customer journey, many are customer-owned or social and exogenous to the firm (Lemon & Verhoef, 2016). Moreover, the outcomes of these experiences are often evaluated using traditional measures such as satisfaction or loyalty, which may limit an organisation's ability to

assess transformative outcomes (Anderson et al. 2013; Keiningham et al. 2014; Kumar, Pozza, & Ganesh 2013).

The following sections of this chapter outline the aim and objectives of the research before introducing the sequential exploratory mixed-methods design that was adopted as the research approach for this thesis. The chapter concludes with an overview of each chapter of the thesis.

1.2 Aim and Objectives

The aim of this thesis is to **explore customer service experiences in mundane service settings and investigate their impact on customers' well-being.** This broader aim is designed to understand the salient service touchpoints of the commuting journey and the well-being outcomes of such experiences, as well as the impact of everyday service experiences on customer well-being. This aim is driven by the gaps in the current state of knowledge regarding research on transformative services and service experiences, which will be specifically explained in the following sections along with the research objectives. Six research objectives are outlined as follows.

Given the subjective nature of customer experience and the paucity of empirical research on the customer experience and customer journey to date (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015), there is a significant need to investigate the phenomenon of mundane service experience, particularly the key touchpoints of public transportation commutes. Therefore, the first objective is outlined as follows:

Objective 1: *To identify salient touchpoints during public transport journeys*

Research has highlighted that customer experiences do not occur in a dyadic but rather dynamic manner, consisting of multiple touchpoints and stages in the course of the journey (Lemon & Verhoef, 2016). In addition to the effect of multiple touchpoints on experiences during the customer journey, recent research calls for an understanding of the inter-correlation among touchpoints, the role of halo effects on

these relationships, and the impact they might have on service experience outcomes (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). To date, literature demonstrates that halo effects have been rarely examined within service experiences. Therefore, the second objective is outlined as follows:

Objective 2: *To explore potential halo effects within customer commuting journeys*

Additionally, the concept of well-being remains nebulous and ill-defined, and TSR lacks a common measure to assess customer well-being (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011). The existing TSR literature, to date, tends to include hedonic and eudaimonic well-being and neglects other well-being outcomes (e.g., physical well-being) that might be connected to commuting experiences. This leads to the following third research objective:

Objective 3: *To identify the types of well-being outcomes associated with customer commuting journeys*

Accordingly, objectives 1, 2, and 3 are addressed by the qualitative interview data (Study 1). These objectives relate to the need to understand what constructs should be measured to best understand the salient touchpoints of the commuting journey and the well-being outcomes of these experiences, as well as the potential halo effects that might occur to explain the interconnection between the multiple commuting touchpoints. Results from these objectives will inform the development of the quantitative study.

Furthermore, rather than obsessing over customer satisfaction and loyalty, improving customer well-being through services has been highlighted as a research priority in recent years (Anderson et al., 2013; Ostrom et al., 2015). However, previous research has neglected mundane service experiences in favour of more explicitly transformative contexts including, healthcare and finance (Xie et al., 2020). This leads to the following fourth research objective:

Objective 4: *To investigate the relationship between service experience touchpoints and well-being*

Outcomes of service experiences are often evaluated using traditional measures such as satisfaction or loyalty (Helkkula, 2011; Jain et al., 2017; Lemon & Verhoef, 2016). While satisfaction has been typically associated with increased business performance (Fornell et al., 2016b; Kumar, 2016), the relationship between satisfaction and well-being remains unclear. Therefore, the fifth research objective addresses the broader outcomes of well-being and examines whether satisfactory service experiences contribute to the improvement of customers' well-being. The fifth objective is outlined as follows:

Objective 5: *To examine the link between customer satisfaction and well-being outcomes associated with customer commuting journeys*

The final research objective addresses the role of halo effects and how they might contribute to the interconnection between service experience touchpoints and well-being outcomes. The final, sixth objective is outlined as follows:

Objective 6: *To explore the degree to which halo effects influence the perception of service experience touchpoints and relationship with well-being*

The influences of service experience touchpoints and customer satisfaction on customer well-being (objectives 4 and 5) are addressed in the quantitative study (Study 2) using the identified variables from Study 1. The same data also addresses objective 6 by investigating the role of halo effects and the extent to which certain touchpoints influence other touchpoints and well-being through halo effects.

The next section outlines the research approach adopted in this thesis to address its aim and objectives.

1.3 Research Approach

To address the aim and objectives, this thesis employs a sequential exploratory mixed-methods design. The sequential exploratory design (SED) is a two-phase approach that begins with qualitative data collection to explore a phenomenon, and then builds to a second, quantitative phase (Creswell, 2014; Creswell & Plano Clark, 2011). Given the subjective nature of the concept of

customer service experience and well-being, as well as the lack of empirical evidence of halo effects within customer experience studies (objectives 1–3), the use of SED is deemed appropriate. The results of the qualitative study (Study 1) subsequently inform the key variables and item pool of the online survey, as well as the formulation of the hypotheses for Study 2. In particular, Study 2 uses survey data to investigate the impact of service experience touchpoints on customers' well-being (i.e., hypotheses testing). Study 1's data collection and analysis took place in the autumn of 2017, while Study 2's took place in the autumn of 2018.
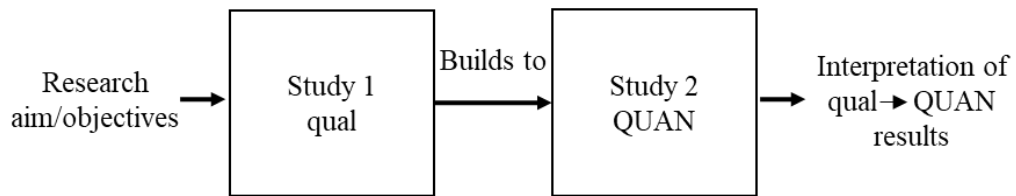
Figure 1.1. Sequential exploratory design

Figure 1.1 presents the research approach of this thesis – the sequential, exploratory design. The qualitative component of this mixed-methods research (Study 1) informs the subsequent quantitative component of the study (Study 2), largely through the identification of variables and items for survey instruments and the formulation of research hypotheses. The quantitative strand of this mixed-methods research has a greater emphasis, making it the dominant component (i.e., qual – QUAN). The following section outlines the structure of this thesis, particularly the purpose of each chapter.

1.4 Thesis Overview

This thesis is structured into eight chapters as follows. An initial literature review **(Chapter 2)** is followed by a chapter outlining the philosophical approach of the thesis and the research design **(Chapter 3)**. The subsequent chapter **(Chapter 4)** presents the research method and empirical results of an exploratory, qualitative study (Study 1) that identified key commuting touchpoints and the subsequent well-

being outcomes, as well as halo effect indicators. Building on this, particularly in the selection of items for the survey instrument and hypotheses formulation, a quantitative study (Study 2) was then conducted. The following chapter **(Chapter 5)** outlines the survey methodology, followed by **Chapter 6,** which presents the findings of the structural model of service experiences and well-being. This is followed by a discussion chapter **(Chapter 7)** in which the results of the two studies (Studies 1 and 2) are summarised. The thesis concludes with a final chapter **(Chapter 8)**, delineating the main implications and limitations of the thesis. The individual chapters can be summarised as follows:

Chapter 1 provides an overview of the background of the research and outlines the key issues that led to the current topic of the thesis, and establishes the context of the research. The chapter also outlines the research approach and thesis structure.

Chapter 2 provides an overview of the current state of knowledge regarding transformative service research (TSR), the service experience and customer journey, and halo effects. First, the chapter explores the theoretical framework of TSR, including key themes and common well-being outcomes used within this area. It then explores the theoretical concept of customer service experience, the dynamics of multiple touchpoints, and the customer journey, before introducing the idea of customer well-being as another important outcome of the service experience. The chapter also reviews the theoretical research on halo effects, including the relevant halo studies that relate to the customer experience. Overall, this chapter clarifies how this thesis – transformative service experiences in mundane service settings – is located within the wider academic literature on transformative services and customer experiences.

Chapter 3 outlines the research design employed in the thesis. The chapter first discusses and critiques three philosophical paradigms: the post-positivist, the social constructivist and the pragmatist, and accordingly justifies pragmatism as the philosophical position of this research. Subsequently, this chapter introduces the mixed-methods research derived from the research objectives, before delineating the

use of a sequential exploratory design and the rationale behind its usage. Finally, this chapter outlines phases of the research and discusses analysis procedures.

Chapter 4 encompasses the research method and findings of the exploratory qualitative study (Study 1). This chapter first introduces the sequential incident technique (SIT) as an approach to exploring experiences of public transport commuting, and explains how this resulted in the use of semi-structured interviews – the chosen method for the exploratory study. Ethical considerations, the interview procedure, the data collection, and the thematic analysis approach are also explained here. Subsequently, the chapter presents findings and a discussion of interview data in relation to the typical touchpoints of the commuting journey, halo effect indicators, and well-being outcomes. Based on the findings, the final part of this chapter outlines the proposed structural model and hypotheses of the second, quantitative study.

Chapter 5 relates to the second strand of the research, investigating the impact of service experience touchpoints on different well-being outcomes using the variables informed by the qualitative study (Study 1). In particular, this chapter describes and justifies the methodological approach used to empirically validate the proposed model, and test the research hypotheses. It consists of three major sections, which are mainly discussed: the design and sampling technique of an online survey, the data collection procedure, and lastly, the data analysis technique.

Chapter 6 presents the results of the survey data, addressing the proposed structural model and research hypotheses. The chapter begins with a section presenting the CFA results for both the individual and overall measurement models. Before discussing the results of structural models, the reliability and validity of constructs are confirmed. The chapter continues with the results of the hypothesis tests, indicating the substantial influence of service experience touchpoints and customer satisfaction on customer well-being except for social well-being. Finally, the chapter concludes with the results of partial correlation analyses, which demonstrate the potential presence of halo effects, particularly BPOT and SOT.

Chapter 7 presents the final integration phase of the thesis, outlining how two strands of qualitative and quantitative data are integrated at some points in the

research: the selection of survey items and hypotheses development. Initially, this chapter outlines the integration of interview data into variables for a survey, which entails identification of the salient service experience touchpoints during commuting journeys and the well-being outcomes. This chapter then demonstrates the data integration that leads to the generation of research hypotheses and focuses on the relationships between service experience touchpoints and well-being outcomes. Finally, Chapter 7 concludes with a triangulation of halo effect results.

Chapter 8, the final chapter of this thesis, presents the key learning points of the thesis with a brief summary of the research objectives, findings, and implications for theory and practice. This chapter also outlines the limitations of the research as well as suggestions for future research.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

This chapter provides an overview of the current state of knowledge regarding transformative service research (TSR), the service experience and the customer journey, and halo effects. The first section reviews and discusses the literature on TSR, particularly the key issues examined in previous research, as well as the general well-being outcomes. The second section delves into the concepts of customer experience, touchpoints, and the customer journey, leading to a discussion of the relationship between customer service experience and well-being. The third section discusses the key literature in relation to halo effects, and demonstrates how the study of the interplay between multiple touchpoints of the service experience fits into the broad field of halo effect research, which has largely focused on customer satisfaction, brand recognition and product evaluation.

2.2 Transformative Service Research

2.2.1 Background and Conceptualisation of Transformative Service

Services can affect customers' well-being, and the idea that services are transformative has become a research focus in recent years. Transformative service research (TSR) was firstly coined in 2010 by Laurel Anderson and has been defined as *"the research that centers on creating uplifting changes and improvements in the well-being of consumer entities: individuals (consumers and employees), communities and the ecosystem"* (Ostrom et al., 2010). TSR lies at the intersection of service research and transformative consumer research (TCR), but unlike TCR, which focuses on the impact of consumption on well-being, TSR concentrates on well-being outcomes related to services (Anderson et al., 2013; Ostrom et al., 2014).

The central focus of TSR, therefore, goes beyond dependent measures such as customer satisfaction and loyalty, which are the primary focus of traditional service research, as these are typically connected to firms' profitability.

Anderson et al. (2013) assume that within a macro-environment, the interaction between a service entity and a customer entity at the individual, collective, or social ecosystem level can lead to well-being outcomes (see Figure 2.1). Service entities are aspects of services (e.g., employees, service processes, offerings, organisations, or service sectors) with which customers interact and that can positively or negatively affect their well-being. Such impacts can involve consumer entities at the micro (individual) level, such as individuals' access to needed services (e.g., Boenigk et al., 2021; Sanchez-Barrios et al., 2015), to the macro (societal) level, e.g., the improved well-being of vulnerable societies (e.g., Blocker & Barrios, 2015; Nasr & Fisk, 2019), and simultaneously at multiple levels (e.g., Martin & Hill, 2015). Therefore, any intentional or unintentional actions during these interactions can positively or negatively affect the well-being outcomes of the individuals and collectives involved.
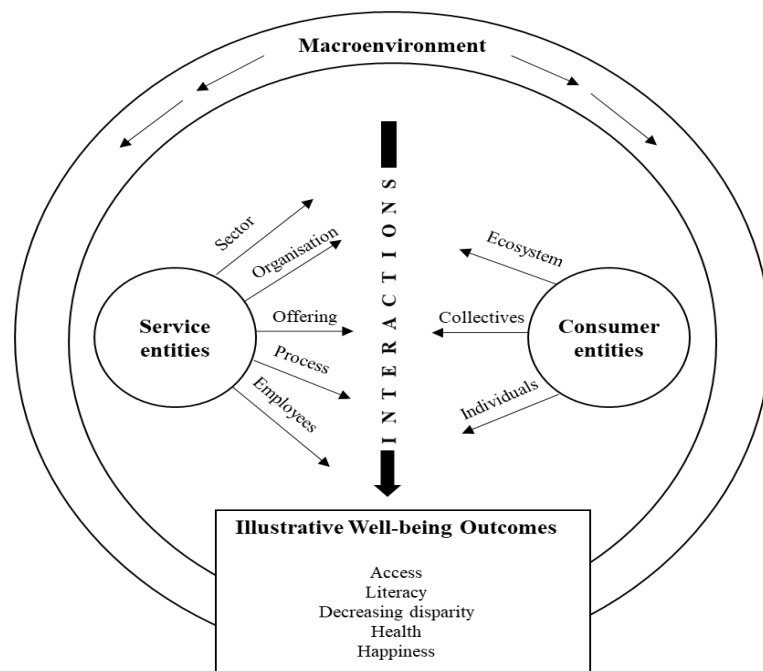
Source: Anderson et al. (2013)

Figure 2.1. TSR entities and outcomes framework

In conceptualising TSR, Rosenbaum et al. (2011) describe two types of transformative services: those that are transformative by design and those that have transformative potential. Services such as healthcare, financial, education, and social services are designed to facilitate and improve well-being and thus have explicitly transformative goals. For instance, in-vitro fertilisation (IVF) is a transformative service by design, as the aim is to address infertility issues and improve customer well-being by helping women become pregnant (Robertson et al., 2021). In contrast, retailing, hospitality, and food and beverage are examples of services that do not possess clear transformative goals but may positively or negatively affect well-being. For example, El Hedhli, Chebat, and Sirgy (2013) reveal how the functionality, convenience, safety, leisure, and atmosphere of shopping malls might contribute to shoppers' well-being. More recently, Xie et al. (2020) examine customer participation in two mental stimulus processing services – wedding and tourism – and find that customer participation in such experiences positively affects their service experiences and subsequent eudaimonic well-being.

While there is an increasing interest in the topic of service and well-being in a variety of contexts, many empirical studies to date have focused on service settings with explicit transformative outcomes, such as financial vulnerabilities and well-being (e.g., Martin & Hill, 2015; Mende & van Doorn, 2015; Meshram & Venkatraman, 2022) and improved life of healthcare customers (e.g., Anderson et al., 2018; Berry et al., 2022; McColl-Kennedy et al., 2017; Pham et al., 2022; Sharma et al., 2017; Sweeney et al., 2015). Similarly, a number of studies have examined well-being outcomes within social service contexts, particularly among the homeless and refugees (e.g., Boenigk et al., 2021; Nasr & Fisk, 2019). However, there is little research on mundane services, despite the fact that they permeate customers' daily routines and can have an impact on day-to-day life. Mundane services, such as public transportation, may not have clear transformative goals, but they may have an impact on well-being in both positive and negative ways as a result of anticipated and/or unintended consequences, such as employee behaviour, servicescapes, or organisational policies. Consequently, if a wider range of settings, including mundane service experiences, are not considered, the development and advancement

of knowledge about services and well-being will be limited (Anderson & Ostrom, 2015; Rosenbaum et al., 2011).

The next section discusses a review of existing research streams within transformative services in order to further build greater coherence and understanding within this area and also identify research gaps.

2.2.2 Key Themes in Transformative Service Research

Over the years, the service community has shown increasing interest in transformative service research (Anderson & Ostrom, 2015; Blocker et al., 2022; Kabadayi & Tsiotsou, 2022; Prentice et al., 2021). A review of transformative service research (TSR) between 2011 and 2022 shows that the link between service and well-being has been largely investigated through several common themes, including service design and value co-creation. This section outlines a number of TSR studies that focus on these themes and identifies potential research gaps to help identify the promising directions for this research.

Research has conceptualised the role of service design in facilitating the interactions between service and customers that positively improve the well-being of individuals, families and society. One of the earliest studies, Sangiorgi (2011), provides a framework for transformative practices in design, particularly on issues related to public service reform and well-being. She highlights that if designers are to successfully use design for transformative change in users' lives, they must engage users, focus on communities as a scale of intervention, build capacity and collaboration, and create a vision. Recently, Nasr and Fisk (2019) suggested transdisciplinary and service design research to understand and solve important service system issues in the global refugee crisis, particularly in relation to basic human needs such as education, healthcare, and freedom of speech for refugees.

Research on service design has also been addressed in a number of empirical studies. In particular, Rosenbaum and Wong (2015) investigate the transformative outcomes of service design in a dark context such as gambling. They found that the restorative design of the casino, which promotes escapism, fascination and

compatibility, positively impacted users' health and well-being. Similarly, Sanchez-Barrios, Giraldo, Khalik, and Manjarres (2015) posit that not all informal lending practices, such as loan-sharking, affect consumers' well-being negatively. Instead, the authors find that the design of such money-lending services, which are non-discriminatory, hassle-free, and jargon-free, has unintended positive effects, improving access, convenience, and financial literacy among poor customers (Sanchez-Barrios et al., 2015). Instead of focusing on individual well-being, Blocker and Barrios (2015) examine the relationship between service design and social transformation within a homeless community. The study highlights that the design of non-profit religious services that has holistic value propositions, servicescapes and service delivery may facilitate individuals in creating transformative value for themselves.

More recently, using an example from the NICU setting, Anderson et al. (2018) highlighted two key factors related to consumer engagement and the collaborative relationship between patient and provider in redesigning healthcare services to improve performance outcomes. Furthermore, Alkire et al. (2020) provide an interdisciplinary framework that links service design and social entrepreneurship to TSR. Specifically, this study shows how such a framework could be applied to support service organisations to promote the well-being of refugees and their communities.

In addition, value co-creation has also been the central focus of prior research within TSR. Researchers, primarily from the perspective of service dominant logic or service logic, investigate the activities and interactions carried out by actors within transformative services and the impact on users' well-being. They suggest that users' activities (e.g., Mende & van Doorn, 2015) and the nature of interactions with service providers (e.g., Zayer, Otnes, & Fischer, 2014) and with other users such as employees, friends and family (e.g., McColl-Kennedy et al., 2017; Mirabito & Berry, 2015) during the service process have an impact on service users' well-being.

In particular, Sweeney et al. (2015) used a mixed-methods approach to investigate the transformative potential of customer value co-creation activities. The study, through its examination of health-related co-creation activities (e.g., healthy

diet, actively sharing information), concludes that the more effort the customer puts into such activities, the greater their perceptions of their quality of life, and this is particularly crucial for individuals living with chronic illness. Mende and van Doorn (2015) investigated the impact of consumers' roles and activities associated with value co-creation in the context of financial services. The study suggests a positive influence of financial knowledge, attachment styles and involvement on co-creation behaviour, which in turn improves financial well-being (i.e., credit score and financial stress). Additionally, Black and Gallan (2015) advocated a network perspective of value co-creation, in which a network of healthcare services that includes multiple entities works as a unit to facilitate patients' well-being. The study also highlights that patients play a critical role in shared value creation, such as disclosing critical information or following prescribed instructions.

Recently, Pham et al. (2022) proposed the concept of customer service co-creation literacy (SCL), which captures customers' expertise for active service co-creation. Using healthcare as a study setting, this study demonstrates how SCL can help promote customer co-creation behaviour, which in turn leads to higher customer value. Similarly, Sharma et al. (2017) empirically demonstrate ways in which customers with mental illness integrate resources to co-create value outcomes. The findings also show that different co-creative roles played by vulnerable customers lead to different outcomes in terms of customer well-being.

Besides the above studies, there have also been a few researchers who have examined the transformational impacts of the service experience, with the main interest still focused on co-creation of value. For example, Mulder, Rapp, Hamby, and Weaver (2015) introduced a phenomenon called transformative charity experiences, and specifically examined how the co-creation of services by three entities (i.e., charity, volunteer, and community) leads to transformative outcomes for volunteers. The volunteers revealed that they felt a sense of belonging as their efforts at charity programmes were appreciated by others, despite being outsiders. Similarly, Magee and Gilmore (2015) also established a link between service experiences and well-being, but in relation to dark heritage sites associated with massacres and genocide. The authors show how a servicescape that encourages visitor participation

(co-creation) can provide a transformative experience by improving a visitor's self- and worldview, as well as societal welfare.

The above discussion shows that the present discourse on transformative services has largely focused on matters related to service design and value co-creation. These studies also focus on the services that are transformative by nature or design (e.g., healthcare, financial services). While attention has been focused on how organisations can design and co-create services to improve well-being, there are various interactions or touchpoints with different service entities that can either intentionally or unintentionally impact well-being (e.g., Blocker et al., 2022; Ostrom et al., 2021). In fact, our empirical understanding of how and to what extent these impacts occur remains limited. Moreover, considering different service entities will help transformative service researchers understand different types of interactions that may influence customer well-being, thus contributing to the existing research in this area. This may also guide service practitioners in managing different service touchpoints that positively contribute to customers' lives and well-being. Table 2.1 outlines a summary of the major publications in the field of TSR between 2011 and 2022 as suggested by Chartered Association of Business Scholars (ABS) in the Academic Journal Guide within the Business and Management Field.

Table 2.1. A summary of key papers within TSR between 2011 and 2022

Research stream	Author(s)	Key insights	Context	Methodology
Service design	Sangiorgi (2011)	Proposes the adoption and adaptation of principles and practices from organisational development and community action research into transformative service design.	-	Conceptual
	Birkholze & Wendland (2013)	Proposes ingredients for transformative service design that centres on active consumers and co-creation.	-	Conceptual
	Hall et al. (2014)	Expands the TSR framework of Anderson et al. (2013), which transforms delicate strands of psychological-emotional states, environmental factors, and personal observations into a service design assessment.	-	Conceptual

Research stream	Author(s)	Key insights	Context	Methodology
	Blocker & Barrios (2015)	Examines the link between service design and social transformation in a homeless community – highlighted that service design that has holistic value proposition, servicescape and service delivery facilitates individuals to create transformative value.	Non-profit religious services	Empirical-Ethnography
	Rosenbaum & Wong (2015)	Links gaming studies to the transformative research paradigm and suggests that many "sinful services" may offer transformative beneficial to well-being.	Gambling services	Empirical-questionnaire
	Sanchez-Barrios et al. (2015)	Proposes the impact of service design on poor consumers – the informal lending service offerings positively benefits the poor by improving access, literacy, social networks, and happiness.	Finance- Lending services	Empirical-Interviews Healthcare
	Anderson et al. (2018)	The transformative role service design plays in improving service and consumer entities' well-being – consider social, existential, psychological, and physical well-being.	Healthcare	Conceptual
	Nasr & Fisk (2019)	Suggests service design has a strong potential to help with the global refugee crisis.	Refugees	Conceptual
	Alkire et al. (2020)	Provides an interdisciplinary framework bridging service design and social entrepreneurship with TSR to create greater synergetic effects to advance well-being and drive social impact.	Refugees (illustrative example)	Conceptual
Co-creation / co-production	Guo et al. (2013)	Studies the process of customer organisational socialisation in financial counselling programmes and how it may promote co-production behaviours, and thus enhance consumers' well-being.	Financial - credit counselling programmes	Self-administered survey
	Zayer, Otnes, & Fischer (2014)	Develops a typology of four consumer experiential framings of failure, links each distinct type of experiential framing to consumers' distinct set of expectations related to service recovery, and demonstrates the impact on consumer well-being.	Healthcare - infertility treatment	Semi-structure interview
	Black & Gallan (2015)	Suggests a conceptual understanding of how value, operationalised in healthcare as patient health and well-being, emerges from a network perspective.	Healthcare	Conceptual

Research stream	Author(s)	Key insights	Context	Methodology
	Mende & van Doorn (2015)	Identify the influence of financial knowledge, involvement, and attachment styles on coproduction, and coproduction in turn affects objective and subjective financial well-being.	Financial Counselling	Longitudinal survey research
	Mulder, Rapp, Hamby, & Weaver (2015)	Investigates how service co-creation from three entities (i.e., charity, volunteer, and community) leads to transformative outcomes for volunteers.	Social services (charity services)	Empirical-Interviews
	Skalen, Aal, & Edvardsson (2015)	Identification of contention and codestruction between incumbents and challengers in service systems and transformation of service systems.	Politic/ Government	Netnography
	Spanjol et al. (2015)	Examines customer coproduction in a prolonged, complex, and negative service context – medication.	Financial Counselling	Interviews Interviews,
	Sweeney et al. (2015)	Examines a hierarchy of value co-creation activities and identifies links between customer EVCA and quality of life, satisfaction and behavioural intentions.	Healthcare	Interview; Survey
	McColl-Kennedy et al. (2017)	Examines how customer value co-creation practises in healthcare affect well-being.	Healthcare	Diary and survey
	Sharma et al. (2017)	Examines the impact of participation of vulnerable customers in the co-creation of health care provision on the individual hedonic and eudaimonic well-being.	Mental health service	Interviews, focus groups, documents and archival records
	Xie et al. (2020)	Examines the impact of customer participation in the service process on service experience and eudaimonic well-being.	Wedding and tourism services	Survey
	Pham et al. (2022)	Proposes the concept of customer service co-creation literacy (SCL), and investigates how SCL can be cultivated and how it facilitates customer co-creation behaviour, which subsequently leads to enhanced value.	Healthcare	Conceptual
Others	Martin & Hill (2015)	Postulates the novel concept of transformative financial services, demonstrating how societal poverty, an individual's saving ability, and satisfaction with one's household financial situation influence well-being.	Financial services	Hierarchical linear modelling

Research stream	Author(s)	Key insights	Context	Methodology
	Magee & Gilmore (2015)	Highlights the role of servicescape in facilitating transformative experiences – servicescape that allow consumers to interact and engage (co-create) and a variety of communication channels can create a platform for participation in a culture of exchange.	Tourism	In-depth, multiple cases
	Mirabito & Berry (2015)	Focuses on employees' well-being; suggesting that social networks that facilitate wellness engagement is more successful than when organisations make use of incentives and impersonal communication.	Healthcare	Interviews, focus groups, artefacts, and observation
	Yao et al. (2015)	Examines the effect of online support on quality of life among stigmatised patients.	Healthcare	Depth interviews, survey
	Boenigk et al. (2021)	Suggests the transformative service initiatives (TSIs), referring to activities by organisations or volunteers to serve people experiencing vulnerabilities; and finds a positive influence of TSI participation on application and access to higher education.	Refugee crisis	Longitudinal study (Study 1) and focus group interviews (study 2)
	Berry et al. (2022)	Explores the unintended consequences of data in healthcare service; illuminates how data can supersede a focus on holistic well-being and direct energy to treatment rather than healing.	Narrative examples, extensive review of the data and the literature	Healthcare service
	Blocker et al. (2022)	Conceptualises the unintended consequences of transformative service, particularly the negative effects.	Conceptual	Service

As TSR at its core advocates concern for well-being as an impact of services (Anderson et al., 2013), the discussion now turns to the theoretical background of well-being, particularly within a transformative service context.

2.2.3 Well-Being in Transformative Service Research

TSR shifts the concern from traditional measures such as profits, market share, and customer satisfaction to the role of services and service research in reducing human suffering and improving well-being (Anderson et al., 2013; Nasr &

Fisk, 2019). A review of TSR studies published between 2011 and 2022 shows a wide range of topics related to well-being, measuring at many levels and in various ways. This includes consumer well-being (e.g., Mende & van Doorn, 2015; Xie et al., 2020), patient well-being (e.g., Sweeney et al., 2015; Yao et al., 2015), employee well-being (e.g., Mirabito & Berry, 2015), and societal well-being, particularly among homeless people (e.g., Blocker & Barrios, 2015) and refugees (e.g., Boenigk et al., 2021; Cheung & McColl-Kennedy, 2019; Nasr & Fisk, 2019).

However, the interest in improving individual and collective well-being is not new and has been investigated in other disciplines such as psychology and transformative consumer research (TCR). In psychology, well-being has been defined as the combination of feeling good and functioning well and has been linked to measures such as greater productivity in the workplace, increased creativity, and more prosocial behaviours (Ruggeri et al., 2020). The conceptualisation of well-being is predominantly grounded in two philosophical perspectives, hedonic and eudaimonic (Lent, 2004). The hedonic perspective encompasses the affective aspect of well-being, typically associating it with pleasure or happiness (Ryan & Deci, 2001). In contrast, the eudaimonic perspective associates well-being with cognition rather than emotion, defining well-being as the degree to which a person is fully functioning (Ryan & Deci, 2001). Thus, eudaimonic well-being is expressed through achieving growth, making meaning, and seeking purpose in life.

Similarly, it has been in TCR's best interests to improve consumer and societal well-being. As mentioned in Section 2.2.1, the focus of TCR is to understand the link between consumption and well-being, aiming for such practical research to benefit consumers, activists, policymakers, and businesses to improve consumer well-being (Mick, 2006; Mick et al., 2012). They describe well-being as "a state of flourishing that involves having health, happiness and prosperity" (Mick et al., 2012, p. 9). In pursuing this aim, Mick et al. (2012) outline different dimensions of well-being, including emotional, social, economic, physical, spiritual, environmental, and political, and encourage researchers to study issues related to one or more of the different dimensions of well-being.

A review of studies on TCR also shows that various well-being outcomes have been investigated over the years. For instance, Blocker et al. (2013) examine outcomes such as felt deprivation and power struggles to satisfy consumption wants and needs in understanding the well-being of the poor. Additionally, in understanding food well-being, Mugel et al. (2019) investigate the eudaimonic dimension of well-being, including the quest for authenticity, culinary achievement, pleasure, and sustainability. The study argues that considering such dimensions, apart from the hedonic dimension of consumption (i.e., pleasure), could enrich the prior definitions of food well-being. Recently, Sinclair and Tinson (2021) describe different ways that participants use music to enhance their well-being. In their study, various aspects of well-being were examined, including physical, mental, intellectual, and social aspects, particularly when dealing with physical pain, mental discomfort, death and loss, identity transition and future uncertainty as participants involved with music.

Overall, the studies above clearly show that well-being is a multifaceted concept that varies across contexts and that there is no single best set of dimensions for measuring it. Instead, it is subjective to the individual consumer and should be measured from that perspective.

TSR, which developed from TCR, focuses on well-being outcomes related to service(s) (Anderson et al., 2013). In conceptualising the framework of TSR, Anderson et al. (2013) adopted the two traditional psychological approaches to shed light on well-being outcomes: hedonic and eudaimonic well-being (Ryan & Deci, 2001). Anderson et al. (2013) relate the presence of happiness, satisfaction, and positive affect to hedonic well-being, hence arguing that negative affect such as tension, fear, strain, and stress adversely influence hedonic well-being. Additionally, measures such as access, literacy, better decision-making, improved health, consumer involvement, service inclusion, equality, and social justice reflect eudaimonic well-being (Anderson et al., 2013).

Responding to the conceptual underpinnings of TSR, the empirical studies to date have addressed various aspects of well-being, and these studies have explicitly or implicitly measured well-being either from hedonic and/or eudaimonic theoretical

positions. One stream of empirical studies has examined the hedonic aspect of well-being, predominantly measuring it in terms of satisfaction and happiness at the customer level. For example, Martin and Hill (2015) examine happiness and life satisfaction to understand how an individual's saving ability and financial satisfaction influence their well-being, and how poverty moderates the relationship between individual financial drivers and well-being. Similarly, studies have found that customers' value-creating activities have a significant influence on their life satisfaction and happiness (Sharma et al., 2017; Sweeney et al., 2015).

Another stream of studies, however, tends to explore well-being using the eudaimonic approach. Research following this approach has examined customer well-being in terms of improved capacity, knowledge, access, and aspects of the individual's self, whose indicators are essential for a sense of eudaimonia (Ryan & Deci, 2001; Ryff et al., 2021). For example, Boenigk et al. (2021) argue that activities by organisations (public, private, or non-profit) or volunteers to serve people experiencing vulnerabilities could contribute to eudaimonic well-being in terms of application and access to higher education. Moreover, eudaimonic well-being can also be enhanced through participation in the service process, as customers satisfy their need for self-actualisation by investing their resources and knowledge to co-create value with employees (Xie et al., 2020). Recent studies also discuss how service providers or service systems may deliberately or unintentionally cause discrimination and exclusion in services (e.g., Ali et al., 2022; Fisk et al., 2018) – another important outcome of well-being.

Additionally, there are a number of studies that have examined both hedonic and eudaimonic aspects of well-being. For example, Sanchez-Barrios et al. (2015), in a study of the effects of informal service consumption among BoP consumers, discovered not only access, literacy and social network but also happiness as well-being outcomes. Additionally, Sharma et al. (2017) demonstrate how the participation of vulnerable customers in the co-creation of health care provision influences both hedonic and eudaimonic well-being. This study finds that participants had a positive experience and felt enjoyment and pleasure during co-creation, and had a greater sense of control, freedom, and accomplishment as a result of different co-creation roles.

Additionally, working within the context of financial counselling services, Mende and Van Doorn (2015) examine consumers' financial well-being by using a combination of objective and subjective measures. The subjective indicator measures the decrease in financial stress, while the objective indicator measures the increase in credit scores as well-being outcomes of customers' co-production. In a health-related setting, McColl-Kennedy et al. (2017) consider multiple dimensions, including social, existential, psychological and physical well-being, in understanding the effects of customer value co-creation practices on well-being. While psychological (i.e., emotions), social (i.e., support from others), and existential well-being (i.e., meaning and purpose in life) have been largely investigated in the other aforementioned studies, existing studies have also highlighted a concern for physical measures such as physical pain and fatigue. For instance, Yao et al. (2015) reveal that patients who receive online emotional and informational support report improved physical well-being, as activities such as encouragement and empathy, as well as advice, teaching, and referral, appear to influence patients' physical states. Recently, Anderson et al. (2018), in their conceptual work on transformative service design, also encouraged TSR researchers to broaden the concept and application of service design to consider physical well-being apart from social, existential, and psychological well-being.

Furthermore, recent literature has shown an interest in exploring unintended consequences in transformative service research and practice. Blocker et al. (2022, p. 3) define unintended consequences as "unforeseen outcomes of intended efforts to create positive change", where the unintended consequences can be unexpectedly positive or negative. Ostrom et al. (2021) recently called for research to explore the unintended outcomes of service, particularly the adverse impact of technology-based tools (e.g., AI, mobile applications) on customer experiences and well-being. Additionally, Berry et al. (2022) highlight the unintended well-being outcomes in healthcare services, demonstrating critical areas where health care effectiveness and efficiency are unintentionally suboptimal, thereby underserving stakeholders and undermining trust-based patient-physician relationships. Despite this growing interest, the unintended outcomes of mundane service experiences, particularly the impact of different touchpoints on well-being, remain limited.

Overall, the above discussion shows that TSR lacks a common measurement tool to assess customer well-being (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011), and there is a plethora of approaches to well-being measurement. The existing literature has explored different well-being outcomes of service at the individual (e.g., Ali et al., 2022; Mende & van Doorn, 2015; Mirabito & Berry, 2015; Xie et al., 2020) and societal level (e.g., Blocker & Barrios, 2015; Boenigk et al., 2021; Cheung & McColl-Kennedy, 2019; Nasr & Fisk, 2019), predominantly using the hedonic and eudaimonic approach (Hawley et al., 2017; Sharma et al., 2017). However, other outcomes, including physical and social well-being, remain limited to date. A summary of references on well-being outcomes is outlined in Table 2.2.

Table 2.2. Reviews of well-being concept within TSR

Author(s)	Key insights	WB outcome	Methods	Context
Anderson et al. (2013)	Conceptualises the framework of TSR, particularly the well-being outcomes of service	Eudaimonic Hedonic	Conceptual	Service
Guo et al. (2013)	Reveals different effects of three aspects of socialisation (role clarity, task mastery, and goal congruence) on three different types of consumer co-production behaviours (compliance, individual initiative, and civic virtue). Compliance has the greatest contribution to well-being	Financial well-being – used three items assessing consumers' current economic self-sufficiency	self-administered survey (n=364)	Financial - credit counselling programmes
Black & Gallan (2015)	Examines how health and well-being are impacted by various network factors, including relationships (e.g., reciprocity, strength of ties) and structural properties (e.g., size and density)	Value co-creation is operationalised as patients' health and well-being	Conceptual	Healthcare service
Blocker & Barrios (2015)	Explores how service providers can facilitate transformative value, and demonstrate how services can contest and transform dominant social structures and stimulate social action	Transformative value – social dimension of value creation that generates uplifting change for greater well-being	Ethnography	Religion

Author(s)	Key insights	WB outcome	Methods	Context
Martin & Hill (2015)	Examines how individual saving and satisfaction with one's household financial situation influence well-being, and how poverty moderates the relationship between individual financial drivers and well-being	Happiness and life satisfaction	Quantitative data (50,000 consumers across 38 countries)	Financial
Mende & van Doorn (2015)	Objective and subjective financial well-being are dependent on customers' co-production, which is influenced by their financial knowledge, involvement, and attachment style	Objective well-being (credit scores) and subjective well-being (financial stress)	Survey	Financial
Mulder et al. (2015)	Introducing a phenomenon called transformative charity experiences (TCEs), highlighting an avenue of personal consumer well-being through the transformative effect of service interactions with key stakeholders	Improvement in well-being, demonstrating both through one's actions and a shift in frames of reference	Qualitative data from participants in a charity experience	Charities
Sanchez-Barrios et al. (2015)	Informal service offerings improve the well-being of BoP consumers by increasing their self-esteem, making them feel understood by the service provider, giving them the freedom to make money-related decisions, adapting to individual needs and constraints, not jeopardising income generation, and enhancing their social standing.	Access, literacy, social network, hedonic (i.e., happiness)	Semi-structured interviews	Lending services among the poor
Sweeney et al. (2015)	Explores customer value co-creation in healthcare and confirm links of customer EVCA with quality of life (and satisfaction)	Evaluation of overall quality of life (not specifically related to health)	Depth interviews. Survey	Healthcare
Yao et al. (2015)	The effect of online support on quality of life among stigmatised patients	Physical, psychological, and existential quality of life	Depth interviews, survey	Healthcare
McColl-Kennedy et al. (2017)	Positive interactions with medical staff (doctors) lead to increased well-being, and interactions with friends and family and their associated co-created activities have an even greater positive effect on well-being	Social, existential, psychological and physical well-being	Diary and survey	Healthcare

Author(s)	Key insights	WB outcome	Methods	Context
Sharma et al. (2017)	Participation of vulnerable customers in the co-creation of health care provision influences the individual hedonic and eudaimonic well-being	Hedonic and eudaimonic well-being	Interviews, focus groups, documents and archival records	Mental health service
Xie et al. (2020)	Effects of customer participation in the service process on service experience and eudaimonic well-being	Eudaimonic well-being	Survey	Wedding and tourism services
Boenigk et al. (2021)	Shows a positive influence of TSI participation application and access to higher education. Qualitative data explains different integration barriers and strategies that the refugees have used to overcome these barriers	Application and access to higher education	Longitudinal study (study 1) and focus group interviews (study 2)	Refugee crisis
Ali et al. (2022)	Explores how racist language in service interactions in the health and education sectors affects service consumers belonging to the Sheedi community in Pakistan's Sindh province	Service inclusive and discrimination	Qualitative and narrative approach	Healthcare and education
Berry et al. (2022)	Explores the unintended consequences of data in healthcare service; Illuminates how data can supersede a focus on holistic well-being and direct energy to treatment rather than healing	Unintended well-being outcomes	Narrative examples and an extensive review of the data and the literature	Healthcare service
Blocker et al. (2022)	Conceptualises the unintended consequences of transformative service, particularly the negative effects	Negative well-being	Conceptual	Service

This section has reviewed the TSR literature, particularly the key themes and well-being outcomes. Taken together, the link between services and well-being has been widely studied in settings with more explicitly transformational goals such as healthcare and financial, with a great deal of attention around service design (e.g., Alkire et al., 2020; Anderson et al., 2018; Nasr & Fisk, 2019) and co-creation (e.g., McColl-Kennedy et al., 2017; Pham et al., 2022; Xie et al., 2020). However, the extant knowledge of how everyday or mundane experiences, particularly during the commuting journey impact customers' well-being is scarce. To understand the theoretical concept of customer experience and its links to customer well-being, the

discussion now turns to the literature on service experiences and the customer journey.

2.3 Service Experience and the Customer Journey

2.3.1 Customer Service Experience

Customer experience is an important marketing concept and has gained significant attention by both marketing scholars and practitioners in the past few decades. Marketing scholars assert that a favourable customer experience is key to business performances such as customer satisfaction, loyalty and word-of-mouth behaviour (Lemon & Verhoef, 2016; Kranzbühler et al., 2018), and practices devote great attention to the customer experience strategy to achieve sustainable competitive advantage (McColl-Kennedy et al., 2015; Verhoef et al., 2009).

However, the concept lacks common understanding, as the extant research has diverse conceptualisations of the customer experience and has examined it using different approaches. While some studies, particularly on experiential marketing, view customer experience as the offerings that firms stage and manage (Pine & Gilmore, 1998), other studies predominantly define it as customer reactions and responses to particular stimuli or touchpoints (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; Meyer & Schwager, 2007). The concept has also been used in different contexts, from the extraordinary (Arnould & Price, 1993) to mundane experiences (Carù & Cova, 2003). Some studies have investigated provider-customer dyads and focused on individual stimuli or touchpoints such as the servicescape, employees, the core service, and fellow customers (e.g., Grace & O'Cass, 2004; Pareigis et al., 2011). However, contemporary research has increasingly acknowledged the dynamic nature of the customer experience, studying interactions between networks of actors (such as suppliers and partners) (e.g., Tax et al., 2013) and examining the customer experience across all touchpoints and over time (e.g., McColl-Kennedy et al., 2015; Stein & Ramaseshan, 2016).

Various definitions of customer experience exist in the literature, but as Table 2.3 outlines, some similarities can be seen among the major accepted definitions.

Customer experience has commonly been described as a customer's reactions or responses to, or interpretation of, any direct and indirect interactions with the elements of the service, such as the provider, offering, brand, setting, or process (Gentile et al., 2007; Jaakkola et al., 2015; Meyer & Schwager, 2007). The extant research has also agreed on the subjective nature of customer experience (e.g., Jaakkola et al., 2015; Meyer & Schwager, 2007), highlighting that responses to different stimuli may depend on customer, situational, and sociocultural factors (Becker & Jaakkola, 2020). Based on a systematic review of customer experience, Becker and Jaakkola (2020) also recently defined customer experience as customers' unplanned, natural responses and reactions to offering-related stimuli along the customer journey.

Table 2.3. Summary of important definitions of customer experiences / service experiences

Author(s)	Definition	Orientation / focus	Context
Schmitt (1999)	Experience occurs as a result of encountering, undergoing, or living through things. Experience provides sensory, emotional, cognitive, behavioural and relational values that replace functional values.	Offering/ value	General
Carù & Cova (2003, p. 273)	"Experience is defined as a subjective episode in the construction/transformation of the individual, with, however, an emphasis on the emotions and senses lived during the immersion at the expense of the cognitive dimension".	Phenomenon	General
Edvardsson et al. (2005)	Service experience is a service process that creates the customer's cognitive, emotional, and behavioural responses, resulting in a mental mark – a memory (in line with Johnston and Clark, 2001).	Process	Service
Gentile et al. (2007, p. 397)	"The customer experience originates from a set of interactions between a customer and a product, a company, or part of its organisation that provoke a reaction. This experience is strictly personal and implies the customer's involvement at different levels (rational, emotional, sensorial, physical and spiritual). Its evaluation depends on the comparison between a customer's expectations and the stimuli coming from the interaction with the company and its offering in correspondence with the different moments of contact, or touchpoints".	Customer response	General

Author(s)	Definition	Orientation / focus	Context
Meyer & Schwager (2007, p. 118)	"Customer experience is the internal and subjective response customers have to any direct or indirect contact with a company".	Phenomenon	General
Sandstrom et al. (2008)	Service experience is the sum total of the functional and emotional outcome dimensions of any kind of service.	Customer response	Service
Verhoef et al. (2009)	Customer experience involves the customer's cognitive, affective, emotional, social, and physical responses to the retailers […]. This experience is created not only by those elements that the retailer can control but also by elements that are outside the retailer's control.	Customer response	Retailing
Walter et al. (2010)	"A customer experience is defined as the customer's direct and indirect experience of the service process, the organisation, the facilities, and how the customer interacts with the service firm's representatives and other customers. These in turn create the customer's cognitive, emotional and behavioural responses and leave the customer with memories about the experience".	Customer response	Service/ Restaurant
Johnston et al. (2012)	Service experience is a process that creates the customer's cognitive, emotional and behavioural responses, resulting in a "mental mark" or memory.	Process	Service
Klaus & Maklan (2012)	Service experience is the customer's cognitive and affective assessment of all direct and indirect encounters with the firm relating to their purchasing behaviour.	Customer response	Service
Jaakkola et al. (2015)	Service experience is an actor's subjective response to or interpretation of the elements of the service, emerging during the process of purchase and/or use, or through imagination or memory.	Customer response	Service
Lemon & Verhoef (2016)	Customer experience is a multidimensional construct focusing on a customer's cognitive, emotional, behavioural, sensory, and social responses to a firm's offerings during the customer's entire purchase journey.	Customer response	General
Jain et al. (2017)	Customer experience is the aggregate of feelings, perceptions and attitudes formed during the entire process of decision-making and consumption chaining involving an integrated series of interactions with people, objects, processes and the environment, leading to cognitive, emotional, sensory and behavioural responses.	-	General
Becker & Jaakkola (2020)	Customer experience is defined as customers' non-deliberate, spontaneous responses and reactions to offering-related stimuli along the customer journey.	-	General

Research also conceptualises customer experience as a multidimensional construct where customers can evaluate their experience cognitively, affectively, socially, and sensorially (Lemon & Verhoef, 2016; Schmitt, 2011; Verhoef et al., 2009). However, customers hardly distinguish this kind of structure; instead, they tend to perceive an experience as complex and unitary (Gentile et al., 2007). The extant research also implies that the relevance of different types of customer responses may vary across contexts (McColl-Kennedy et al. 2017), contributing to the inconsistency in the existing measurement of customer experience. Additionally, customers assess their service experience holistically, asserting that the experience is influenced by a dynamic range of elements, some of which (e.g., the social environment) are not directly controlled by the provider (Verhoef et al., 2009). An understanding of such dynamic external influences, for instance other customers, social media, and weather, on customer experiences is rather limited, and researchers are calling for investigating this phenomenon (Lemon & Verhoef, 2016; Verhoef et al., 2009).

To advance understanding of the dynamics of the phenomenon, the view of customer experience has also expanded to encompass a perspective on the customer journey. Recent research conceptualises that the customer experience emerges during various phases of the customer journey and involves various touchpoints (Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). During a customer journey, customers experience multiple touchpoints, and such experiences may involve different stages from pre-purchase to purchase to post-purchase, and can be influenced by past experiences and external factors (Lemon & Verhoef, 2016). While service research has traditionally concentrated on understanding, measuring and improving specific service touchpoints, particularly the core service delivery (Voorhees et al., 2016), current research lacks a holistic understanding of the customer experience, with limited empirical evidence discussing how different touchpoints throughout the customer journey form and influence the customer experience.

The second part of the theoretical literature that follows is a more detailed discussion of touchpoints and the customer journey.

2.3.2 Different Touchpoints during the Customer Journey

Delineating the conceptual domain of customer service experience requires understanding distinct contacts between customer and service, called touchpoints, during the customer journey. Previous service research has been criticised for its continued focus on understanding and measuring customer experience either at one specific touchpoint, particularly the core service delivery, or as an aggregate evaluation (Becker & Jaakkola, 2020; Voorhees et al., 2016). Such a static, snapshot view is no longer sufficient to better understand the customer experience, and more importantly, this siloed focus on individual touchpoints eliminates the bigger picture – the customer end-to-end experience. Despite the recent calls for greater consideration of an inclusive, dynamic view of customer experience, the empirical work on the customer journey is limited (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015).

To define them, touchpoints are conceptualised as the moments of interactions between the customer and the service provider across multiple channels (Patrício et al., 2011; Verhoef et al., 2009), and can be direct (e.g., physical facilities) or indirect (e.g., other passengers). Touchpoints are also called "service encounters" (Bitner et al., 1990). The customer journey, on the other hand, comprises a series of touchpoints involving all activities and events related to the delivery of the service from the customer's perspective (Lemon & Verhoef, 2016; Patrício et al., 2011).

Identifying customer experiences through the customer journey approach allows researchers to understand what actually happens during multiple distinct touchpoints from the customers' point of view (Lemon & Verhoef, 2016). Practitioners can therefore use this information to gain actionable insight into common customer pain points and how to improve every aspect of the customer experience. The examination of the customer journey also allows firms to understand external stimuli or touchpoints (e.g., other customers) and how they can use the knowledge of these touchpoints to their advantage, although they have less control over them (Becker & Jaakkola, 2020). Despite these advantages, empirical work on the customer journey is scarce to date (Lemon & Verhoef, 2016), making it a promising research agenda for customer experiences (McColl-Kennedy et al., 2015).

In conceptualising the customer journey, Lemon and Verhoef (2016) recently identified four categories of customer experience touchpoints, namely brand-owned, partner-owned, customer-owned, and social/external. Brand-owned touchpoints are described as "customer interactions during the experience that are designed and managed by the firm and are under the firm's control" (Lemon & Verhoef, 2016. p. 76). Within the customer service experience literature, there has been a great attention paid to these touchpoints, particularly the service processes, physical environment and employees (e.g., Garg et al., 2014; Grace & O'Cass, 2004; Ismail et al., 2011; Walter et al., 2010). Such touchpoints are noticeable, and yet customers usually draw inferences from their interactions with the service touchpoints that are available to them. According to research, core services and processes, such as quality and dependability, are central to customers' perceptions of their experiences (Grace & O'Cass, 2004), often resulting in a positive service experience (Walter et al., 2010). Customers also evaluate the tangible and intangible characteristics of the physical setting, including ambience, cleanliness, design and layout, and functionality (Carreira et al., 2013; Dong & Siu, 2013; Pareigis et al., 2011; Stein & Ramaseshan, 2016; Tseng et al., 1999). Additionally, employee–customer interactions, both directly and indirectly, are also vital and can positively or negatively influence customers' evaluations of the service experience (Stein & Ramaseshan, 2016).

Similarly, factors such as comfort, cleanliness, frequency of travel, fare, and employee performance, have been mentioned in a number of transportation studies as influential touchpoints of commuting experiences (e.g., Hensher et al., 2010; Pareigis et al., 2011). While these touchpoints are normally controlled by transport providers, others are usually not directly controlled but may also have a strong influence on the passengers' experience. Although some studies have examined the uncontrolled touchpoints, such as social factors (e.g., Baron et al., 2007; Pareigis et al., 2011), previous research has been criticised for ignoring the critical role of the relationship between a service provider and partners who work together to provide a service to customers (Gittell, 2002; Tax et al., 2013). To date, such influences of firm-partner relationships on passenger experience, or partner-owned touchpoints (Lemon & Verhoef, 2016), have not been widely addressed by previous studies.

Lemon and Verhoef (2016) argue that the experience effects of partner-owned touchpoints (e.g., marketing agencies, multichannel distribution partners, multivendor loyalty programme partners, and communication channel partners) are important, yet are understudied. They describe partner-owned touchpoints as "customer interactions during the experience that are jointly designed, managed, or controlled by the firm and one or more of its partners" (Lemon & Verhoef, 2016, p. 77). Patrício et al. (2011) and Tax et al. (2013) are examples of two of the few studies within the service marketing literature that consider customer experience beyond the firm level, considering the services offered and the links and partnerships established with other firms in the service network to enhance customer experiences. This lack of past studies limits scholars' and practitioners' ability to have a clear insight into the potential impacts of external partners on the experience of the focal firm and the overall service experience.

Additionally, customer-owned touchpoints play a crucial part of the customer experience journey. Lemon and Verhoef (2016, p. 78) describe customer-owned touchpoints as "customer actions throughout the entire customer journey over which the firm, its partners, or others normally have minimal control". Examples of customer-owned touchpoints include the customer's choice of payment method during purchase, and sharing information or views regarding a particular product or service (Lemon & Verhoef, 2016; Yakhlef & Nordin, 2021). In service settings, customers often have some roles, and their participation in the service process either physically or by giving resources influences the perception of the service offered (Auh et al., 2019; Dong et al., 2015). Research has also shown that customer participation results in positive outcomes (e.g., customer satisfaction) because when they are involved in the service process (e.g., participation in self-service technologies), this may lead to customer-related benefits, such as higher perceived control over the outcomes and customers' enjoyment (Auh et al., 2019; Dong et al., 2015; Harris et al., 2001).

Customer-owned touchpoints, which are more customer-initiated (Lemon & Verhoef, 2016), can also be associated with customers' activities during the customer journey. In travel-related studies, for instance, activities undertaken during the trip, planning the trip, and buying the ticket can have a profound impact on customers'

experiences (Pareigis et al., 2011). Additionally, Ettema et al. (2012) find that enjoyable and productive activities during travel, such as internet browsing and social networking, may have a positive influence on travel satisfaction. While current research agrees that customer-owned touchpoints play a role in customer experiences (e.g., Lemon & Verhoef, 2016; Yakhlef & Nordin, 2021), empirical knowledge on the account of customer-owned touchpoints and how and to what extent customers' participation and activities during service influence their experiences is limited.

Throughout the customer experience journey, customers are also surrounded by social and external touchpoints. Extant research has identified the social effects of other customers in various service settings, either directly through specific interpersonal touchpoints or indirectly by being part of the service environment (Moore et al., 2005; Verhoef et al., 2009). Research on customer service experience also suggests that customers' perceptions of other customers are influenced by factors such as number of people (i.e., density) and proximity (Harris & Baron, 2004; Harrison & Beatty, 2011; Zomerdijk & Voss, 2010), and that they tend to be more comfortable when they are around other customers with whom they feel similarities, who are looking presentable, and who are behaving appropriately in the service environment (Brocato et al., 2012). Additionally, recent research has also recognised the potential impact of broader externalities, such as weather and traffic, that are not within the control of the service provider, but still have an impact on the service experience (Lemon & Verhoef, 2016; Pareigis et al., 2011).

Overall, despite the interest customer journey touchpoints have received in the literature, the current understanding of this phenomenon is limited in two important ways. First, existing customer experience literature lacks insight into touchpoints beyond firm control (Becker & Jaakkola, 2020, p. 639). Previous literature review reveal that most studies have focused on firm-initiated touchpoints such as service processes, the physical environment, and employees (e.g., Garg et al., 2014; Grace & O'Cass, 2004; Ismail et al., 2011; Walter et al., 2010) and have discounted touchpoints beyond organisational control (e.g., Carreira et al., 2013, 2014). The customer-owned, social, and external touchpoints have been conceptualised as crucial parts of customer experiences (Kranzbühler et al., 2018; Lemon & Verhoef, 2016; Yakhlef & Nordin, 2021), but the description of these

touchpoints, particularly in mundane service settings, is limited, and the current research says very little about what firms can do regarding these stimuli (Becker & Jaakkola, 2020).

Second, current literature lacks an integrative view, particularly in terms of the multiplicity of and connectivity between service experience touchpoints. Most studies examine a narrow scope of touchpoints, examining customer experience either as a single touchpoint (e.g., Brocato et al., 2012; Moore et al., 2005) or as an aggregate set of touchpoints (e.g., Carreira et al., 2013, 2014; Grace & O'Cass, 2004), leaving it largely unclear how the interplay of distinct various touchpoints affect customer experience (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016).

2.3.3   Customer Experience and Well-Being

Both practitioners and scholars agree that a favourable customer experience affects marketing-relevant outcomes such as customer satisfaction, loyalty, and word-of-mouth behaviour. Existing service research (and outcome-based service experience research in particular), however, has been criticised for its continued focus on such measures, typically grounded in a belief that these outcomes drive firm performance and profitability (Helkkula, 2011; Jain et al., 2017; Lemon & Verhoef, 2016). For instance, Otto et al. (2020) recently questioned the widespread practice of emphasising customer satisfaction as their review of the literature between 1991 and 2017 found inconsistency in the evidence of the satisfaction-performance relationship. Recent studies have also demonstrated that customer satisfaction produces abnormal returns, and there have been cautions in viewing financial performance or stock returns as a direct outcome of satisfaction (e.g., Fornell et al., 2016a; Kumar, 2016; Sorescu & Sorescu, 2016). Additionally, extant research has raised doubts about the satisfaction-loyalty link, as their findings indicate that customer satisfaction, by itself, can hardly change customer loyalty in a significant way (e.g., Keiningham et al., 2014; Kumar et al., 2013). Similarly, Menidjel and Bilgihan (2022) find that customer satisfaction does not directly lead to purchase intention, but that the link is rather mediated by other factors, such as higher levels of customer trust.

This suggests a need for the present study to shift perspectives, considering service outcomes beyond customer satisfaction and loyalty and considering alternative outcomes such as customer well-being (Anderson et al., 2013; Rosenbaum, 2015). As discussed in Section 2.2.2 (i.e., Key Themes in Transformative Service Research), many TSR studies are conceptual, and yet two main research streams, namely service design (e.g., Alkire et al., 2020; Anderson et al., 2018; Nasr & Fisk, 2019) and co-creation (e.g., McColl-Kennedy et al., 2017; Pham et al., 2022; Xie et al., 2020), have dominated the existing empirical studies so far. Relatively little attention has been paid to exploring the link between service experiences and well-being, particularly how specific service experience touchpoints might contribute to customer well-being. Jain et al. (2017) and Lemon and Verhoef (2016) are examples of recent studies that have called for more research to explore and understand the role and applications of customer experience in issues related to well-being.

Additionally, most studies in the area of TSR to date have focused on the well-being issues and needs of customers experiencing vulnerability, who may at the time be having some serious problems. Among others, the recent examples examine the well-being outcomes of co-creation experiences of mental health patients (Sharma et al., 2017), investigate the impact of political deterrence campaigns on the well-being of refugees and asylum seekers (Cheung & McColl-Kennedy, 2019), and explore how financial discrimination by frontline employees in microfinance institutions terminates access to services among bottom-of-the-pyramid (BoP) vendors (Meshram & Venkatraman, 2022). The findings of these studies undoubtedly contribute useful knowledge about how vulnerable customers can be impacted by services in various ways. However, the current literature lacks consideration of everyday or mundane service experiences and what such experiences mean to regular or "non-vulnerable" customers and their well-being.

Additionally, a few studies have related services with consumers' sense of everyday well-being, but these studies have tended to explore the impact of a single experience without considering different touchpoints of the customer journey and its impact on customer well-being. For instance, El Hedhli et al. (2013) find that a shopping experience can provide shoppers with hedonic (shopping enjoyment and

excitement) and utilitarian value (e.g., accomplished shopping tasks and obtained the desired outcomes). Similarly, instead of focusing on services for vulnerable people, Durgee and Agopian (2018), through interviews and netnographic analysis, explore the well-being impacted by product refurbishing services (e.g., pianos, watches, boats, bicycles and other durables), particularly how the refurbishment experiences facilitate hedonic (e.g., emotions with the newly refurbished items) and eudaimonic well-being (e.g., social connection, empowerment and meaning).

Overall, along with the obsession of prior service research towards customer satisfaction and loyalty as service outcomes (e.g., Becker & Jaakkola, 2020; Helkkula, 2011; Jain et al., 2017; Lemon & Verhoef, 2016), and the limited empirical understanding of the link between customer experience and customer well-being, particularly in a mundane service setting (e.g., Jain et al., 2017; Lemon & Verhoef, 2016), this suggests a need to investigate the customer experience of different service touchpoints and how the experience might contribute to alternative outcomes such as customer well-being. The following section focuses on reviewing the literature on halo effects in order to identify theoretical bases related to the domain of customer experience.

2.4 Halo Effects

The previous section has highlighted that research on customer experience and the customer journey requires an understanding of the interconnection between multiple touchpoints along the customer journey. Recent research in particular has demonstrated how the experience of one touchpoint contributes to the experience of other touchpoints, and the impact that these relationships might have on service experience outcomes (e.g., Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). While halo effects play an important role within marketing studies and have been typically used to explore various interrelationships between attributes or dimensions of product and brand evaluations, satisfaction, and image measurement (Leuthesser et al., 1995; Wirtz, 2003), the existing studies, to date, have rarely considered halo effects in understanding the interplay between touchpoints of customer experience.

This section proceeds by reviewing the theoretical background of halo effects and discusses how it can contribute to the current customer experience research.

2.4.1 Definition and Causes

The term "halo" was primarily coined in the field of psychology by Thorndike (1920). It refers to the "tendency to think of people in general as rather good or rather inferior, and to colour judgements of qualities by this general feeling" (Thorndike, 1920, p. 25). One classic example of the halo effect is that nice people tend to be judged to have nice attributes (a positive halo), while less nice people have less nice attributes (a negative halo) (Nisbett & Wilson, 1977). Halo effects have long been a concern among scholars and practitioners as a source of inaccuracy in interpersonal judgements and performance evaluations (Fisicaro & Lance, 1990). Halo leads to inflated correlations among the attributes rated, resulting in excess correlation over and above the true correlation between attributes (Murphy et al., 1993), thereby making otherwise conceptually distinguishable dimensions of behaviour appear to be more highly related than they actually are (Lüttin, 2012).

Fisicaro and Lance (1990) conceptualise three different causes of the halo in the form of causal models, namely general impression, salient dimension, and inadequate discrimination. Wirtz (1996, 2003) subsequently extended the causal models in the context of consumer satisfaction, introducing another cause of the halo effect called the associonist model of halo effects. Figure 2.2 shows Wirtz's (2003) causal model of the halo effect.

Key:

G	: a rater's general impression
T1 and T2	: a rater's true attribute satisfaction level
R1 and R2	: a rater's reported attribute satisfaction level
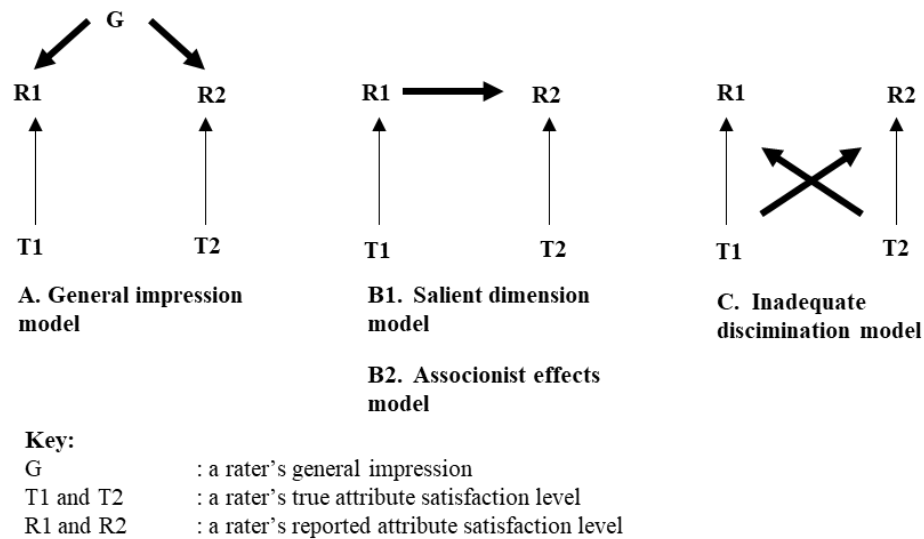
Source: Wirtz (2003) (adapted from Fisicaro & Lance, 1990; Wirtz, 1996)

Figure 2.2. Causal Models of Halo Effect

First, the general impression halo effect is described as the "tendency to think of the person in general as rather good or inferior and to colour the judgments by this general feeling" (Thorndike, 1920, p. 25). Similarly, Nisbett and Wilson (1977, p. 250) view this halo as the "influence of a global evaluation on evaluations of individual attributes of a person". As illustrated in Figure 2.3(A), the respondent's general impression (G) has a random effect on the rated attributes R1 and R2, resulting in increased partial correlations between these two attributes and the general impression (Wirtz, 2003). A number of studies have investigated how the general impression works as a halo, altering evaluations of individual attributes of a person (Nisbett & Wilson, 1977), a product (Han, 1989), and a brand (Hui & Zhou, 2003). Nisbett and Wilson (1977) found that the presence of halos is significant when subjects rate the warm and friendly college instructor as appealing in terms of appearance, demeanor, and accent, whereas they rate the cold and aloof instructor differently. In the case of brand image and country-of-origin, electronic products made in Japan were evaluated as being more favourable than those in Mexico, although both products are from the same brand, Sony (Hui & Zhou, 2003).

Second, the salient dimension halo effect can be defined as the influence of the evaluation of one or more salient dimensions on the evaluation of other less

salient dimensions (Fisicaro & Lance, 1990; Wirtz, 1996, 2003). It is depicted in Figure 2.3 (B1) that the salient dimension (R1) directly influences other dimensions (R2), resulting in an increased correlation among items (Wirtz, 2003). Building from this model, a number of studies have examined the spill-over effect of one dimension onto others, considering some degree of interdependency between dimensions. For example, Ding and Chai (2012) investigate the spill-over effects of quality and customer satisfaction between products and services in the context of mobile communications. Psychology research has also discovered the spill-over effect, which occurs when a person's strains (i.e., anxieties and stress) are transmitted from one domain of life to another (e.g., Bakker, Demerouti, & Burke, 2009; Westman, 2001).

Third, the associonist halo effect (see Figure 2.3 B2) has been used to describe a priming tendency of one attribute to other attributes, suggesting that an evaluation of one attribute can prime or activate other pieces of information, and the activation accordingly could affect the evaluation of others (Judd et al., 1991). This highlights the order effects in the study of halo (Wirtz, 2003), which are thus typically related to the carry-over effect (Ruyter et al., 1997). Ruyter et al. (1997), in a study of hotel experiences, find that the first impression of the earlier stages improves the impression of the subsequent stages and the overall experience. Therefore, the carry-over differs from the spill-over as it examines "the effects of past values of a variable on its current value for the same product" (Borah & Tellis, 2016, p. 150).

Fourth, the inadequate discrimination halo effect has been defined as the inability or unwillingness of a rater to distinguish among the evaluated attributes, leading to cross-effects among these attributes and resulting in increased correlations (Lüttin, 2012; Saal et al., 1980). Figure 2.3(C) depicts the cross-over effects involving different attributes at different levels, where ratings on T1 and T2 influence the evaluations of R2 and R2, respectively (Fisicaro & Lance, 1990; Wirtz, 1996, 2003). The cross-over effect has been demonstrated in numerous studies across various fields of study. In the area of psychology, Bakker et al. (2009) and Westman (2001) find that anxieties and stress experienced in the workplace are transmitted and crossed over between related individuals, such as husband and wife. Similarly, in

marketing, Mittal et al. (1999) discover that product satisfaction affects behavioural intentions towards the service provider, and satisfaction with the service influences behavioural intentions towards the product manufacturer (Mittal et al., 1999, p. 90), suggesting the occurrence of a cross-over halo effect.

According to the literature, the halo is not mutually exclusive and can occur sequentially or concurrently (Bakker, Westman, et al., 2009; Lüttin, 2012). For instance, Bakker et al. (2009) use the spillover-crossover model to study both the spill-over and cross-over halo, and find that job strain spills over from work to home and subsequently crosses over to the partner's well-being through social interaction. Mittal et al. (1999) discover both cross-over and carry-over effects in a longitudinal study of the automotive industry, where satisfaction and behavioural intentions overlap between manufacturer and service provider, and transfer across different stages of consumption.

2.4.2 Halo effects within Customer Service Experience

In marketing and service literature, the concept of halo effects has been applied to explicate the perceptual bias consumers exhibit when evaluating brands (e.g., Bendixen, Bukasa, & Abratt, 2004; Gilbride et al., 2005; Leuthesser et al., 1995); products (e.g., Bertini, Ofek, & Ariely, 2009; Folkes & Matta, 2004); and stores (e.g., Wu & Petroshius, 1987). For instance, Borah and Tellis (2016), who examined halo effects in social media, find that negative chats in social media about a focal brand can increase negative chats about rival brands, especially brands that are from the same country and have similar market shares. Additionally, Sweeney and McColl-Kennedy (2013) find a halo effect for the interpersonal skills of frontline employees in healthcare services, resulting in improved perceptions of unrelated service quality attributes, particularly credence attributes.

Moreover, halo effects have been predominantly investigated within customer satisfaction studies, including measures (e.g., Wirtz, 2003; Wirtz & Bateson, 1995) and the formation of satisfaction (e.g., Garnefeld & Steinhoff, 2013; van Doorn, 2008). For example, prior marketing researchers have studied halos in customer

satisfaction measures, especially when multi-item scales are used. In their studies, Wirtz (2003) and Wirtz and Bateson (1995) find increased halo effects when the respondents were presented with an evaluative rather than developmental purpose, when fewer rather than more attributes were measured, and when subjects were poorly involved with the service. Prior research has also investigated the impact of halos on customer satisfaction; for instance, Iglesias (2009) finds that failures attributed to the service firm reduce customer satisfaction. Additionally, Mittal, Kumar, and Tsiros (1999) find that satisfaction with a product affects customers' intentions towards the service provider and vice versa, and satisfaction with the previous product influences the intention of the current product.

However, the review of current literature shows that the examination of halo effect indicators within a customer experience context remains limited. Empirical research is needed in this area because the customer experience, in fact, is often complex and entails multiple distinct touchpoints that are mostly connected to and impact each other through halo effects (e.g., Lemon & Verhoef, 2016; van Doorn, 2008). Research has shown how the perception of one attribute acts as a halo effect and alters the perception of other attributes and the overall perception (Bertini et al., 2009; Borah & Tellis, 2016). However, this kind of understanding has not been widely applied within customer experience studies to understand the interplay between various touchpoints along the customer journey. For example, if the customer's experiences of firm-initiated touchpoints (e.g., brand-owned and partner-owned touch points) have some impacts on customer-initiated touchpoints (e.g., customer-owned and social/external touch points), the overall experience, and other experience outcomes. Table 2.4 outlines a summary of halo effect studies.

Table 2.4. Overview of halo effect studies

Topic of interest	Author(s)	Approach / Measures	Key insights
Satisfaction	Wirtz & Bateson (1995)	Induce halo by manipulating an attribute in an experiment	Find halo effects & show that halo effects can lead to wrong conclusions in satisfaction measure
	Ruyter et al. (1997)	Survey questionnaires, examine the carry-over effect of satisfaction using regression	Find carry-over effects – satisfaction with earlier stages do have an impact on final satisfaction with the whole hotel service
	Mittal, Kumar, & Tsiros (1999)	Survey (longitudinal), structural model	Find cross-over effect –satisfaction with a product affects customers' intention towards the service provider, and vice versa; find carryover effects from previous to current product and service satisfaction
	Wirtz (2000)	Measure the halo by manipulating attribute importance in an experiment	Important attributes cause higher halo than less important attributes
	Wirtz (2003)	Manipulating attributes in an experiment	Halo is reduced when the evaluation is for developmental purposes, more attributes are measured, and there is high involvement
	van Doorn (2008)	Estimate halo effects on both the level of attribute and overall evaluation using a two-level model	Find halo effects on both the level of attribute and overall service satisfaction
	Iglesias (2009)	Questionnaire, structural model, ANCOVA	Failures attributed to the service firm reduce the perception of service quality and satisfaction
	Garnefeld & Steinhoff (2013)	Experiment, ANOVA	A negative critical incident negatively affects customers' overall satisfaction when it occurs at the end of a service encounter instead of at the beginning
Product/ Brand evaluation	Klein & Dawar (2004)	Experiment	The CSR halo has a spill-over effect on attributional judgments (e.g., product–harm)
	Pecotich & Ward (2007)	Experiment	Find the evidence of COO as a halo to directly infer product evaluation

Topic of interest	Author(s)	Approach / Measures	Key insights
	Bertini et al. (2009)	Experiment, ANOVA	The perceived quality of non-alignable add-ons has corresponding effects on the evaluation of a base good
	Madden, Roth, & Dillonm (2012)	Questionnaire, halo is analysed using constrain component analysis	Halo (general impression) is more pervasive for product quality than for CSR associations, varies across brands and markets, and is strongly related to brand recommendations.
	Borah & Tellis (2016)	Modeling VARX equation	Find negative spill-over haloes: negative chatter about a focal brand's product recalls can increase negative chatter about rival brands, particularly brands from the same country with similar market shares.
Service quality	Stauss & Weinlich (1997)	Interviews through sequential incident technique	Hypothesised that one episode's perception influences the quality experience of the next episode, but found no evidence of primacy or recency effects
	Li & Zheng (2011)	Questionnaire, structural equation modeling	The belief caused by the "halo effect" in the international background of consulting firms does exist in China, and it has a significant impact on customer loyalty
	Dagger et al. (2013)	Experiment, MANCOVA	Customer perceptions of the interpersonal skills of frontline employees "spillover" to the perception of unrelated service attributes, particularly credence attributes
Country/ brand image	Iversen & Hem (2011)	Questionnaire, structural equation modeling	Find the halo effect of the brand's country of origin image on attitudes towards the brand extension
	Woo et al. (2017)	Regression	Find the halo effects of country image (South Korea) and well-known product category (cell phones) on perception of a less-known product category
Brand equity	Leuthesser et al. (1995)	Double centring-technique to partialling-out the halo	Find the level of halo varying across different brands
	Bendixen et al. (2004)	Experiment, Kruskall-Walis test	Find the "halo effect", in which brand evaluations transfer from one category to another

2.5 Summary of Chapter 2

This chapter presented a review of the current literature on TSR, customer experience and the customer journey, and halo effects, from which four key research gaps were identified. The first gap relates to the lack of empirical understanding of how and to what extent customer experiences affect customer well-being, particularly in the context of mundane services since recent research linking service and well-being relates mainly to service design and value co-creation, and most studies tend to focus on services with clear transformative goals (e.g., healthcare and financial services). The second gap is that there is a plethora of approaches to well-being measurement (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011). To date, prior studies within TSR have focused on either or a combination of hedonic and eudaimonic approaches, yet little is known regarding the physical or social well-being impact, especially empirically. The third gap is the lack of empirical research on touchpoints of customer experience and the customer journey, as well as the current literature's limited understanding of how the interplay of diverse touchpoints affects customer experience, as prior service research tends to measure customer experience either in one specific touchpoint or as an aggregate evaluation (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; Voorhees et al., 2016). The last gap is identified within the halo effects literature, where the extant research to date has predominantly examined halo effects on customer satisfaction and brand/product evaluation.

This thesis therefore aims to address these gaps by exploring the key distinct touchpoints during the customer journey, subsequent well-being outcomes, and potential occurrences of halo effects in the context of mundane services. Building on this information, this thesis aims to investigate the impact of mundane service experiences on customer well-being, and to assess the role that halo effects play on the interconnection of touchpoints during the customer journey, and their influence on well-being. This thesis therefore responds to the recent priorities in service research by exploring the unintended consequences of mundane service experiences on customer well-being (e.g., Blocker et al., 2022; Ostrom et al., 2015, 2021) – an alternative service outcome that is beyond typical measures of customer satisfaction

and loyalty within service research. The literature also suggests a need for a more detailed analysis of the customer experience touchpoints and a note to "zoom in" on the journey (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016), an aspect that this thesis empirically addresses instead of focusing on single touchpoints or aggregate evaluations of customer experience. Finally, halo effects can distort perceptions of specific touchpoints and alter the overall service experience. Despite their potential influence, halo effects have not been extensively studied in customer experience research to date, particularly empirically, an oversight that this thesis seeks to correct.

The following chapter introduces and details the adopted research design that can explore the phenomena of mundane service experiences and transformative outcomes and measure the link between customer experience and well-being.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter (Chapter 2) talks about the theoretical background and research gaps. Moving on, this chapter outlines the methodological underpinnings of the research. It starts with reintroducing the research objectives and how the objectives inform the selection of the research approach. The second section sets out three philosophical worldviews in social science, which then lead to the justifications of pragmatism as the chosen philosophical overview. Pragmatism provides a foundation for a mixed-methods approach, and the elements of a pragmatist worldview will be articulated in the sequential exploratory research design adopted in this thesis. Lastly, this chapter specifically presents the procedures used in sequential exploratory design, including methods for integrating and analysing mixed-methods approaches.

3.2 Overview of Thesis Aim and Objectives

The aim and research objectives of this thesis are influenced by the recent calls within transformative service research (TSR) to empirically understand the influence of customer service experience on well-being, particularly within mundane service settings (Anderson et al., 2013; Ostrom et al., 2015). An investigation of the customer service experience also requires a clear understanding of the distinct contacts between the customer and the service, called touchpoints, during the customer journey. This is crucial because the empirical work on the customer journey to date remains limited (Lemon & Verhoef, 2016), and previous service research has been criticised for its continued focus on understanding and measuring the customer experience either at one specific touchpoint, particularly the core

service delivery, or as an aggregate evaluation (Becker & Jaakkola, 2020; Voorhees et al., 2016). According to research, service experience touchpoints are also highly associated and do not work in isolation to impact customer well-being; therefore, this thesis attempts to investigate the occurrence of halo effects within customer service experiences.

This thesis aims to *explore customer service experiences in mundane service settings and investigate their impact on customers' well-being.* This broader aim is designed to understand what are the salient service touchpoints of commuting experiences, what are the subsequent well-being outcomes, and what the impacts of service experience touchpoints are on customer well-being. Additionally, this thesis would also like to understand the potential indicators of halo effects within service experience touchpoints and the extent to which halo effects influence the perception of service touchpoints and well-being. Six research objectives are outlined as follows:

Objective 1: *To identify salient touchpoints during public transport journeys;*

Objective 2: *To explore potential halo effects within customer commuting journeys;*

Objective 3: *To identify the types of well-being outcomes associated with customer commuting journeys;*

Objective 4: *To investigate the relationship between service experience touchpoints and well-being;*

Objective 5: *To examine the link between customer satisfaction and well-being outcomes associated with customer commuting journeys;* and

Objective 6: *To explore the degree to which halo effects influence the perception of service experience touchpoints and relationship with well-being.*

A qualitative approach is deemed appropriate to inform the key touchpoints of commuting experiences, the subsequent well-being outcomes, and the halo effect indicators (objectives 1-3). The findings inform the selection of variables and items for the survey instrument and the formulation of hypotheses. Building on these

findings, a quantitative research approach allows the researchers to examine the impact of service experience touchpoints and satisfaction on customer well-being, as well as the role of halo effects within service experience touchpoints (objectives 4-6). The variety of approaches discussed above clearly indicates a mixed-methods approach to data collection. However, the process of designing a study first requires a proper understanding of the philosophical assumptions of mixed-methods research and how these are interpreted into the chosen research design.

3.3 Philosophy and Interpretation

Understanding the philosophical stance of research is important as it serves as the fundamental belief system that determines not only the ontological and epistemological assumptions of this research but also the selection of methods. Guba (1990, p. 17) defines a research philosophy as "a basic set of beliefs that guides action" in respect to knowledge development, guiding researchers in how data about a phenomenon should be gathered, analysed and used. Easterby-Smith, Thorpe, and Jackson (2015) identify three benefits of understanding and exploring different pertinent philosophical issues: (1) it informs researchers of the appropriate research designs and potential methods; (2) it assists researchers with different types of methodologies, avoiding inappropriate and unrelated approaches; and (3) it suggests other possible designs and approaches that researchers could possibly explore. In fact, by recognising the philosophical differences within particular disciplines along with their various philosophical underpinnings, researchers are in a position to provide better justification for particular choices (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009).

Philosophy has been labelled with various names, including *paradigms, epistemologies, ontologies, methodologies* and *worldviews* (Creswell, 2014). The term "worldview" is adopted in this thesis as it may or may not be associated with a specific discipline or community of scholars (as often outlined by the term "paradigm"), instead referring to the shared beliefs and values of researchers. In fact, the term has been widely used by the proponents of the chosen philosophical position

(e.g., Creswell, 2014; Creswell & Plano Clark, 2011; Morgan, 2007a; Teddlie & Tashakkori, 2009). In order to justify the philosophical worldview of this study, it is common for researchers, particularly in doctoral theses, to recognise the philosophical differences within their respective disciplines along with their various philosophical underpinnings (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009).

Researchers have various philosophical overviews to meet a range of research enquiries. Within the social sciences, positivism (including post-positivism) and constructivism have dominated the wider spectrum of philosophical positions and have been the prevailing philosophical choices among researchers (Easterby-Smith et al., 2015; Morgan, 2007b). The differences in philosophical worldviews, particularly between positivism/post-positivism and constructivism, can be identified around a familiar trinity of concepts: ontology, epistemology, and methodology (Easterby-Smith et al., 2015; Guba & Lincoln, 1994). As outlined in Table 3.1, worldviews differ depending on how researchers view the nature of reality (ontology), how we gain knowledge of what we know (epistemology), and what the process is to attain the knowledge and the choice of method(s) (Easterby-Smith et al., 2015; Guba & Lincoln, 1994).

Table 3.1. Ontology, Epistemology and Methodology

Philosophical Term	Description
Ontology	Assumptions about the beliefs of the nature of reality
Epistemology	General set of assumptions about the best ways of inquiring into the nature of the world
Methodology	Combination of techniques used to enquire into a specific situation

Source: Adapted from Easterby-Smith et al. (2015, p. 60) and Guba & Lincoln (1994)

The following sections introduce two dominant stances in social science research, namely post-positivism and social constructivism (Creswell, 2009; Easterby-Smith et al., 2012), followed by a justification of why the pragmatic approach is deemed appropriate for this thesis.

3.3.1 Post-positivism and Constructivism

Post-positivism (also known simply as positivism) emerged from positivism during the 20th century to challenge the notion of the absolute truth of knowledge held by positivists, which is difficult to justify in research involving human subjects (Creswell, 2014; Teddlie & Tashakkori, 2009). Post-positivists believe that a reality exists but cannot be directly and perfectly captured due to human imperfection and the intractable nature of phenomena (Guba, 1990; Guba & Lincoln, 1994). Therefore, post-positivism epistemologically suggests a modified objectivity, as it is impossible for the investigators and the investigated "objects" to be independent entities without influencing or being influenced by them, although objectivity remains a "regulatory ideal" (Guba & Lincoln, 1994, p. 110). In this sense, it is believed that what we experience are only sensations – the images of things in the real world – and not the things themselves.

In order to examine the objective reality that exists, information is typically collected using instruments based on measures completed by the participants or by observations recorded by the researchers (Creswell, 2014). Post-positivism recognises that observation is fallible and has errors, explaining why researchers with a post-positivism stance do not prove hypotheses but instead indicate a failure to reject them. In that sense, researchers normally begin with a theory, collect data that either supports or refutes the theory, and then make necessary revisions before additional tests are conducted. They are also generally reductionist, reducing the ideas into a small, discrete set of ideas to test, such as the variables that constitute hypotheses and research questions (Creswell, 2014).

Constructivism, on the other end of the continuum, is about understanding the ways in which individuals interpret the world around them (Creswell, 2014; Teddlie & Tashakkori, 2009). Ontologically speaking, there are multiple realities constructed by researchers. They argue that research is grounded in a relativist ontology, which rejects the existence of any possible correct reality. The high level of complexity embedded in the social world is acknowledged, and thus constructivists seek a plurality of views in order to gain deeper insight into a complex phenomenon rather

than the reductionist approach that is typically adopted by post-positivists (Guba, 1990; Guba & Lincoln, 1994).

The basic assumption stems from the view that reality is not objective and external (Easterby-Smith et al., 2015), thus the focus is to be as close as possible to the participants and situations being studied (Creswell, 2014). This is translated into the epistemological assumption, which is mainly subjective, supporting an interdependence and mutual influence between the researcher and the subject studied (Guba & Lincoln, 1994). It, therefore, requires interaction between the researcher and the participants (hence social constructivism) through historical and cultural norms that operate in individuals' lives (Creswell, 2014).

Constructivists' way of undertaking research is largely inductive, generating meanings from the data collected in the field so that theories or patterns of meaning can be developed (Creswell, 2014; Guba & Lincoln, 1994). Teddlie and Tashakkori (2009, p. 9) note that the constructivist approach is generally "associated with the gathering, analysis, interpretation and presentation of narrative information" and is thematically analysed. For that reason, constructivists favour qualitative research methods as methods of inquiry, including in-depth interviews and focus groups. Table 3.2 summarises the key differences between post-positivism and constructivism.

Table 3.2. Basic Beliefs of Post-Positivism and Constructivism

Research Assumption(s)	Post-Positivism	Constructivism
Ontology	"Real" reality but only imperfectly probabilistically apprehendable	Relativism-local and specific constructed realities
Epistemology	Modified dualist/objectivist; Findings probably true	Transactional/subjectivist; created findings
Methodology	Modified experimental/manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	Hermeneutical/dialectical

Source: Adapted from Guba & Lincoln (1994, p. 109)

The differences among the two dominant philosophical worldviews have traditionally been seen in opposition, which is well reflected in the "paradigm wars". The arguments between these worldviews have resulted in two research cultures, one preferring the superiority of deep and rich data and the other favouring large and generalisable data (Sieber, 1973). This also demonstrates that a philosophical position is closely related to the methodological approach taken within an individual's research (Creswell, 2014). Such fundamental differences between the paradigms have resulted in the incompatibility thesis, according to which mixing qualitative and quantitative approaches to research is inappropriate (Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2009). Guba (1990, p. 81), for example, clearly shows his purist stance and advocates that "accommodation between paradigms is impossible… we are led to vastly diverse, disparate, and totally antithetical ends".

However, in recent years, a growing number of researchers have recognised the advantages of using more than one method. Using a range of multiple methods is more compelling, and polarised approaches are supposedly complementary and can be used in conjunction (Fay, 1999). Marketing research in particular has been criticised for a lack of diversity and a failure to recognise the benefits of using additional methods when investigating dynamic, complex phenomena (Davis, Golicic, & Boerstler, 2011). Mixed-methods researchers counter the incomparability thesis within mixed-methods research by advancing an alternative perspective – pragmatism (Creswell, 2009; Creswell & Plano Clark, 2011; Morgan, 2007a; Teddlie & Tashakkori, 2009). Pragmatism is the perspective that has been adopted within this thesis and will be introduced and discussed in the following section.

3.3.2 Pragmatism

Pragmatism originated in the early twentieth century by a number of American philosophers, including Charles Sanders Peirce, William James, and John Dewey (Teddlie & Tashakkori, 2009). They primarily advocated the idea of "what works out most effectively in practice" as a way to determine the truth (Honderich, 2005, p. 747). As the inventor of the term "pragmatism", Peirce promotes the theory

of meaning, attempting to "clarify meanings of intellectual concepts by tracing out their conceivable practical consequences" (Cherryholmes, 1992, p. 13). Similarly, James and Dewey assumed that the "true belief was one that led to successful action" (Mautner, 2005, p. 485), supporting the notion of practical consequences and "what works" (Johnson & Onwuegbuzie, 2004). The early formulations of pragmatism, however, were criticised by Russell (1945), particularly on the difficulty of determining "what works". For Hall (2013, p. 4), the criticism implies the relevance of pragmatism in mixed-methods research because "the usefulness of any particular mixed-methods design can be known in advance of it being used" and "the question of whether a mixed-methods design works or not can only be decided once the research product is completed and the findings are interpreted". The subsequent section outlines what pragmatism is and how contemporary researchers see it as an alternative worldview that supports the integration of both quantitative and qualitative approaches.

While positivism/post-positivism and constructivism concern themselves with discovering the truth or reality, where the existence of it is continually under dispute, the focus of pragmatism is to facilitate human problem-solving using diverse approaches while valuing both objective and subjective knowledge (Creswell & Plano Clark, 2011). In the pragmatism view of Creswell (2014), researchers need to stop asking questions about reality and the laws of nature because "pragmatists are aware that by reading the world we are often reading ourselves" (Cherryholmes, 1992, p. 14). In other words, "pragmatism is not committed to any one system of philosophy and reality" (Creswell, 2014, p. 11), instead primarily focusing on the practical demands of the research problems, the inquirer's flexibility, and the adaptiveness of methodological approaches that will work best for a given problem (Greene et al., 1989). For pragmatists, the reality is the practical effects of ideas, and knowledge is valued for enabling actions to be carried out successfully (Saunders, Lewis, & Thornhill, 2007).

Since pragmatists believe that "truth is what works at the time" (Creswell, 2014, p. 11), they embrace both quantitative and qualitative approaches that are generally advocated by positivism/post-positivism and constructivism, respectively, as the mode of inquiry. The focus is to choose the methods that best answer the

research questions and inform the problems under study (Creswell & Plano Clark, 2011). Mixed-methodologists have rejected the claim that research methods are necessarily linked to specific philosophical positions but argued that methods can be combined on the basis of their practical utility, thus paradigmatic conflicts can be ignored (Maxwell & Mittapalli, 2010). The pluralistic nature of pragmatism has benefited social science research, enabling researchers to put together insights and procedures from both approaches to produce a more workable solution to the problems (Johnson & Onwuegbuzie, 2004, p. 17). Therefore, it is not surprising that pragmatism has been promoted as the appropriate philosophical stance for mixed-methods research by a number of researchers and methodologists (Maxwell & Mittapalli, 2010; Teddlie & Tashakkori, 2003).

It is clear that pragmatism takes a middle position philosophically and methodologically (Johnson & Onwuegbuzie, 2004, p. 17). The proposition of it as an alternative worldview has been supported by many, including the suggestions of pragmatism as a general belief system for the social sciences and as a specific worldview applied to mixed-methods (Creswell & Plano Clark, 2011; Johnson & Onwuegbuzie, 2004). Morgan (2007a) additionally advocates several ways in which pragmatism can address methodological issues as compared to the two dominant methodological approaches within social science. Table 3.3 outlines the comparative distinctions between approaches based on the way of reasoning, connection with the research process, and approach of inference.

Table 3.3. A Pragmatic Alternative to the Key Issues in Methodology

	Qualitative approach	**Quantitative approach**	**Pragmatic approach**
Connection of theory and data	Induction	Deduction	Abduction
Relationship to research process	Subjectivity	Objectivity	Intersubjectivity
Inference from data	Context	Generality	Transferability

Source: Morgan (2007a, p. 71)

Instead of relying on deductive reasoning and general premises to reach specific conclusions or inductive approaches that seek general conclusions based on

specific premises, pragmatism relies on a more flexible form of *abductive* reasoning. It allows researchers to move back and forth between induction and deduction, converting observations into theories before assessing the theories through action (Morgan, 2007b), without strictly depending on conventional inductive and deductive reasoning. Morgan (2007a, p. 70-71) emphasises that:

> Outside of introductory textbooks, the only time that we pretend that research can be either purely inductive or deductive is when we write up our work for publication. During the actual design, collection, and analysis of data, however, it is impossible to operate in either an exclusively theoretical or data-driven fashion.

By focusing on solving practical problems, pragmatism sidesteps the debate about the objective truth or the value of subjective perceptions by emphasising the *intersubjective* approach where knowledge is created through joint actions or projects that can be studied by a number of different methodological approaches (Morgan, 2007b). Lastly, the data inference from the pragmatic approach does not aim to be either "context-bound" or "generalisable", but rather transferable. It implies that the extent to which existing knowledge can be transferred and applied in a new set of circumstances is what pragmatism should concern itself with (Morgan, 2007a, p. 72). Overall, the pragmatic approach offers a new way to think about the world in social science research, underscoring the abductive, intersubjective, and transferable aspects.

Overall, pragmatism is the appropriate philosophical worldview for this thesis because it offers "an immediate and useful middle position, philosophically and methodologically" (Johnson & Onwuegbuzie, 2004, p. 17). The purpose of this doctoral research is not to find the truth or reality, whose existence is continuously in dispute, but to solve applied problems in the real world, taking advantage of the strengths of any potential method. The key features of a pragmatic worldview, along with the two dominant worldviews that have been discussed in the first part of this chapter, are summarised in Table 3.4. Adopting the pragmatic worldview and acknowledging mixed-methods as the methodological approach requires many issues to be considered. Researchers need to justify the purpose of mixing methods, the specific design, and where and how to mix both qualitative and quantitative data

(Creswell, 2014). These concerns are discussed in the following sections, but now let's turn the discussion to the mixed-methods research design.

Table 3.4. Comparison of Philosophical Worldviews

Worldview	Key Philosophical Basis
Post-Positivist Worldview	• Knowledge is conjectural; absolute truth can never be found. Evidence established in research is always imperfect and fallible, thus researchers fail to reject a hypothesis rather than prove one; • Research is the process of making claims and refining them, thus often involving theory testing; • Knowledge is shaped by data, evidence and rationality; • Researchers seek to explain situations and demonstrate causality by testing the relationship between variables; • Objectivity is crucial, addressing issues of validity, reliability and bias.
Pragmatist Worldview	• Pragmatism does not commit to one philosophy or perspective, embracing both qualitative and quantitative research; • Researchers have freedom of choice in choosing methods that best answer the study's inquiries; • Pragmatists do not see the world as an absolute unity, looking for many approaches to collecting and analysing data; • For pragmatists, truth is defined by what works at the time rather than by an objective or subjective viewpoint; • Pragmatists concern with what and how to research; • For the mixed-methods researcher, pragmatism opens the door to multiple methods, worldviews and assumptions.
Constructivist Worldview	• Individuals construct meanings as they engage with the world, thus open-ended questions are primarily used; • Constructivists make sense of their surroundings based on their historical and social perspectives, thus gathering information in-person and visiting the real settings are preferred; • Meaning generated from research is derived from social interaction and constructed through inductive approaches.

Source: Adapted from Creswell (2014, p. 7–11)

3.4 Mixed-Methods

The mixing of methods in social research has been given many names, including multi-method, multiple methods, integrative approach, triangulated studies, and mixed research. In marketing, "multi-method" and "mixed-method" research are the most commonly used terms. Morse (2003) in the Handbook of Mixed-Methods

Research differentiates these two terms. The multi-method involves multiple types of qualitative inquiry (e.g., case study and ethnography) or multiple types of quantitative inquiry (surveys and experiments), whereas the mixed-methods typically involve the mixing of the two types of data (Morse, 2003). Mixed-methods research has become the most popular term for mixing qualitative and quantitative data in a single study (Johnson et al., 2007) and is the research design used in this thesis.

This thesis uses one of the well-accepted definitions of mixed-methods research shown below:

> Mixed-methods research is the type of research in which a researcher or team of researchers combines elements of both qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, and inference techniques) to gain a broader and deeper understanding of the topic and to back up their findings (Johnson et al., 2007, pp. 123).

Methodologists argue that the mixed method research considers more than a simple triangulation (Creswell & Plano Clark, 2011; Johnson et al., 2007), but rather a legitimate research design with a pragmatic approach using both qualitative and quantitative methods within a single study to best answer research questions as opposed to a singular method (Creswell & Plano Clark, 2011; Johnson et al., 2007; Teddlie & Tashakkori, 2009). In recent years, mixed-methods approaches have expanded, with a number of books and journals advocating the approach (e.g., Bryman, 2006; Creswell, 2003; Creswell & Plano Clark, 2011; Greene, 2007; Johnson et al., 2007; Morgan, 2007; Teddlie & Tashakkori, 2009). In marketing, researchers encourage mixed-methods research because of the emphasis on rigorous research (Harrison & Reilly, 2011).

Mixed method approach has both advantages and challenges, as outlined in Table 3.5. For this thesis, the objectives of the research require both a qualitative and quantitative approach to enable the researcher to answer research questions that cannot be answered by either quantitative or qualitative approaches alone. In particular, the thesis aims to explore the nature of transformative service experiences but at the same time wants to understand to what extent these experiences are transformational and important to people's well-being. With a quantitative approach alone, the current thesis might lose the rich insights of the customers' mundane

experience, but relying on the qualitative approach does not allow the researcher to generalise the transformative impact of the experience to a larger population. On a practical level, the pragmatic, mixed-methods approach to conducting research would appear to have much going for it, particularly in the case of doctoral research. In the next section, the specific research design is outlined.

Table 3.5. Advantages and Challenges of Mixed-Methods Research

Advantages	Challenges
• Words, pictures, and narrative may add meaning to numbers, while numbers can be used to add precision to words, pictures, and narrative.	• Can be difficult for a single researcher to carry out both qualitative and quantitative research, especially if two or more approaches are expected to be used concurrently; it may require a research team.
• Can benefit from both quantitative (e.g., generalizability of results) and qualitative (e.g., holistic understanding of phenomena) strengths.	• Researchers has to learn about multiple methods and approaches and understand how to mix them appropriately.
• The strength of one approach may overcome the weakness of the other approach.	• Methodological purists contend that one should always work within either a qualitative or quantitative paradigm.
• Provides more evidence for studying a research problem than either quantitative or qualitative research alone.	• More expensive.
• Enables researchers to answer research questions that cannot be answered by quantitative or qualitative approaches alone.	• More time consuming. • Some philosophical issues remain (analysing mixed results, problems of paradigm mixing).
• It bridges the argumentative separation between quantitative and qualitative researchers, thus answering a broad range of research questions.	• Can encounter difficulties in the review process. • Can have difficulty reporting results within journal page constraints.
• More practical in using both qualitative and quantitative data, combining inductive and deductive thinking, and employing all methods possible to address the research problem.	
• Provides stronger evidence for a conclusion through convergence and corroboration of findings.	
• Researchers can generate and test a grounded theory.	

Source: Adapted from Creswell & Plano Clark (2011); Davis et al. (2010); Johnson & Onwuegbuzie (2004)

According to research, there are six major designs of mixed-methods approaches: convergent, explanatory, exploratory, embedded, transformative, and multiphase, with each design being either sequential or concurrent (see Table 3.6). As the name suggests, researchers in sequential design studies conduct different but related studies in a sequential order, while in concurrent design studies, researchers conduct research activities simultaneously (Creswell, 2014; Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009). This thesis utilises *the sequential exploratory mixed-methods design,* and the rationales for this approach are discussed in the following section.

Table 3.6. Major Mixed-Methods Designs

Design	Timing	Merging
Concurrent	Quantitative and qualitative at the same time	Merging the data during the interpretation or analysis
Embedded	Concurrent or sequential	Embed one type of data within a larger design using the other type of data
Explanatory	Sequential, quantitative, followed by a qualitative	Connect the data between the two phases
Exploratory	Sequential, qualitative, followed by a quantitative	Connect the data between the two phases

Source: Adapted from Harrison & Reilly (2011)

3.4.1 Sequential Exploratory Design (SED)

The exploratory sequential design is characterised by an initial qualitative phase of data collection and analysis, followed by a phase of quantitative data collection and analysis, with a final phase of integration or linking of data from the two separate strands of data. It has several uses within the mixed-methods approach, including "exploring relationships when study variables are unknown, developing new instruments based on initial qualitative analysis, generalising qualitative findings, and refining or testing a developing theory" (Harrison & Reilly, 2011, p. 15). In particular, as shown in Figure 3.1, the design starts with qualitative data to explore a phenomenon, and then builds to a second, quantitative phase.
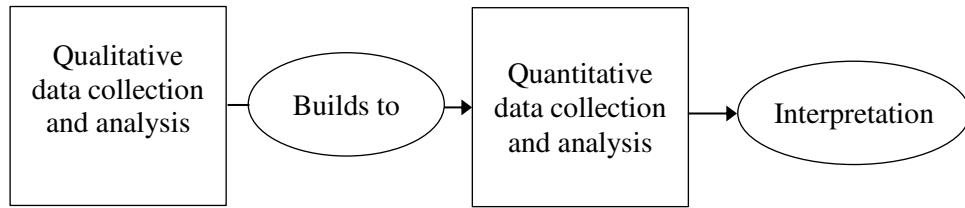
Source: Creswell (2014); Creswell & Plano Clark (2011)

Figure 3.1. Sequential Exploratory Design (SED)

Given the subjective nature of the concept of customer service experience and well-being, as well as the lack of empirical evidence of halo effects within customer experience studies, this thesis first explores the key touchpoints in relation to the commuting experience and the subsequent well-being outcomes, as well as the potential indicators of a halo effect, thus addressing objectives 1-3. The qualitative data is then analysed, revealing some important themes. The results are then used to identify variables and items for survey instruments and to formulate hypotheses about the structural model that will be subsequently tested in the second, quantitative study. The findings of the quantitative study answer research objectives 4-6. Therefore, the sequential exploratory design (SED) fits the research objectives under study.

The advantages of employing sequential exploratory design are presented in Table 3.7, along with its challenges. Although this two-phase approach takes a long time to implement, it is simpler to describe than concurrent strategies due to its clear, distinct stages (Creswell, 2014; Creswell & Plano Clark, 2011).

Table 3.7. Strengths and Challenges of the SED

Strengths	Challenges
• Separate phases make the exploratory design straightforward to describe, implement, and report; • Although this design typically emphasises the qualitative aspect, the inclusion of a quantitative component can make the approach more acceptable to quantitative-biased audiences; • This design is useful when the need for a second, quantitative phase emerges based on what is learnt from the initial qualitative phase; • The researcher can produce a new instrument as one of the potential products of the research process.	• The two-phase approach requires considerable time to implement, potentially including time to develop a new instrument, thus researchers need to factor this into their study's plan; • Researchers may need to use a small, purposeful sample in the first phase and a large number of different participants in the second phase to avoid questions of bias in the quantitative strand; • Researchers may need to decide which data from the qualitative phase to build the quantitative instrument and how to use these data to generate quantitative measures; • Procedures should be undertaken to ensure that the scores developed on the instrument are valid and reliable.

Source: Adapted from Creswell & Plano Clark (2011, p. 89)

In addition to timing, another important aspect to consider when utilising mixed-methods research is how to integrate both the data and the priorities given (Creswell & Plano Clark, 2011; Johnson et al., 2007). In terms of integration, this thesis adopts an interactive level where the design and conduct of the quantitative strand depend on the results of the qualitative strand (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009). In other words, both qualitative and quantitative data will be gathered and analysed separately to answer different research objectives, but mixing occurs at the stage of developing the quantitative component, particularly when identifying the important variables and items for survey and formulating hypotheses. In terms of priority, the quantitative strand is given more weight compared to the qualitative strand hence more sophisticated and complex procedures for this component of study.

The next section explains the procedures for integrating and analysing mixed data in the sequential exploratory research design. In addition, the section will

consider important steps of mixed-data analysis undertaken by the researcher and key decisions made at different steps.

3.4.2 Approaches to Analysis

Analysing a mixed-methods research involves similar procedures to what most researchers have done with a single approach. That is, similar steps must be followed in any quantitative and qualitative data analysis, from preparing the data analysis to examining the data, analysing the data, presenting the analysis, interpreting the analysis, and validating the data and interpretations (Creswell & Plano Clark, 2011). While different methodological approaches contribute to the understanding of a complex phenomenon interdependently, integration is pivotal within a mixed-methods research design. A study that includes both data types without integration is merely a collection of methods (Harrison & Reilly, 2011). Similarly, Creswell and Plano Clark (2007) argue that a study that includes multiple methods without explicitly mixing the data derived from each is not a mixed methods study but rather a collection of multiple methods.

Following the suggested steps for collecting and analysing SED research (Creswell & Plano Clark, 2011) (see Table 3.8), this thesis starts by collecting the qualitative data using semi-structured interviews and analysing it using thematic analysis, which is best suited to identifying key service experience touchpoints, well-being outcomes, and halo effect indicators. The findings inform the important variables and items for the survey instrument and hypothesis development. Building on this, the survey is then conducted and analysed using structural model analysis.

Table 3.8. Steps and Key Decisions in Data Analysis for Sequential Exploratory Design

Design	Data Analysis steps	Data Analysis Decisions
Exploratory design	1) Collect the qualitative data; 2) Analyse the qualitative data using analytical approaches best suited to the research question; 3) Design the quantitative strand based on the qualitative results; 4) Develop and pilot test the new instrument; 5) Collect the quantitative data; 6) Analyse the quantitative data quantitatively using analytic approaches best suited to the quantitative and mixed-methods questions; and 7) Interpret how the connected results answer the qualitative, quantitative, and mixed-methods questions.	Decide what data can be used in the quantitative follow-up. Decide how best to assess the psychometric quality of the instrument. Decide how the quantitative results build or expand on the qualitative findings.

Source: Adapted from Creswell & Plano Clark (2011, p. 218)

In order to analyse both sets of data in this design, three phases of analysis are required. First, the qualitative study (qual) is analysed, and the researcher must decide what information or variables can be used for data collection in the follow-up quantitative phase (see Chapter 4). The second analysis occurs after the follow-up quantitative (QUAN) data collection (see Chapter 6). The last analysis involves an interpretation phase where the researcher demonstrates the integration of both studies and discusses it in the discussion chapter (Chapter 7). To sum up, Figure 3.2 shows the procedural diagram for the mixed-methods design employed in this thesis.
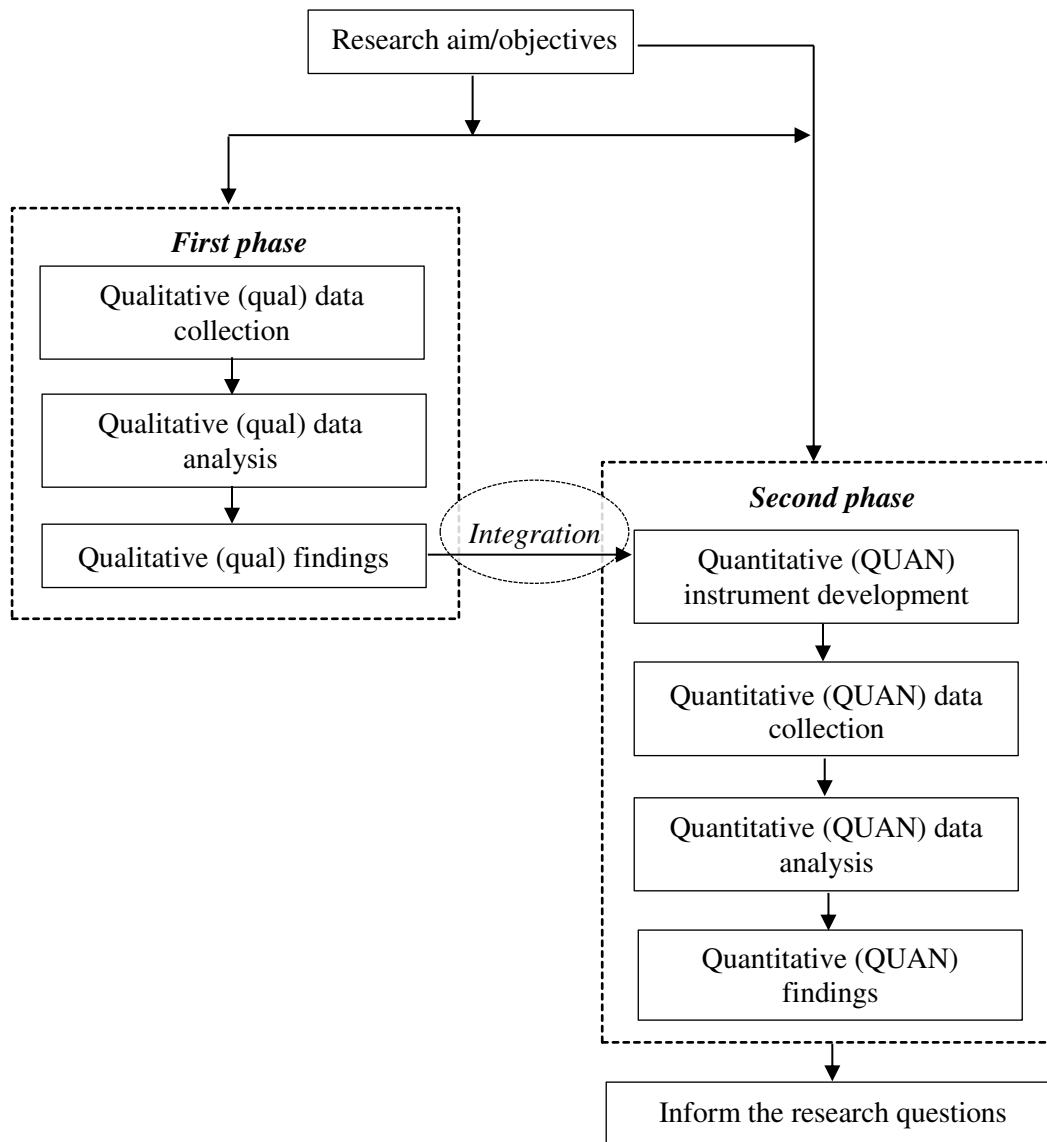
Figure 3.2. The Sequential Exploratory Design of the Thesis

3.5 Summary of Chapter 3

Thus far, Chapter 3 has described pragmatism as the appropriate philosophical worldview for this thesis and the sequential exploratory mixed-methods design as the design used in this investigation. The next chapter discusses the first strand of the SED research, aiming to explore different touchpoints of mundane services, various well-being outcomes, and potential halo effects using a customer journey approach.

CHAPTER 4

STUDY 1: EXPERIENCES OF PUBLIC TRANSPORT COMMUTING

4.1 Introduction

This chapter addresses the first strand of the sequential exploratory design (SED) research, in which the main interest is to answer the first three objectives of this thesis:

Objective 1*: To identify salient touchpoints during public transport journeys;*

Objective 2: *To explore potential halo effects within customer commuting journeys;* and

Objective 3: *To identify the types of well-being outcomes associated with customer commuting journeys.*

This study is exploratory in nature, as customer experiences of services, according to the literature, are subjective, dynamic and context-specific (Halvorsrud et al., 2016; Helkkula, 2011). In fact, research on mundane experiences has been less conducted compared to extraordinary or peak experiences (e.g., theme parks) (McColl-Kennedy et al., 2015), and the empirical research on the customer experience and customer journey is also currently limited (Lemon & Verhoef, 2016, p. 79). There is a need to conduct a more detailed analysis on customer experiences and "zoom in" on the customer journey (Becker & Jaakkola, 2020). Therefore, the exploratory study is conducted to have a better understanding of the phenomenon of mundane experiences, especially the relevant touchpoints that customers encounter and the meanings that emerge at specific touchpoints of the journey. By identifying all key touchpoints of the customer journey, new insight into how the experiences of touchpoints are impacted by each other through occurrences of the halo effect can

also be gained. This offers an interesting implication to the literature since halo effects have not been largely studied in the context of service experience in the past.

Additionally, despite growing concern about the link between services and customer well-being, previous studies have usually focused more on traditionally transformational service settings such as healthcare and financial (Xie et al., 2020), and neglected the well-being outcomes of mundane service experiences. The concept of customer well-being is also undefined, and there have been various measures of assessing customer well-being (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011). Therefore, this study helps to understand how customers perceive their lives and well-being, particularly with regard to their everyday experiences of public transport services, and those recognised outcomes can accordingly become the focus of future research.

Practically, understanding service experience touchpoints, the potential halo effects, and the well-being outcomes can offer important managerial insights. Transportation service companies continue to increase customer satisfaction, although the satisfaction measure does not translate into an increase in the use of public transport over private cars (Department for Transport, 2019). This study shows that in focusing on satisfaction measures, providers do not fully understand the multi-faceted nature of service experiences and, in particular, how customer well-being can be affected by touchpoints beyond organisational control. This study provides practitioners with recommendations on how they can mitigate customers' and social touchpoints to positively influence customer experience and well-being.

Inspired by recent studies highlighting the advantages of understanding customer experience through the customer journey, this study uses the sequential incident technique (SIT), whereby the sequence of touchpoints during the commute and how these are perceived and interpreted by customers are investigated (Stauss & Weinlich, 1997). The following sections of this chapter address and justify the methodological selection related to sampling strategy, data collection and analysis, and finally the findings and discussion of the qualitative data.

4.2 SIT and Semi-structured Interviews

Sequential incident technique (SIT) is selected as an appropriate approach to explore the customer experience during commutes. SIT is a qualitative interviewing technique that is process-oriented, looking at entire processes and collecting incidents perceived by customers sequentially during the service delivery process (Stauss & Weinlich, 1997). The approach incorporates the critical incident technique (CIT), which is also a qualitative interview procedure that facilitates the investigation of significant events or "critical incidents" that are either particularly satisfactory or especially unsatisfactory (Gremler, 2004). The key advantage of using the SIT instead of the CIT is that it encourages the informants to provide detailed process descriptions of all episodes (touchpoints) that customers typically follow during the customer journey, without restriction to extraordinary positive or negative incidents but including usual and mundane routine experiences (Halvorsrud et al., 2016; Stauss & Weinlich, 1997). Over the years, the SIT has been practically suggested for studying customer journeys (Halvorsrud et al., 2016; Nenonen et al., 2008) and widely adopted to investigate customer experiences in different contexts (e.g., Jüttner, Schaffner, Windler, & Maklan, 2013; Stein & Ramaseshan, 2016). Likewise, the story-telling approach of the SIT is also beneficial for this study as it enables participants to use their own words when describing and evaluating a common set of touchpoints they recall, which can elicit thoughts and feelings customers have in a service experience (Gremler, 2004).

As the SIT focuses on exploring contextual detail in incidents in the course of the service process, data are typically collected as words through interviewing, participant observation, group discussions, or written questionnaires (Stauss & Weinlich, 1997). For this study, interviews are employed for the following reasons. The key benefits of interviews are that they enable the researcher to explore the narratives and stories of customers' recent experiences and also to understand the details of those experiences that come from customers' own interpretations and perspectives. Unlike observational data that is mainly generated from a researcher's interpretation of what is observed or read (Lewis & Nicholls, 2014), interviews, particularly face-to-face interviews, provide participants a direct and explicit

opportunity to articulate their own meanings and interpretations of events and their related outcomes through descriptions and explanations they provide – whether spontaneously or in answer to the researcher's questions (Lewis & Nicholas, 2014, p. 55). Therefore, it is deemed appropriate to best answer the objectives of the study.

As with all other methods, interviews have some weaknesses; one of them is that responses to interviews rely on the participant's ability to adequately recall the details of their experiences, causing a memory or recall bias. All limitations (see Table 4.1) were carefully considered, including the fact that all participants were recruited among regular commuters who commuted to and from work by public transport, and they were interviewed immediately after their trips. At the start of the interview, participants were also asked to think about a recent experience they had with a public transport service to minimise the possibility of recall bias (e.g., I would like you to think about your recent experience commuting by public transport and walk me through in detail the process you have gone through during your journey).

Table 4.1. Main strengths and weaknesses of interviews

Advantages	Disadvantages
• Open questions to elicit detailed information	• Rely on respondents' ability to accurately recall details of experience
• People express their views and thoughts in their own words	• Interviewer bias – leading and loaded questions
• Allow for clarification (e.g., probing)	• Time-consuming and can be quite expensive
• High response rate	• Requires great interviewing skills
• May be easier to reach specific individuals	

Source: Bhattacherjee (2012); Sheppard (2020)

There are three types of interviews, as shown in Table 4.2: structured, tightly scripted interviews in which closed-ended questions are asked in specific ways and sequences; unstructured, loosely guided interviews in terms of the questions and topics to be discussed; and semi-structured interviews (Roulston, 2010). In this study, semi-structured interviews were utilised, in which the interviewer refers to a prepared interview guide, but unlike the structured interview, the order of questions

may change depending on what direction the interview takes. Such a format allows the interviewer to focus on the research topics of interest, but at the same time provides flexibility to the interviewer to probe for explanations of responses, and also to the interviewee to let them tell their "stories" in their own preferred way. The fully unstructured approach, however, may be inappropriate here as it has a lack of standardisation, thereby making it more difficult for the researcher to systematically explore commonalities between responses (for example, in identifying all key touchpoints during commute, the related well-being outcomes, and potential indicators of halo effects) in comparison to structured interviews. In fact, semi-structured interviews have been commonly used by many SIT studies, particularly within the customer experience context (e.g., Halvorsrud et al., 2016; Jüttner et al., 2013; Stein & Ramaseshan, 2016), as they offer a balanced method of eliciting data from participants, allowing detail to emerge organically while still allowing flexibility in probing to explore theories during the interview process.

Table 4.2. Characteristics of a range of interviews

Characteristics	Structured interviews	Semi-structured interviews	Unstructured interviews
Interview guide	Interviewer follows scripted questions exactly	Interviewer uses a guide containing mixture of open and closed questions but may not always be asked in the same sequence	Interviewer proceeds with no formal interview guides as both interviewer and interviewee initiate questions and discuss topics during the interview
Interviewee responses	Interviewee choose responses from a range of fixed options that are provided by interviewer	Interviewee uses their own words to answer the questions, responses are guided by the interviewer's questions	Interviewee selects own terms to participate in free-flowing conversation
Structure	Asymmetrical structure	Asymmetrical structure	Possibly less asymmetrical structure
Data analysis	Data is analysed using deductive analytical methods, focusing on testing hypotheses	Data is analysed using inductive analytical methods, focusing on descriptions and interpretations of data	

Source: Adapted from Roulston (2010)

With the adoption of semi-structured interviews mentioned above, the following subsections address and discuss the sampling procedure of interviews, ethical issues that may arise, data collection methods, and data analysis.

4.2.1 Sampling

Sampling is the process by which a subset of a population is identified and selected for the purpose of a particular study, and it is typically classified into probability and non-probability. Probability sampling involves a random selection process that gives all the individuals in the population equal opportunities of being selected (Teddlie & Tashakkori, 2009). In contrast, subjects in a non-probability sample are usually selected based on the accessibility or the researcher's purposeful judgement (Teddlie & Tashakkori, 2009). Given the exploratory nature of the study and its primary goal of learning about the touchpoints of public transportation services and how those experiences relate to well-being, a non-probability sampling technique was deemed appropriate. The focus was on gaining rich information about the phenomenon of interest that apparently has been less studied in the past rather than getting a great breadth of information from a large number of samples (Bryman, 2016; Ritchie et al., 2014; Teddlie & Tashakkori, 2009).

In particular, the snowball sampling technique was employed in this study, in which a small pool of initial informants is used to nominate other informants who meet the eligibility criteria for the study (Morgan, 2008; Gray, 2014). The main advantage of using the snowball technique as opposed to other common types of non-probability techniques is the referrals provided by people who share or know of others who regularly commute to and from work by public transport, which makes them eligible for inclusion in the study (Biernacki & Waldorf, 1981). Individuals who are close at hand may have no commuting experiences by public transport, and someone who is purposefully approached at bus stations, for example, may feel bothered and inconvenienced to be interviewed. The use of "locators" in snowball sampling, therefore, helps to break down some of the natural barriers to approaching and recruiting potential participants (Biernacki & Waldorf, 1981), making the sampling process feasible and practical (Teddlie & Tashakkori, 2009).

The typical process for a snowball sampling consists of two broad steps: (1) identify one or more units in the desired population, and (2) use these units to find further units and so on until a required sample size is met (Morgan, 2008). The initial sampling unit can be selected using either a probability or non-probability approach (Goodman, 2011), but in practice, a convenience approach is typically used, for example, by sampling certain sites where members of the population are known to be frequent (Frank & Snijders, 1994). Following Morgan's (2008) guidelines, three regular commuters were selected as the initial sampling units of this study. After the initial participants have been interviewed, they are encouraged to recommend one or more referrals who they know meet the study's criteria (i.e., commute to and from work by public transportation), preferably those with different commuting backgrounds from themselves (e.g., transportation modes, travel length) to ensure a diverse sample.

While a large sample is not a requirement in qualitative research, the sampling process continued until saturation or redundancy was reached (Glaser & Strauss, 1967; Strauss & Corbin, 2008). In particular, after the completion of 15 interviews, the researcher had heard a range of commuting experiences, and patterns in the data began to emerge. An additional two interviews were conducted, and at this point it was confirmed that there was saturation in participants' responses and no new insights emerged (Charmaz, 2006; Glaser & Strauss, 1967). In total, 17 participants were interviewed over a six-week period. The sample size is deemed sufficient in comparison with similar studies on customer experiences that used a data saturation approach (e.g., Carreira et al., 2013; Stein & Ramaseshan, 2016; Yakhlef & Nordin, 2021).

Table 4.3 outlines the demographic profile of participants. The sample consists of regular users of public transport between 28 and 50 years of age, with 8 males and 9 females. Participants described their regular commutes to work as follows: nine by train, four by bus, two by subway, one by ferry, and one by both train and bus. All participants had a total journey time of 15 minutes to 2 hours, with 10 to 70 minutes spent on public transportation.

Table 4.3. Participants' Profile

Participant ID	Gender	Age	Transportation Mode	Duration during journey	Total length of journey
P1	Female	38	Bus	10 minutes (Bus 1), 10 minutes (Bus 2)	25–40 minutes
P2	Female	30	Train	12 minutes	20 minutes
P3	Male	36	Train	10–18 minutes	25 minutes
P4	Male	39	Train	50 minutes	60 minutes
P5	Female	35	Train	5 minutes (Train1), 1 hour (Train 2)	1 hour 30 minutes
P6	Male	36	Train	35 minutes	45 minutes
P7	Male	28	Train	40 minutes	55 minutes
P8	Female	48	Bus	60 minutes	65 minutes
P9	Female	37	Train, Bus	45 minutes (Train), 25 minutes (Bus)	1 hour 20 minutes
P10	Female	34	Subway	10 minutes	15 minutes
P11	Male	28	Bus	10 minutes	20 minutes
P12	Female	36	Train	52 minutes	65 minutes
P13	Male	37	Train	10 minutes	30 minutes
P14	Male	33	Bus	12 minutes	15 minutes
P15	Female	35	Train	40 minutes	1 hour 15 minutes
P16	Male	50	Ferry	35 minutes	2 hours
P17	Female	40	Subway	10 minutes	25 minutes

4.2.2 Ethical Considerations

Considering the nature and scope of the study, ethics is considered relatively low risk. However, a number of good ethical practices were considered, and the corresponding actions were made and approved by an ethics committee of the University of Strathclyde before the fieldwork began.

Firstly, it is ethical for participants to know what they are involving themselves in and what they are expected to do in any investigation (Gillham, 2005). Hence, the researcher provided every participant with sufficient information, firstly when contacting them in relation to the interviews and, secondly, before the interviews began. A copy of the participant information sheet (see Appendix 1) was provided prior to each interview, enclosing a brief description of the purpose and process of the interviews. Before the interview started, all participants were informed that a digital recorder was being used to record the interviews for transcription purposes.

Secondly, in terms of data protection, participants were well-informed that all documents and electronic files are securely stored in lockable cabinets and on password-protected electronic devices where only the researcher has access to them. The privacy and confidentiality of participants will be maintained throughout the study, as will the anonymity of their responses, in which no individual's identity will be disclosed. To ensure that all of these ethical considerations are understood, a written consent form was then needed to be completed by each participant before the start of data collection (see Appendix 2).

Lastly, to ensure the safety and well-being of the participants, several measures were taken. This includes conducting the interviews at venues that were mutually agreed upon by both the researcher and the participants, mainly in public settings such as cafés and restaurants, to ensure safety and comfort, as well as sufficient privacy to audio-record the interviews without interruption. The interviews were also scheduled around times that suited the participants. About 45 minutes were allotted for each interview to avoid an undue burden on participants (Webster et al., 2014), although the duration could be extended if participants wished. The researcher must also ensure that participants feel valued and respected at all times, without passing judgement on what they say.

4.2.3 Interview Protocol Development

Semi-structured interviews are normally guided by a list of pre-determined questions called an interview protocol. The interviewer needed to address the questions in the interview protocol in a flexible manner "to ensure consistency between interviews and thus increase the reliability of the findings" (Boyce & Neale, 2006, p. 5). The interview protocol for this study consists of three main sections: opening questions, main questions around key topics, and closing questions. The opening section served as an introduction to the interview, enabling the researcher to establish an initial rapport with participants (Easterby-Smith et al., 2015; Ritchie et al., 2014) by welcoming them, mentioning the purpose of the interview, and asking for their consent. The main section of the interview focused on key issues related to customers' commuter backgrounds, experiences at typical touchpoints during

commuter journeys, the overall experience, the resulting well-being, and finally experiences on the critical journey. In the closing sections, participants were asked if they would like to have a copy of the interview transcript, and finally, they were thanked and asked if they had anything to add.

Table 4.4 shows that most of the interview questions, especially in the main part of the interview protocol, were based on the research questions and key topics suggested by different sources. These questions were also developed in accordance with the sequential incident technique (SIT), the approach that was utilised to obtain detailed descriptions of all touchpoints of the customer experience journey (Stauss & Weinlich, 1997). Subsequently, participants were asked to recall and describe all typical interactions or touchpoints that they sequentially encountered in the course of their recent commuting journey with public transport. For example, in the case of a commute to work, the touchpoint could begin when the participant leaves home for the departure point (pre-journey), continue with the experiences on public transportation (during the journey), and end when the participant arrives at the destination point (post-journey). Participants were asked to provide a detailed account of their experiences and perceptions towards each touchpoint. Probing questions were also used when necessary in order to get more detailed information from the participants. These fundamental steps were in line with the SIT (Stauss & Weinlich, 1997) and have been applied by a number of customer journey studies (e.g., Stein & Ramaseshan, 2016).

The interview protocol was also constructed and cross-checked for suitability by the research supervisory team. Besides, an overall iterative approach was applied, where the instrument was progressively refined from one interview to the next in order to adapt questions and allow for emerging themes to be incorporated (Yeo et al., 2014). The interview protocol is presented in Appendix 3.

Table 4.4. Overview of the Interview questions

Key topic	Sub-topic	Description	Literature source
Customer journey	Customer experiences at typical touchpoints of customer journey	Customers' reflection of different stages and touchpoints of commute	Lemon & Verhoef (2016); Pareigis et al. (2011); Stauss & Weinlich (1997); Stein & Ramaseshan (2016)
	Customer overall experience	Customers' overall evaluation of the experience	Berry et al. (2002); Halvorsrud et al. (2016); Lemon & Verhoef (2016)
	Critical journey	The significant aspects of the journey that may change the experiences of certain touchpoints and the overall experience	Bitner, Booms, & Mohr (1994); Bitner et al. (1990)
Customer well-being	Well-being outcomes related to commuting	Customers' perception of the extent to which daily commuting experiences matter to their lives and well-being	Anderson (2010); Anderson et al. (2013); De Vos et al. (2013)

4.2.4 Data Collection

Interviews were conducted in Scotland, United Kingdom, between October and November 2017. Interviews were conducted in person, mostly at public places as agreed by both the researcher and participants, including university premises, cafes and restaurants, to ensure the whole process of the interviews was comfortable and safe. A total of 17 participants participated in the semi-structured interviews; each session lasted between 30 and 65 minutes, with an average of 40 minutes.

At the beginning of the interview, a participation sheet was provided to the participant, introducing the purpose of the research, the format and the anticipated length of the interview. A written consent was then collected from the participant (see Appendix 2). The interview typically began with general questions about participants and their commuting backgrounds. To minimise the possible recall bias, participants were asked to think about a recent experience they had with a public transportation service. In line with the SIT, participants were then asked to recall and describe all typical touchpoints that they remembered throughout the commute. Next, participants were asked about commuting life in general and how it affects their work and home lives, as well as their well-being. Finally, participants were asked to recall and describe any critical journey either good or bad, that they remembered. All

interview responses were recorded using a digital voice recorder with the consent of participants and transcribed verbatim by the researcher immediately after each interview. The demographic profile of participants is presented and discussed in Section 4.2.1 (i.e., Sampling).

4.2.5 Data Analysis

A thematic analysis was used in this study to identify patterns of themes in the interview data. In using thematic analysis, the guideline by Braun and Clarke (2006) was followed, encompassing several phases that take the researcher from familiarisation with the data, through the development of codes and themes using an iterative process, and finally to being able to tie the themes to the broader picture within the literature (see Table 4.5). QSR NVivo 11 was used throughout these phases of analysis to efficiently aid in managing the data, particularly during coding and theme development where it made it easy to create hierarchies within the node sets, to organise and sort nodes into broader themes, and to make the retrieval of data quicker and more systematic than the manual approach.

Table 4.5. Phases in Thematic Analysis

Phases	Description
Familiarisation with the data	Reading and re-reading the data, to become immersed and intimately familiar with its content.
Coding	Assigning codes to your data that might be relevant to answering the research question. Coding the entire dataset, and then, collating all the codes and all relevant data extracts.
Generating initial themes	Examining the codes and their associated extracts and trying to identify significant broader themes.
Reviewing themes	Checking the themes against the dataset to determine whether or not they tell a convincing story of the data, and one that answers the research question. In this phase, themes are typically refined, which sometimes involves them being split, combined, or discarded.
Defining and naming themes	Choosing an informative name for each theme and identifying the scope and focus of each theme.
Writing up	Weaving together the analytic narrative and data extracts, and contextualising the analysis in relation to existing literature.

Source: Braun & Clarke (2006)

Firstly, the audio files obtained from the interviews were uploaded and transcribed directly into the NVivo programme, and the researcher then read through the interview transcription and marked preliminary ideas for codes by taking notes. Accordingly, the researcher assigned codes to the entire dataset, collating all pieces of data (i.e., quotes) that were relevant to the research questions and labeling them with particular codes. The researcher examined data and inductively assigned codes from the raw data during the coding process, allowing the researcher to open up and consider new concepts that may be relevant to the phenomenon of interest. The focus was on breaking up data into discrete parts and labeling them with codes without trying to fit it into a pre-existing coding framework.

Following the coding phase, the codes were sorted and collated into broader themes, mainly using axial coding. That means, the codes that initially emerged using open coding would gain further scrutiny during axial coding by being compared to identify similarities, relationships and distinct differences, thus building the codes into higher-order conceptual constructs or themes (Corbin & Strauss, 2015; Miles & Huberman, 1994). At this stage, the themes were mainly generated deductively from literature; for example, the codes "employees", "environment of vehicle" and "provider processes" were combined into a broader theme called "brand-owned touchpoints", reflecting the interactions during the experience that are designed and managed by the firm and are under the firm's control.

The aforementioned process of analysing and organising data was discussed by Gioia et al. (2013) as 1st- and 2nd-order analysis. While the aim of the 1st-order analysis is to adhere faithfully to informant terms (informant-centric), the 2nd-order analysis is related to the theoretical realm, focusing on organising 1st-order codes into 2nd-order themes (theory-centric). The emergent 2nd-order themes can be further purified into 2nd-order aggregate dimensions. On the basis of the 1st- and 2nd-order analyses, this study developed a data structure – a graphic representation of how the qualitative data was rigorously analysed, as suggested by Gioia et al. (2013). Figure 4.1 illustrates the data structure of typical touchpoints during the commute.
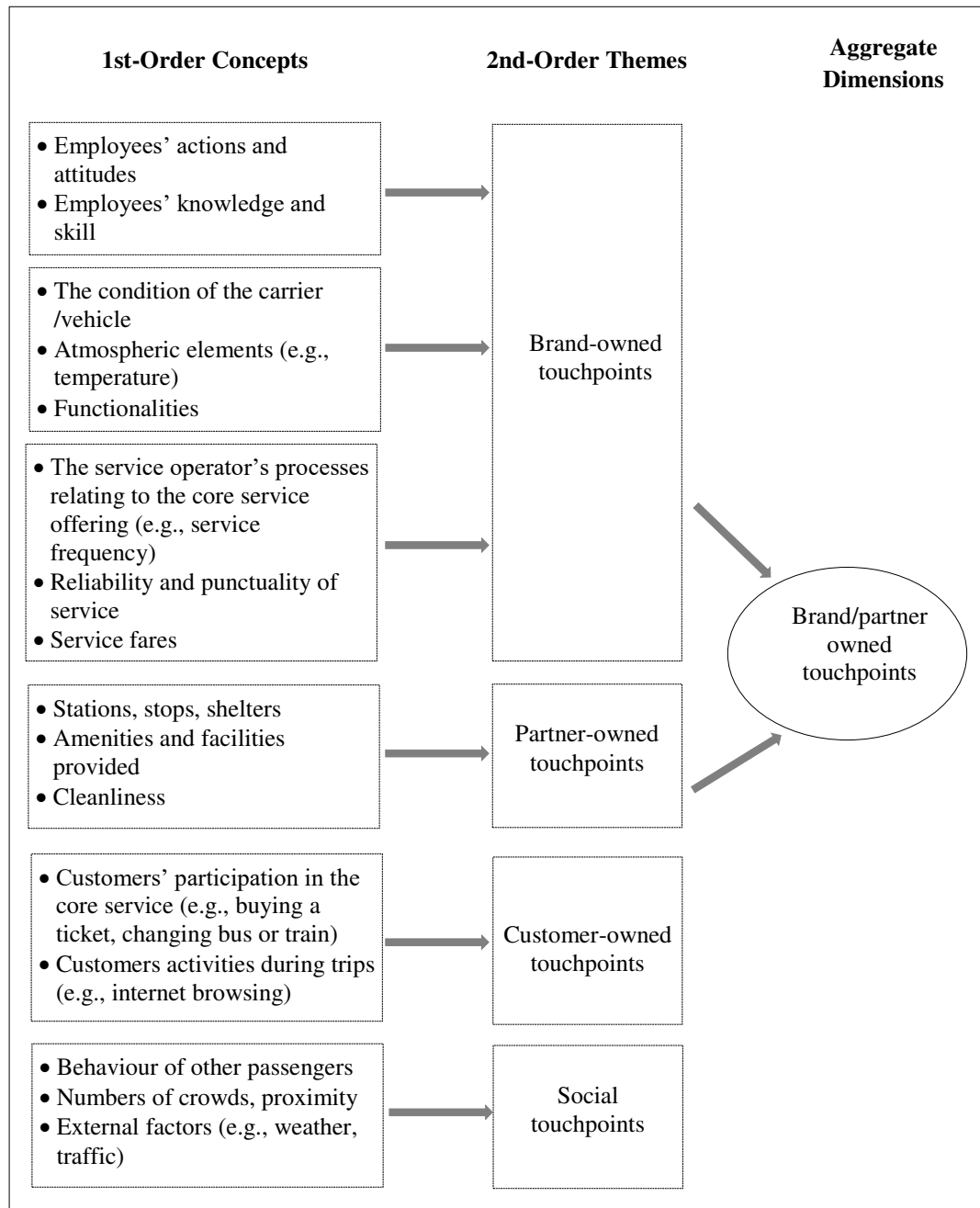
Figure 4.1. Data Structure of Touchpoints of Customer Experience

Next, the themes that were previously identified were reviewed and refined to ensure all the extracts related to the codes supported the theme, and to consider if there was uncoded data that may fit into particular themes or if there were themes

that had been missed. This whole process was essentially an iterative one where the researcher went back and forth between themes, codes, and extracts until all of the data had been coded and data within themes cohered meaningfully (Braun & Clarke, 2006). Once no new themes emerged and theoretical saturation was achieved (Glaser & Strauss, 1967; Strauss & Corbin, 2008), a clear name and description were then defined for each theme.

The coding was cross-checked with three doctoral researchers from Strathclyde Business School. An electronic document with a list of codes and illustrative interview quotes was sent, and they were asked to match the interview extracts with the codes (see Appendix 4). The coding exercises indicate an agreement on coding as "two or more coders agree on codes" used during analysis (Creswell, 2014, p. 203). The final coding framework was also sent to the supervisory team for their review. Comparing the results of coding strategies developed by independent researchers may enhance rigour, both in examining the data and in providing an account of how an analysis was developed (Guest et al., 2014).

The following section presents and discusses the findings of the thematic analysis. It encompasses three main parts related to typical touchpoints of commute, halo effect indicators, and well-being outcomes.

4.3 Findings and Discussion

As mentioned in Section 4.2, 17 regular public transportation passengers were interviewed in person, and detailed descriptions of various touchpoints throughout the daily commute, as well as the subsequent well-being outcomes, were collected using the SIT. In this section, the findings of the interview data are presented and discussed, addressing objectives 1–3 of this thesis. The findings are structured into three sections. The first section describes different touchpoints that customers encounter during the commute and how the touchpoints form and contribute to the customer experience. Along with the findings that customer experience touchpoints are connected rather than isolated, the second section discusses the potential

occurrences of the halo effect within customer experience touchpoints. Finally, the last section discusses the findings related to well-being outcomes.

4.3.1 Typical Commuting Touchpoints

This section documents distinct touchpoints of everyday commuting journey, considering – as contemporary research conceptualises (e.g., Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015) – how customers perceive and respond to multiple touchpoints along the customer journey. Using thematic analysis (see Section 4.2.5 Data Analysis), a detailed understanding of customers' experiences of public transport service and key aspects of different commuting touchpoints were analysed and coded as first-order concepts (i.e., participant-centric). Building on this, three theoretically driven themes of touchpoints, namely brand/partner-owned touchpoints, customer-owned touchpoints, and social touchpoints (Lemon & Verhoef, 2016), were subsequently discovered. These are all discussed below.

4.3.1.1 Brand/partner-owned touchpoints

The interviews revealed that key commuting touchpoints were most often associated with *provider processes*, *employees* and *the physical environment of vehicle*. Most interviewees found these touchpoints to be influential in their commuting journeys, describing how much their experiences are influenced by touchpoints that are largely beyond their control (e.g., service punctuality, an employee's attitude).

Participants linked provider processes to how a service provider delivers and manages the core service, such as service punctuality and reliability, connections with other modes of public transportation, and service fares. Customers specifically highlighted the importance of *reliability* and *frequency of services* and indicated that the *provision of real-time information* by transport providers helped to mitigate any negative consequences of the commuting experience, especially in cases of delay. For example:

"It is annoying to me when the train is always late. The train was supposed to stop at my station, but it didn't and just passed [through the station] and kept going" (Participant 3, Train).

"The bus runs every 15 to 30 minutes during the day, but in the morning, it comes every 10 minutes. For me, it is frequent enough" (Participant 11, Bus).

"I'll normally check the app before I leave home. Let's say I know the train is coming in two minutes, so I will get to the train station on time. Or, if the train is delayed, I'll probably go and grab some coffee first" (Participant 15, Train).

Additionally, as often noted in the service experience literature (e.g., Dagger et al., 2013; Grace & O'Cass, 2004), touchpoints with service employees are crucial in influencing the customer experience. In the interviews, characteristics of employees, especially their *behaviour* and *attitude* towards customers, were even described by participants. Behaviour such as greeting and smiling can positively affect the experience of commuting, and a pleasant experience was described when a customer encountered helpful and friendly employees. Participant 2 (Train), for instance, mentioned that *"staff at the ticket counter are always pleasant and friendly to me, and helpful too"*.

In different instances, participants connected negative touchpoints with *unfriendly* and *unhelpful employees* to negative experiences. Participant 8 (Bus), for instance, mentioned that *"I feel frustrated, irritable, and angry sometimes if I get a really rude driver"*. Other participants also mentioned a lack of consideration shown by service employees, which resulted in a negative experience:

"The staff was arguing with me about returning a ticket [that I lost]. I felt extremely frustrated, and it became quite insulting that I would lie over something worth £1.90" (Participant 13, Train).

"It can be frustrating sometimes when you get on the bus and the driver doesn't wait until you have a seat before they drive off" (Participant 8, Bus).

In terms of the physical environment of the vehicle, participants described how elements such as *cleanliness*, *appearance*, and *atmosphere* (e.g., temperature, noise level) impacted their commuting experiences. For instance:

"The train is typically quite clean and tends to be quite warm, especially in the summer. I am quite lucky too, because there are a lot of seats" (Participant 7, Train).

"Sometimes there is quite a lot of litter on the train, and it can be worse when travelling later at night" (Participant 6, Train).

"Bus seats are too cramped and often too close together; it is not that comfortable" (Bus, Participant 8).

In addition to the atmospheric elements (e.g., cleanliness) that have been widely studied in the transport literature (e.g., Carreira et al., 2013, 2014; Pareigis et al., 2011), participants also mentioned other important aspects of the vehicle environment. This includes *vehicle functionalities*; for instance, *"I suppose the train itself could be better because there were times when the doors, for example, didn't function [properly]"* (Participant 6, Train). Some participants also mentioned that the provision of free Wi-Fi has added value (e.g., allows them to work on the go) and improves the passenger experience:

"It is good that my train has free Wi-Fi. This is a wonderful thing the ScotRail provides by the way. It is an amazing service; I love it" (Participant 9, Train).

"I always travel with my laptop, so I either work on the stuff that I already have on my computer or get online using the Wi-Fi that is available on the train. So, I connect to the Wi-Fi, and I'll do some works like checking emails" (Participant 12, Train).

Theoretically, the aforementioned touchpoints, such as provider processes, the physical environment, and employees, are owned and managed by transportation companies as the focal providers, and thus deductively defined as brand-owned touchpoints (Lemon & Verhoef, 2016). The interviews also provide a useful insight into key aspects related to brand-owned touchpoints in public transportation settings, revealing how interactions with these touchpoints contribute to their daily commute experiences. Furthermore, the findings, which are consistent with other related studies (e.g., Carreira et al., 2013; Pareigis et al., 2011), emphasise the importance of brand-owned touchpoints such as provider processes, employees, and the physical environment in influencing customers' commuting experiences, most likely because customers feel they have much less control over those touchpoints.

Along with the brand-owned touchpoints, the interviews also revealed that customers encountered touchpoints with an external partner, involving *stations* or *stops* as well as *infrastructure*, which can give a whole different experience to their commuting journey. One participant noted that their destination station has a number of retail outlets where they can buy something quickly en route, adding convenience to the daily commute. For instance:

> *"Stations are pretty good. There are several coffee shops and restaurants, and there is also a small Sainsbury's, which is also pretty convenient. Overall, I think the amenities are good" (Participant 12, Train).*

Participants also noted the importance of well-maintained stations or stops, mentioning that the *environment* and *facilities* in and around stations have an impact on the commuting experience.

> *"It's a very basic, old-fashioned station. Each platform has a shelter with a row of seating, and it's fairly tidy" (Participation 15, Train).*

> *"The station has limited facilities; there is only a combination of a staircase and ramp, which is not very convenient for anyone with a pushchair or wheelchair" (Participation 4, Train).*

Previous research has been criticised for focusing on touchpoints with focal providers and neglecting the role of external partners in examining the customer experience (Becker & Jaakkola, 2020; Tax et al., 2013). The interviews provide an interesting insight on the salient partner-owned touchpoints during the commute. Theoretically, Lemon and Verhoef (2016, p. 77) conceptualise partner-owned touchpoints as "customer interactions during the experience that are jointly designed, managed, or controlled by the firm and one or more of its partners". Furthermore, the findings agree that "the line between brand-owned and partner-owned touchpoints may blur" (Lemon & Verhoef, 2016, p. 77). This is because the interviews show that customers did not typically distinguish between brand- and partner-owned touchpoints, and thus both being conflated in Study 2 as brand/partner-owned touchpoints.

4.3.1.2 Customer-owned touchpoints

The interviews suggest that the prioritisation of public transport companies on running their services on time and without disruption may no longer be sufficient, as the view has expanded to include customers having a range of personal touchpoints they encounter during the commute. In particular, participants mostly associated such touchpoints with the *involvement in service-related activities* (i.e., customer processes) and *personal activities* that customers undertake during the commute.

Participants mentioned that service-related activities such as *buying tickets* and *changing buses* or *trains* were performed as part of the service process. While these may seem routine and repetitive in the context of daily commuting, the findings confirm that involvement in the service process impacts customer perception and evaluation of service experiences (Xie et al., 2020). Participants felt that they are capable of performing particular tasks, such as using the *self-service ticketing machine*, and described how their involvement allows them to feel in control of their journey and positively influences the service experience. For instance:

> *"I usually buy my ticket at the self-service machine because it is way more convenient and faster than going to the ticket counter and having to wait in line" (Participant 9, Train).*

> *"Once there [the connecting station], I just crossed the road and got the second bus from there. It was straightforward, actually" (Participant 1, Bus).*

Participants also referred to how they spent their time during the journey – for example, *listening to music*, *reading*, or *browsing the internet* – and how these impacted the broader experience. Other participants also described how people, particularly on the long-distance journey, could use their commute to extend their working day and become more *productive*:

> *"During the ride, I normally just sit down, put the earphones on, listen to the songs, and read books. If I am not reading, I will just look out at the window and spend the journey changing songs" (Participant 7, Train).*

> *"I would try to get things done, like checking emails or stuff that is not related to work that needs to get done. On the way home, I typically continued working for a*

while just to get more work done, and it was quite a good time to get uninterrupted working time" (Participant 5, Train).

Theoretically, Lemon and Verhoef (2016) conceptualise the customer actions during the entire customer journey as "customer-owned touchpoints" over which the service provider, its partners, or others have less control. The interviews, moreover, provided detailed evidence of different customer-owned touchpoints within a commute setting and how they impact the everyday commute experience. Previous research might relate customers' touchpoints to the classic customer participation during service delivery processes where all that is required is the customer's presence with some minimal roles such as buying tickets and changing trains (e.g., Bitner et al., 1997; Kwortnik & Thompson, 2009). While the effect of such participation on the customer experience was supported, the interviews also showed that customers contribute to the service experience through their personal activities, for example, by working productively on laptops or simply by browsing the internet. Perhaps the findings align with existing research that shows that improving IT support, such as wireless networks and charging points for laptops and mobile devices, is not optional but necessary because it increases the utility of the commute for modern commuters, thus positively influencing the overall service experience (Ettema et al., 2012; Mokhtarian & Salomon, 2001b).

4.3.1.3 Social touchpoints

In terms of social touchpoints, participants mentioned how *fellow passengers* influence the service experience, either directly through interpersonal interaction or indirectly through their use of the service environment—for instance, by leaving garbage behind or taking up a seat with their bag. Participant 17, in the interview, commented that:

> *"Some passengers are really selfish; they, for instance, put their bags on the seats, and then someone has to ask for the seat" (Participant 17, Subway).*

One participant also mentioned that she *"gets annoyed when passengers talk or play personal stereos so loudly that they disturb everyone"* (Participant 8, Bus). Behaviours of this kind can (intentionally or unintentionally) create unpleasant feelings, impacting negatively on the commuting experience. Additionally, *overcrowding* is one of the most pressing issues facing the UK public transport, as mentioned by the Royal Society for Public Health (2016), and participants in the interviews described how uncomfortable the daily commute was without a seat, often in a highly crowded carriage. In line with some findings within the transport literature (e.g., Carreira et al., 2013; Zhang et al., 2010), participants also revealed that the companionship of someone or an acquaintance can positively affect the commuting experience, for instance, by reducing the perceived travel time:

> *"You can be happy and laugh if you meet a friend or someone that you know that can pass the time"* (Participant 8, Bus).

> *"Sometimes when I travel during peak hours, the train can be very crowded, you have no chair, and you have to stand too close to each other. That was not a pleasant experience"* (Participant 13, Train).

Taken together, the findings support the idea that service experiences are influenced by a myriad of touchpoints across the customer journey (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). This study explored in detail different touchpoints of public transport service and how these typical touchpoints contribute to the everyday commuting experience, therefore providing an elaboration on Lemon and Verhoef's (2016) conceptual model of customer experience. While brand/partner-owned touchpoints were largely mentioned by participants as crucial to their service experiences, the account of customer-owned and social touchpoints supports a broader view of the service experience beyond what the organisation delivers. This is crucial because public transport research and practitioners have traditionally focused on the core (e.g., reliability) and technical aspects of the service (vehicle design) (e.g., Hine & Scott, 2000; Pareigis et al., 2011), but tend to overlook the social and personal aspects of customers. Participants, for example, commented how *"passengers at times were forced into overly close proximity even when the vehicles were far below the*

passenger capacity" (Participant 14, Train). Additionally, another aspect that has been previously ignored by transportation companies but contributes significantly to the customer experience is how to manage the uncontrollable touchpoints – customer-owned and social touchpoints. The interviews show that provision of travel information and installation of the internet in trains and stations, for example, are what transportation companies can do to mitigate the negative consequences of customer-owned and social touchpoints on the commuting experience, making public transportation a lot more attractive. Afterwards, the findings on indicators of the halo effect are presented and discussed.

4.3.2 Halo Effect Indicators

Identifying different touchpoints along the customer journey has demonstrated how dynamic and interconnected these touchpoints are when forming the customer experience. This study accordingly investigates the dynamic phenomenon of customer experience through the halo effect theory, responding to calls from Lemon and Verhoef (2016) and McColl-Kennedy et al. (2015). As outlined in Section 2.4, prior marketing and service research has linked halo effects to customers' perceptual biases in evaluating brand (e.g., Bendixen, Bukasa, & Abratt, 2004; Gilbride et al., 2005; Leuthesser et al., 1995); products (e.g., Bertini, Ofek, & Ariely, 2009; Folkes & Matta, 2004), stores (e.g., Wu & Petroshius, 1987), and satisfaction (e.g., Garnefeld & Steinhoff, 2013; van Doorn, 2008). However, this study is one of a few empirical studies to investigate indicators of the halo effect within customer experience framework, exploring different occurrences of halo effect within different types of service experience touchpoints. Analysis of the interview data revealed four theoretically driven themes of halo effect indicators across various touchpoints of the commuting experience, namely spill-over, cross-over, and personal halo effects.

4.3.2.1 Spill-over effects

The interviews revealed that some touchpoints are salient and influential in the evaluation of other touchpoints and the overall service experience. Participants associated this with brand/partner-owned touchpoints such as *employees*, the *physical environment of the vehicle*, *provider processes,* and *departure points,* as these touchpoints are key to commuting experiences (Transport Focus, 2020), yet customers have a low degree of control over them. Participant 15 (Train), for instance, mentioned that *"what made it a pleasant journey is when the train arrived on time, no delays or major disruptions happened, and I arrived at work on time".* Another participant also described how certain touchpoints dominate her perception of the subway, although the level of cleanliness is equal: "*For me, the important aspects are punctuality and accessibility. These are the main reasons why I prefer the subway over trains and buses. But in terms of cleanliness, you could say they are all the same"* (Participant 17, Subway).

Such examples demonstrate some degree of distortion or halo that coloured the experience of other touchpoints, and thus the overall experience. Existing research on halo effects has linked this phenomenon to spill-over effects, which indicate how evaluation or perception of one attribute influences evaluation or perception of another within the same level (i.e., intra-level interactions within an organisation, individual, or brand) (Borah & Tellis, 2016; Dagger et al., 2013; Westman, 2001, 2002). In the context of customer experience touchpoints, the intra-level of interactions happens within brand-owned touchpoints, and this is where spill-over effects might happen. Additionally, in line with Wirtz (2003), spill-over effects often involve one or more salient attributes (in this case, the salient touchpoints are owned and managed by the transport provider and partners), resulting in the tendency for a customer to be dominated by the perception of those touchpoints when evaluating other touchpoints during the commute. The findings therefore presume that spill-over effects are likely to affect customer experience, especially by haloing or distorting customers' evaluation of transport service through one or more of the brand/partner-owned touchpoints.

4.3.2.2 Cross-over effects

The above findings have suggested that spill-over effects are related to the perceptual distortions that derive from brand/partner touchpoints. Cross-over effects, conversely, relate to the perceptual distortions that derive from one or more other distinct touchpoints along the customer journey, probably due to the failure of customers to differentiate such distinct and potentially independent touchpoints (cf., Fisicaro & Lance, 1990; Saal et al., 1980; Wirtz, 1996, 2003).

During the interviews, the participants revealed how the perception of certain touchpoints crossed over and impacted other touchpoints, and in turn, the overall service experience. Customers often associate this with social touchpoints, for instance, when a fellow passenger *speaks too loudly on a mobile phone* or *takes up too much space* (Participant 8, Bus). Participant 8 furthermore commented that *"if there are no annoying passengers, I can just sit back and relax, and the journey would be favourable"*, demonstrating how the distortion of perception could happen when evaluating the commuting experience, and particularly how it could be derived from an interaction with fellow passengers (directly and indirectly).

Previous research has shown that the cross-over effect can occur when an individual is unable or unwilling to differentiate between dimensions that are distinct and potentially independent (Fisicaro & Lance, 1990; Saal et al., 1980; Wirtz, 1996, 2003). In the case of social touchpoints, although they are distinct from the core service touchpoints (e.g., employees, vehicles), and the behaviour of other passengers during the service process is not under the complete control of the firm, it takes place in the same service environments that could be misinterpreted by customers, thus creating the cross-over halo effect. The interviews therefore provided further evidence to the existing literature related to the cross-over effect (Mittal et al., 1999), implying the possible cross-over effect of social touchpoints on other distinct touchpoints (e.g., brand/partner-owned touchpoints). The findings also revealed that, as previously stated in the literature (e.g., Moore et al., 2005; Wu, 2007; Zhang et al., 2010), interaction with fellow customers not only influences overall service evaluations and other outcomes (e.g., firm satisfaction, loyalty, word-of-mouth), but may also distort perceptions towards other touchpoints along the customer journey.

4.3.2.3 Personal halo effects

The study also found that customers' evaluations or perceptions of public transport services can be influenced by their experiences of personal touchpoints during commuting, where participants related to their involvement in the service process (e.g., *buying tickets, changing buses/trains*) and activities undertaken during the journey (e.g., *reading*, *internet browsing).* For instance, Participant 9 (Train) mentioned that *"actually, it is easy to get the train, it is not hard… Even if it doesn't come on time, it still comes every 15 minutes. To be honest, what makes it favourable is that I listen to a lot of music nowadays because of the time that I have on the train and read a lot of the Bible, which is making my life better".* Another participant also commented that, what made his experience favourable was that *"it gives some space to just put the earphones on and organise my diary, which do you not necessarily get to do in busy times"* (Participant 4, Train). Such examples indicate a degree of distortion or bias that resulted from customer-owned touchpoints (i.e., personal halo), positively altering the overall service experience and perhaps the perception of well-being. However, to date, there has been relatively little investigation of the personal halo as compared to spill- and cross-over effects. Personal halo is similar to the general impression model in that the source of halo is associated with individual perception or evaluation (Fisicaro & Lance, 1990; Wirtz, 1996), for example, a customer who likes the Japanese brand may tend to view all the product's attributes as excellent. However, since the perception or evaluation was primarily centred on customer personal touchpoints, which could change or distort the customer experience of service touchpoints, it is deemed appropriate for this study to assume the possibility of a personal halo.

Overall, data has, therefore, provided empirical evidence of the interconnection between service experience touchpoints, as conceptualised by some recent studies (Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). Another useful insight from the interviews is the possibility of halo effects occurring within such multiple connected touchpoints of the customer experience – an important area that has received little attention in business research. The key finding is that different

indicators of halo effects inherently emerge from different types of customer experiences touchpoints, and by understanding such specific roots of perceptual distortions or biases within customer experience, it helps business researchers and practitioners to better design and manage customer experiences. Table 4.6 provides illustrative quotes from the interviews for different types of halo effects.

Table 4.6. Halo Effects and Sample Interview Quotes

Types of halo effects	Definition	Sources	Sample quotes
Spill-over effects	Occurs when customers' evaluations are biassed by the perceptions they have on one or more particular attributes, often involving intra-level interactions within an organisation	Borah & Tellis, (2016); Dagger et al. (2013); Westman (2001, 2002)	*"For me, the important aspects are punctuality and accessibility. These are the main reasons why I prefer the subway over trains and buses. But in terms of cleanliness, you could say they are all the same"* (Participant 17, Subway)
Cross-over effects	Occurs due to the inability or unwillingness of an individual to distinguish differences between dimensions that are distinct and potentially independent, particularly when different organisations collaborate in delivering the service	Fisicaro & Lance (1990); Mittal, Kumar, & Tsiros (1999); Saal et al. (1980); Wirtz (1996, 2003)	*"If there are no annoying passengers [who, for example, speaking too loudly on a mobile phone* or *taking up too much space], I can just sit back and relax, and the journey would be favourable"* (Participant 8, Bus)
Personal halo effects	Occurs when people evaluate certain attributes based on their personal impression (personal related factors)	Fisicaro & Lance (1990); Wirtz (1996, 2003)	*"Actually, it is easy to get the train; it is not hard… Even if it doesn't come on time, it still comes every 15 minutes. To be honest, what makes it favourable is that I listen to a lot of music nowadays because of the time that I have on the train and read a lot of Bibles, which is making my life better"* (Participant 9, Train)

4.3.3 Well-being Outcomes

The everyday commute to and from work has the potential to affect customer well-being in various ways. The analysis revealed three well-being outcomes – psychological, physical, and social – in the commuting experience. The interview

data provided insight into how customers perceive their well-being in relation to the commuting experience, particularly how service experience touchpoints influence each well-being outcome.

4.3.3.1 Psychological well-being

Psychological well-being refers to the positive mental states of individuals, and the evidence suggests that both hedonic and eudaimonic states were affected by the commuting experience (Anderson et al., 2013). Hedonic well-being was associated with emotions or affective reactions, where both positive and negative responses were mentioned. For instance, Participant 3 (Train) mentioned that "when *the train is on time, and I get to the workplace in time, I am happy"*. Another participant, however, described commuting as a daily hassle because of the various touchpoints that she had to encounter every day: *"I think commuting can be quite stressful… There is a rush to meet at a certain time to get on the train, to get a seat, to know anyone else, and to try not to sit next to someone that is noisy. It can be quite stressful just trying to negotiate all the commute issues"* (Participant 15, Train). Participant 8, a regular bus passenger, also mentioned disappointment towards particular service touchpoints that negatively impacted the mood during and after the journey:

> *"On the cold and wet morning, when I was stuck on the bus with noisy people... I felt quite unwell when I got to the office. It can make me grumpy. I try not to let it affect my day, but probably when I first get in, I sort of complained to my colleague about my journey"* (Participant 8, Bus)

Affective responses such as the *enjoyment* of having the opportunity to do certain things while commuting (e.g., reading, listening to music) and the *unfavourable feeling* that was triggered by the inconsiderate behaviours of other passengers were also mentioned by participants:

> *"It is nice to be able to have that time in the morning, just get on the train and switch off or read a book or something"* (Participant 7, Train)

> *"When you meet inconsiderate people in the subway, eating and leaving trash on the seat, you can feel annoyed and angry"* (Participant 17, Subway)

Additionally, participants acknowledged effects on eudaimonic well-being in describing how their daily commute contributed to a *broad sense of purpose*. For instance, Participant 1 noted that:

> *"I liked passing through the coffee shops and the early morning rush at Central Station. It gives me a feeling of being awake and starting the day, and everybody is getting ready to go to the office. I like the feeling of doing something, like going to university"* (Participant 1, Bus).

Some participants also referred to productive time while commuting, such as *checking emails* or *working on laptops*, highlighting that such activities made the commute more worthwhile and less likely to be perceived as wasted. For instance, Participant 5 (Train) mentioned that *"the best thing about commuting is that it provides a much-needed opportunity to get things done like checking emails or other stuff that is not work-related. On the way home, I typically continue working for a while just to get more work done, and it's quite a good time to get some uninterrupted working time"*.

Some participants commented about their positive views of the involvement in their service process, such as planning the journey, and perceived this as part of the service process. For instance, typical descriptions by participants on this matter were: *"Travel on public transport can be easy if you do it frequently and you don't have to plan"* (Participant 5, Train); *"The train is every half an hour and I normally plan my journey around this. Sometimes, when I had a meeting, I rushed for the train. Otherwise, I am quite happy to stay, you know, wait 20 minutes for the next train"* (Participant 4, Train).

Some participants also mentioned that they did not mind taking part in activities like getting the ticket from the machine to minimise waiting time and feel more in control. For example: *"I usually buy my ticket at the self-service machine because it is way more convenient and faster than going to the ticket counter and having to wait in line"* (Participant 9, Train). Participants also mentioned that customer roles in the service process (e.g., *getting a ticket, changing buses/trains*)

allow them to achieve purpose and meaning in daily life, thereby enhancing their sense of eudaimonia (Cooke et al., 2016; De Vos et al., 2013; Ryan & Deci, 2001).

4.3.3.2 Physiological well-being

The findings indicated that participants associated the commuting experience with physiological well-being outcomes. For example, some participants regarded commuting as part of an active lifestyle, especially when the journey also involved walking or cycling at the beginning or end: *"I think I am lucky because my journey is quite a relaxing one, and I like the fact that I get to walk, say 10 to 15 minutes walking every day, without going to the gym. Whereas when I was driving, I realised I had put on weight"* (Participant 4, Train).

However, others commented about detrimental effects on physical health, highlighting that some commutes require service interchange that commuters normally see as a chore or an extra thing to worry about, or require a significant amount of sitting, leaving them feeling physically exhausted by the end of the journey:

> *"It seems simpler to just get one train… The train to Balloch leaves every half hour. Although my first train is quite frequent – every 15 minutes – if I miss it, I have to wait another half hour for the second one. The waiting time in between is quite exhausting, so I try to avoid it"* (Participant 5, Train)

> *"I am not as active as I used to be because I commute more now. Again, sitting down and not walking that much is quite bad for my well-being"* (Participant 15, Train).

Additionally, aspects of the service environment such as poorly designed seating or an uncomfortable atmosphere were also mentioned to detrimentally affect physical well-being: *"The seats are not that comfortable; I started to suffer specifically back and neck pain"* (Participant 9, Train); *"Sometimes sitting on the train can be tiring, especially with the close environment, which is quite hot and stuffy"* (Participant 15, Train). One participant also commented that *"Being surrounded by people on the train makes me concerned about public hygiene. I have a kind of worry about whether I will get a cough or flu"* (Participant 17, Subway).

4.3.3.3 Social well-being

The findings also identified impacts on social well-being. Participant 5 (Train), for example, mentioned that commuting "*reduced available time with spouse, family, or friends*", made maintaining family ties and social relationships difficult. Ironically, the communal experience of being surrounded by fellow passengers was described as isolating: *"There is not usually much interaction because the train is quite isolated. It is not easy. When you're faced with a long commute or a lot of time away from home, it can be really difficult to stay connected"* (Participant 4, Train).

Participants also commented about social discomfort that resulted from poor environment and vehicle design that led to crowdedness: *"I don't mind standing on my journey, but don't like when I stand and it is very crowded… It was apparent that there were more passengers than seats, and it's something that affected my journey"* (Participant 13, Train). Other social effects included feeling disturbed by the behaviours of other passengers, for instance, "*those speaking too loudly on a mobile phone*" or "*taking up too much space*" (Participant 8, Bus; Participant 17, Subway)

In sum, the findings support the idea of well-being as a multi-faceted concept. A comprehensive understanding of well-being outcomes contributes to the extant literature on how experiences of service touchpoints could impact customers psychologically, physically, and socially, responding to recent TSR calls (Anderson et al., 2013; Anderson et al., 2018). This is also crucial since there has been no common measure to date for assessing customer well-being, particularly within TSR (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011).

Many empirical studies have also been focused on hedonic well-being, where affective responses such as pleasure and happiness are prioritised as outcomes of service experiences, but there has been little attention given to the eudaimonic impact (De Vos et al., 2013; Xie et al., 2020). The eudaimonic perspective, when applied to assess well-being outcomes, could provide broader insights than feelings and emotions. Activities at the destination (e.g., *getting to work, meeting clients*) and activities during commuting (e.g., *reading, browsing the internet*), which were

identified in the interviews, evoke participants' sense of purpose and make the daily commute worthwhile. This finding is consistent with the extant literature, including De Vos et al. (2013) and Ryan and Deci (2001), which consider such activities as positively related to eudaimonic well-being. Furthermore, involvement in the service process (e.g., *purchasing tickets online rather than offline*) increases a sense of choice and freedom in making decisions, similar to what Xie et al. (2020) mentioned as eudaimonic well-being. Such activities can be easily ignored and overlooked by transport providers because they are inherently customers' actions rather than theirs (Rosenbaum et al., 2011). Research on public transport has tended to emphasise the technical aspects of the service, such as reliability and vehicles (e.g., Transport Focus, 2017, 2020), leaving out the importance of managing and mitigating customer-owned touchpoints, which this study found to be similarly impactful.

The findings also revealed evidence of physical and social impacts. This broader insight contributes to the emerging literature on transformative service, as the early conceptualisation of well-being within this area has centred on hedonic and eudaimonic (Anderson et al., 2013; Kuppelwieser & Finsterwalder, 2016). In terms of physical well-being, the interviews revealed negative effects such as *physical strain* (e.g., backaches), *low productivity and concentration*, and *exhaustion*, which could be caused by poor experiences with the vehicle environment and seat design. A lack of seats on an overcrowded bus or train was also associated with *physical discomfort* (e.g., fatigue, headaches, and muscle tension that caused one to remain immobile). The findings therefore provide further evidence of how service touchpoints would affect physical well-being, particularly when commuting using public transport (Chatterjee, Ben Clark, Adam Martin, & Davis, 2017; Cox, Houdmont, & Griffiths, 2006; Tirachini, Hensher, & Rose, 2013).

It also comes as no surprise that commuting affects social life, as it consumes a substantial amount of time that commuters would rather spend on family and social activities (Lorenz, 2018). What is more insightful to know here is how customers could be socially impacted through their experiences with service touchpoints. For instance, the vehicle environment that is flawed by design (e.g., lack of room to stand comfortably on busy trains) is likely to cause *social discomfort* (e.g., passengers avoid eye contact), and the layout of the vehicle seems to be driven more by the

economic imperative than concern for the customers' social requirements. The findings also demonstrated how customers can be negatively impacted by the presence of other passengers or unwanted social contact, thereby providing more evidence of a shortcoming in measuring well-being when underestimating social impacts (e.g., Dodge et al., 2012; Lorenz, 2018).

4.4 Hypotheses Development

In the previous section, the interview findings (Study 1) were discussed, and they provided initial insight into the salient touchpoints of everyday commuter experiences and their subsequent well-being. The interview data was subsequently used to develop hypotheses about relationships between different service touchpoints and well-being outcomes that could be generalised and tested with a survey. In this section, research hypotheses are proposed, drawing on insights obtained from the interviews and the relevant literature. This section comprises three sub-sections: the research propositions related to touchpoints and well-being; touchpoints and customer satisfaction; and finally, customer satisfaction and well-being. The conceptual framework is introduced at the end of this section.

4.4.1 Touchpoints and Well-Being

4.4.1.1 Brand/Partner-owned Touchpoints

The interviews informed a detailed account of customers' interactions with brand/partner-owned touchpoints during the everyday commute involving provider processes, the physical environment (e.g., vehicle interior), employees, and the broader infrastructure (e.g., stations and stops). Despite control by service providers, the qualitative findings found that customers' mundane experiences are very much influenced by brand/partner-owned touchpoints. People with positive experiences of these touchpoints have been shown to have positive feelings of their commutes such as pleasantness and enjoyment, and this is important for ones' well-being.

Conversely, when customers encounter poor touchpoints and feel out of control, it triggers negative emotions such as frustration and anger. Quotes 1-2 in Table 4.7 indicate some negative incidents with brand/partner-owned touchpoints that can cause customers' uncomfortable feelings.

This can be reinforced by existing literature on more explicitly transformative settings, which highlights how these touchpoints contribute to the customer's service experience and well-being. For example, in a study of health care provision, Dagger and Sweeney (2006) showed how positive evaluations of provider processes (e.g., service standards), employees, and physical settings may lead to a better perceived quality of life. In relation to commuting, research has reported that commuters encounter various uncontrollable factors during their daily commute, such as delays and unavailable seats, and this is one of the reasons why commuting can take a toll on our happiness and well-being (Chatterjee et al., 2019; Javadian, 2014; Wedgwood, 2017). Similarly, Hilbrecht et al. (2014) highlighted that the unpredictability of public transport contributes to higher worry and stress.

The qualitative findings also suggested that services can affect more than just emotions. Quote 3 in Table 4.7, for example, demonstrates that customers are likely to feel more in control and confidence when assisting by the staff at a station and it clearly shows how brand/partner-owned touchpoints can positively affect one's sense of eudaimonic well-being. To date, there has not been much consideration within the literature of the link between the commuting experience and eudaimonic well-being. De Vos et al. (2013) are one of the few studies that suggest that having access to transport resources (e.g., the station or ticket machines) and having the knowledge and skill regarding their use can positively create feelings of freedom, competence and belonging in individuals. Recent studies within TSR have also suggested that aspects of eudaimonic well-being, such as improved capacity, knowledge, access, and aspects of the individual's self, can be impacted by services (e.g., Boenigk et al., 2021; Xie et al., 2020).

Additionally, the qualitative findings revealed the physical and social impact of mundane services on customers. Positive perceptions of service environment including the seating layout and ambience may contribute to a better service

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experience and well-being both physically and socially. Otherwise, factors such as lack of and uncomfortable seats, would be detrimental to social and physical well-being, as demonstrated in Quotes 4-6 in Table 4.7.

This can be further reinforced by existing literature; for instance, physiological responses can be triggered by an organisation's servicescape (Bitner, 1992), engendering feelings of comfort or discomfort (Bustamante & Rubio, 2017). The physical environment, for example, layout and atmospheric elements, can also facilitate or discourage interactions among people, impacting the sense of social connection (Bitner, 1992; Jones, 1995; Zemke & Shoemaker, 2008). In fact, in a travel setting, commuting has been shown to be associated with poor physical and social health. Prior research has explored the impact of noise, temperature, quality and seat design on exhaustion, physical discomfort, and other somatic symptoms like headaches, tension, stiff muscles and sleeplessness (e.g., Cox et al., 2006; Künn-Nelen, 2015; Mohd Mahudin et al., 2012; Novaco & Gonzalez, 2009). Public transportation seating layouts can also force people into close quarters with strangers, causing social discomfort (e.g., Currie et al., 2010; Stradling et al., 2007). On the basis of the qualitative study and existing literature, the following hypothesis was formulated:

Hypothesis 1: Customer experiences of brand/partner-owned touchpoints are positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.

4.4.1.2 Customer-owned Touchpoints

Quotes 7-10 in Table 4.7 provide illustrations of the link between customer-owned touchpoints and psychological well-being outcomes. The qualitative findings suggested the existence of customer-owned touchpoints related to the customer's perceived role in the experience (e.g., buying tickets, changing buses or trains) and activities during the journey (e.g., listening to music, internet browsing). Responses from participants (Quotes 7-10) suggest that participation of this kind can positively influence their emotions towards daily commutes and enhance their sense of

eudaimonia. Existing literature also supports the link between positive commuting experiences and well-being. For example, Ettema et al. (2012) reported that activities during a public transport journey, such as working or reading a book, can positively affect one's feelings while traveling, as well as one's evaluation of the journey. Such activities also make the daily commute seem worthwhile and less likely to be perceived as wasted time, contributing to well-being (De Vos et al., 2013; Lyons & Chatterjee, 2008). Additionally, participation in the service process can also trigger eudaimonic well-being by engendering meaning and purpose (Cooke et al., 2016; De Vos et al., 2013). In relation to self-service experiences, for example, Dong et al. (2015) and Meuter et al. (2005) reported that some customers appreciate their roles during the service process as they feel capable and more in control, contributing to positive service outcomes.

Additionally, as illustrated by Quote 11 in Table 4.7, the qualitative findings suggested that time spent actively commuting can be associated with a higher level of physical well-being. Similar evidence has been found within the existing literature. For example, research reported that incorporating walking and cycling into the public transport journey (and even commuting by public transport as opposed to driving) increases one's daily physical activity, which is associated with health benefits such as lowered risk of obesity, diabetes and cardio-vascular disease (e.g., Chng et al., 2016; Humphreys et al., 2013; Royal Society for Public Health, 2016). Although the negative impact of public transport commuting on health outcomes including blood pressure, physical strain, and fatigue has been reported (e.g., Hansson et al., 2011; Künn-Nelen, 2015), a commute may be relaxing and productive, and with exciting on-board activities, the disadvantage of a long commute can be reduced (Lunke, 2020).

Lengthy commutes have also been associated with reduced time spent in social and leisure activities (De Vos et al., 2013; Hilbrecht et al., 2014). However, commuters can "reinvest" time in social relationships via phone or social media, with potential benefits for social well-being (Lyons & Chatterjee, 2008). Similarly, Quote 12 in Table 4.7 illustrates an example of how commuting provided a much-needed opportunity for a commuter to get connected and engage in a social activity. On the basis of the available evidence, it suggests that customers' roles and activities during

commutes may lead to increased well-being. Therefore, this study formulated the following hypothesis:

Hypothesis 2: Experiences of customer-owned touchpoints are positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.

4.4.1.3 Social Touchpoints

Study 1 suggested some effects of social touchpoints, particularly in terms of customer-to-customer interactions during the customer experience and journey. Quotes 14 and 16 in Table 4.7 illustrate some positive responses of social interaction from public transport commuters, suggesting that commuting may provide positive experiences when they interact with other commuters than when they kept themselves. Although social touchpoints are less controllable, literature argues that customers view them as part of the service process, and that they affect service evaluation (Moore et al., 2005; Verhoef et al., 2009). In a healthcare setting, McColl-Kennedy et al. (2017) found that interactions with other customers with a similar illness provide customers with a source of information, and have a positive impact on well-being. In travel-related studies, Ettema et al. (2012) found that talking to fellow passengers seems to have a positive effect on travel well-being and makes commuters more relaxed, especially during the homeward commute. Positive social interaction, including acknowledging other passengers with a greeting or body language and smiling at them when eye contact is made, can also reduce social discomfort (Thomas, 2009).

Conversely, prolonged exposure to crowded or negative social environments can lead to mental and physical illness. As found in the qualitative study, Quotes 13 and 15 in Table 4.7 provide examples of the negative impact of other passengers on one's health and well-being. This can be further reinforced by existing literature; for example, Cheng (2010) identified crowding as the main cause of increased anxiety among rail commuters in Taiwan. Crowding on public transport services has also been associated with physical discomfort that is caused by having to stand or share a

limited space with several passengers (Tirachini et al., 2013). Passengers who commute in crowded vehicles have been reported to experience somatic symptoms like headaches, stiff muscles, and sleeplessness (e.g., Cox et al., 2006; Mohd Mahudin et al., 2012) which may further negatively affect their well-being. It appears that a negative experience of social touchpoints can have an adverse impact on well-being while a positive experience of social interactions will lead to a positive evaluation of well-being. On the basis of the available evidence, this study formulated the following hypothesis:

Hypothesis 3: Customer experiences of social touchpoints are positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.

Table 4.7. Selected Interview Quotes - Touchpoints and Well-Being Outcomes

	Brand/partner-owned touchpoints	Customer-owned touchpoints	Social touchpoints
Hedonic well-being	1. *"It can be frustrating when the train got cancelled or sitting on a delayed train"* (Participant 7, Train) 2. *"It was apparent that there were more passengers than seats, and it's something that affected my journey"* (Participant 13, Train)	7. *"I prefer to travel by train than by car [because] I can sit and read my phone on the train; I just relax and there is no stress"* (Participant 2, Train) 8. *"It is nice to be able to have that time in the morning, just get on the train and switch off or read a book or something"* (Participant 7, Train)	13. *"When you meet inconsiderate people, eating and leaving trash on the seat, you can feel annoyed and angry"* (Participant 17, Subway)
Eudaimonic well-being	3. *"Staff at the ticket counters are normally amazing; everyone is friendly and helpful. I never used the self-service machine because they are a lot quicker... I buy the ticket on a daily basis (rather than the seasonal pass), so it is quite handy and much easier with their helps"* (Participant 3, Train)	9. *"The best thing about commuting is that it provides a much-needed opportunity to get things done, like checking emails or other stuff that is not work-related"* (Participant 5, Train) 10. *"I usually buy my ticket at the self-service machine because it is way more convenient and faster than going to the ticket counter and having to wait in line"* (Participant 9, Train).	14. *"I quite enjoy travelling by train to [and from] work, because you can see what is going on and sometimes you can get into conversation with other passengers"* (Participant 9, Train)
Physical well-being	4. *"Sometimes sitting on the train can be tiring, especially with the close environment, which makes it quite hot and stuffy"* (Participant 15, Train) 5. *"The seats are not comfortable; this is my only complaint. I started suffering from backaches because of the seats"* (Participant 9, Train)	11. *"I like the fact that I get to walk, say 10 to 15 minutes walking every day, without going to the gym. Whereas when I was driving, I realised I had put on weight"* (Participant 4, Train)	15. *"Being surrounded by people on the train makes me concerned about public hygiene. I have a kind of worry about whether I will get a cough or flu"* (Participant 17, Subway)
Social well-being	6. *"I don't mind standing on my journey, but I don't like when I stand and it is very crowded... It was apparent that there were more passengers than seats, and it's something that affected my journey"* (Participant 13, Train)	12. *"Usually I have 50 minutes, which means if I don't need to do any reading or work, it is a good time for me to connect with people back home. I'll talk to my mom or friends"* (Participant 12, Train)	16. *"I meet friends and colleagues on the train, and it's nice to catch up while travelling"* (Participant 15, Train)

4.4.2 Touchpoints and Customer Satisfaction

The links between touchpoints and customer satisfaction have been suggested in the qualitative study, as illustrated by Quotes 1-3 in Table 4.8. As noted, positive perceptions of different touchpoints during the commuting journey lead to increased satisfaction among customers. Unsurprisingly, customer satisfaction is often positioned as an outcome of a service experience within existing literature. Grace and O'Cass (2004) found that positive experiences with the core service, employees, and the servicescape positively affected customer satisfaction. Huang and Hsu (2010) also reported that positive interactions with fellow cruise passengers were likely to enhance vacation satisfaction, but conversations between strangers (Harris & Baron, 2004) or the dysfunctional behaviour of other customers (Harris & Reynolds, 2003) could result in dissatisfaction. In the context of public transport, Stradling et al. (2007) found that satisfaction depended on customers' experiences of various factors, both within the control of service providers (e.g., cleanliness, safety) and beyond their control (e.g., social interaction, crowdedness). Friman and Gärling (2001) identified employees, reliability of service, simplicity of information, and vehicle design as important determinants of passengers' satisfaction. As such, the better the customers' experiences with service touchpoints, the more likely they will be satisfied with the service. On that basis, this study formulated that the following hypothesis:

Hypothesis 4: There is a positive association between customer satisfaction and customer experiences of (a) brand/partner-owned touchpoints, (b) customer-owned touchpoints, and (c) social touchpoints.

4.4.3 Customer Satisfaction and Well-Being

Relationships between customer satisfaction and well-being outcomes have been suggested within the qualitative study, as illustrated by Quotes 4-7 in Table 4.8. It suggests that satisfaction with service touchpoints can significantly influence one's well-being state, such as the feeling of pleasure and physical comfort. However,

existing literature on the relationship between customer satisfaction and well-being, and particularly different well-being outcomes, is limited. Many existing studies investigate it at more aggregate level, particularly how satisfaction influences well-being and quality of life in general. For example, in their study of well-being and personal transportation, Sirgy et al. (2006) argued that satisfaction with various aspects of the personal transportation experience can enhance well-being. In a public transportation context, Bergstad et al. (2011) found that travel satisfaction has a positive impact on subjective well-being. They particularly found that shorter travel and waiting times may result in less time pressure, more efficient and less stressful performance of daily activities, and ultimately greater well-being. Similarly, Ettema et al. (2011) reported that changes in travel conditions (e.g., travel mode, travel times, access to bus stops, complexity of activity during travel) can influence travel satisfaction and, as a consequence, cognitive and affective well-being. On the basis of the available evidence, this study formulated the following hypothesis:

Hypothesis 5: Customer satisfaction is positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.

Table 4.8. Selected Interview Quotes – Satisfaction, Touchpoints, and Well-Being

	Customer Satisfaction
Touchpoints	1. *"I used to travel by bus; what makes me love the train is that it is quicker and cleaner than the bus"* (Participant 2, Train) 2. *"If it is about the last one that I commute, it was favourable. I like the train because it gives me some space to just put my earphones on and organise my diary"* (Participant 4, Train) 3. *"The journey can be unpleasant because of crowds, especially when I meet noisy passengers or smelly people who normally travel [from the office to home] slightly later"* (Participant 8, Bus)
Well-Being Outcomes	4. *"If I am not satisfied with the driver because sometimes, I get a really rude driver who ask 'what happened to the earlier bus' and then uninterestingly replies 'I don't know', it does affect my mood"* (Participant 8, Bus) 5. *"I had a good [satisfactory] experience because the driver was very helpful and dropped me off outside the designated stop because it was raining... It made me feel valued and grateful"* (Participant 11, Bus) 6. *"Trains provided everything that I needed; they got me where I needed to be; I get things [at work] done... It is clean, I get a seat most of the time, and it provides everything that I am looking for"* (Participant 3, Train) 7. *"The seats are not comfortable; this is my only complaint [dissatisfaction]. I started suffering from backaches because of the seats"* (Participant 9, Train)

In summary, Figure 4.2 shows the proposed conceptual framework and research hypotheses for the next quantitative study. Briefly, the framework comprises three main parts: the service experience touchpoints, consequences related to customer well-being, and customer satisfaction.

4.5 Summary of Chapter 4

Chapter 4 has discussed the first strand of the sequential exploratory design (SED) research. This chapter dealt with a great deal of qualitative data gathered from 17 semi-structured interviews. Three main findings were revealed: the salient commuting touchpoints in relation to public transport service, the halo effect indicators that may distort the perception of experience between multiple touchpoints, and well-being outcomes, which to this end addressed objectives 1-3 of this thesis. The researcher then developed five hypotheses based on the interview findings and the theoretical rationale from the literature. The following chapter discusses the second strand of the SED, which builds on the findings of this study, to quantitatively investigate to what extent service touchpoints influence customer well-being, and if the halo effects significantly distort or modify customers' experiences of service touchpoints and their impact on well-being.
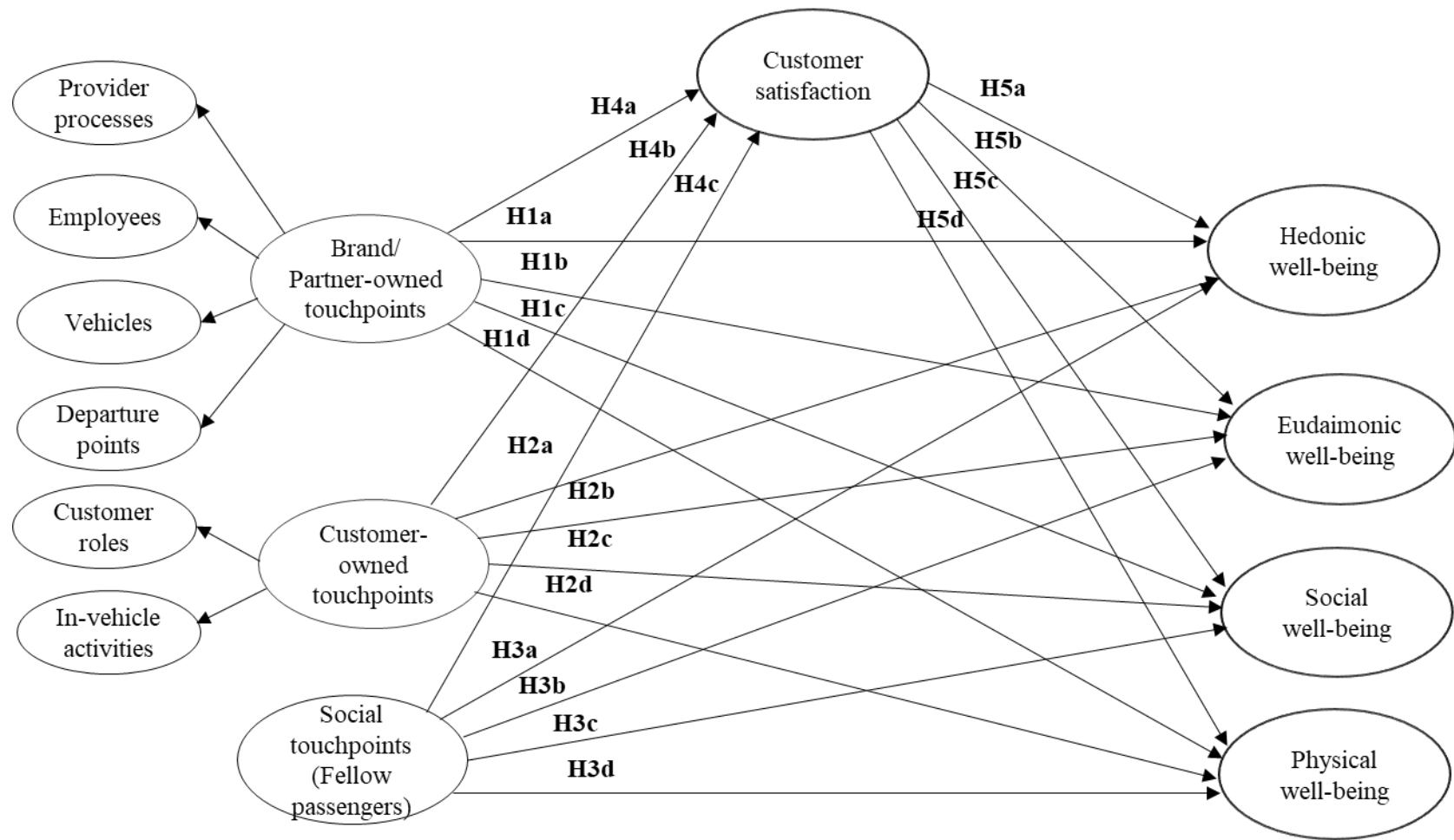
Figure 4.2. Conceptual Framework – Proposed Structural Model

CHAPTER 5
QUANTITATIVE METHOD

5.1 Introduction

The previous chapter outlined the findings of an exploratory qualitative study (i.e., Study 1) and further proposed a structural model and hypotheses. This chapter focuses on outlining and justifying the methodology used to empirically validate the proposed model, and to address the research objectives of the quantitative component (objectives 4-6). It consists of three major sections. The first section introduces the methodological approach of the quantitative study (i.e., Study 2), outlining the survey design, sampling approach, measure development, and questionnaire design. The second section discusses the administration of data collection for both the pilot and main study, and lastly, the third section concludes with a discussion of the main analysis technique.

5.2 Online Survey

This section outlines the research method of the second, quantitative study, which was undertaken to test the proposed model of customer experience and well-being. Surveys are essential methods in quantitative research and are used to gather an adequate number of samples to investigate relationships among variables proposed in a structural model (de Vaus, 2014). More specifically, the present study used an online panel survey due to a number of benefits it offers compared to traditional surveys. In comparison to mail and face-to-face surveys, for example, online surveys were less expensive and time-consuming while providing access to large and geographically diverse samples (Evans & Mathur, 2005; Woods et al., 2015). It was also practical because the collected data was directly processed in electronic form, avoiding the tedious and manual process of data coding, entering,

and checking that is typically required with traditional survey methods (Nathan, 2011).

An online crowdsourcing platform, Prolific, was used to recruit participants as it provided immediate access to a large and diverse participant pool at a reasonably low cost (Gleibs, 2017; Palan & Schitter, 2018). Prolific is a recently established platform for online subject recruitment that explicitly caters to researchers. It also has good recruitment standards where subjects are explicitly informed that they are recruited for participation in research, so they are aware about expected payments, rights and obligations in such an environment (Palan & Schitter, 2018). One of the main advantages of Prolific over other platforms is that the researcher can pre-screen the targeted sample using a range of criteria they provide prior to the launch of the survey. This study used two screening criteria, including employment status (part-time/full-time) and workplace postcode (UK), thereby allowing the study to recruit more demographically balanced samples and target specific participants that might be hard to recruit via more conventional approaches.

Data quality has remained the main concern when using online research panels, although a number of studies have argued that the reliability and validity of the data are often, but not always, comparable to those of more traditionally sourced data (e.g., Casler, Bickel, & Hackett, 2013; Gleibs, 2017; Roulin, 2015). As a precaution, the researcher added a few questions about the commute, such as departure and arrival points and the name of the transportation provider. Responses to these questions can be used in validating each response, a procedure that will be discussed later in Section 5.3.2 (i.e., Main Survey).

The following sections address three key elements of survey design. This includes the sampling plan, the measures of the constructs, and the design of the questionnaire.

5.2.1 Sampling Technique and Size

The sampling procedure followed a judgmental sampling technique, also called purposive sampling. It is a non-probability sampling technique in which a sample is chosen on the basis of the researcher's knowledge and judgement (Bryman, 2016; Saunders et al., 2009). Following this procedure, the researcher purposefully and carefully selected each member of the sample according to pre-defined criteria to ensure the representativeness of the sample and, more importantly, that they come from a population that is relevant to the theoretical ideas being investigated. Two screening questions were initially set, including employment status and workplace postcode (UK). This feature was utilised to ensure that the members of the sample were comprised of working commuters, either full-time or part-time, as any result obtained from unemployment may be misleading and uninformative about a theory. A filter was also set by the workplace postcode so that only respondents who were located in the UK and travelled by public transport to work in the ten most populous cities, namely London, Birmingham, Glasgow, Leeds, Bristol, Liverpool, Manchester, Sheffield, Edinburgh, and Cardiff, would be allowed to take part in the survey.

Another consideration, sample size, is vital to ensure an acceptable likelihood of obtaining desirable empirical outcomes, specifically parameter precision and statistical power (In'nami & Koizumi, 2013). SEM, the proposed statistical analysis of the model under study, requires an adequate sample size. Unfortunately, there is no consensus in the literature regarding what would be the appropriate sample size for SEM. Some researchers suggest that the minimum sample size for SEM is 100 to 150 (Anderson & Gerbing, 1988; Ding et al., 1995), but a typical sample size in studies, where SEM is used is about 200 (Kline, 2011). Another common approach is to consider model complexity where a model with more constructs would require large sample sizes. Hair et al. (2010, 2018) are the most commonly cited guidelines in this regard, as shown in Table 5.1. According to Hair et al. (2010, 2018), if there are a good number of latent constructs and each of those constructs consists of more than three items, a sample size of 100–200 is sufficient. As these conditions become compromised, larger samples will be necessary.

Table 5.1. Minimum sample size depending on the model complexity

Model characteristics (Number of latent constructs and items)	Minimum sample size
Five or fewer latent constructs. Each latent construct has more than three measuring items.	100
Seven or fewer latent constructs. Each construct has more than three items.	150
Seven or fewer latent constructs. Some constructs have less than three items.	300
More than seven latent constructs. Some constructs have less than three items.	500

Source: Hair et al. (2010, 2018)

On the basis of Kline's (2011) and Hair et al.'s (2010, 2018) suggestions, a sample size of 800 used in this study is adequate for structural model analysis. The hypothesised model proposes more than 10 latent constructs, each of which consists of three items or more. Through the online crowdsourcing platform, the 800 respondents were gathered from ten cities in the UK, where each city had 80 respondents.

5.2.2 Measurement

Measures of the quantitative instrument for Study 2 were constructed based on a review of the relevant literature and key themes emerging from the qualitative study (Study 1), particularly when operationalising the constructs by selecting relevant items from existing literature to be included in the survey.

Table 5.2 lists all of the measure items that were tailored to the context of public transportation and based on the phrases participants used during the interviews. To measure brand/partner-owned touchpoints, this study adapted the following scales: provider processes (Lai & Chen, 2011); employees (Ding et al., 2010); vehicles (Carreira et al., 2014); and departure points (Garg, Rahman, & Qureshi, 2014). For customer-owned touchpoints, this study used customer roles (Dong et al., 2015), in-vehicle activities (Mokhtarian & Salomon, 2001a), and for

social touchpoints, it used fellow passengers (Reynolds & Harris, 2009). These constructs were measured on a seven-point Likert scale, ranging from 1 (poor/strongly disagree) to 7 (very good/strongly agree).

Additionally, hedonic and eudaimonic well-being were measured with twelve-item (1 = never, 5 = always) and eight-item scales (1 = strongly disagree, 7 = strongly agree), respectively, both developed by Diener et al. (2010). Physical well-being was measured using eight items adapted from Bustamante and Rubio (2017) and Sullivan, Karlsson, and Ware (1995). For social well-being, four items from Matthews et al. (2016) were used, again using a seven-point Likert scale ranging from 1 (strongly disagree/absolutely never) to 7 (strongly agree/all the time). Finally, customer satisfaction was measured using four items adapted from Brady and Robertson (2001) based on a scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Table 5.2. Measurement of Service Touchpoints, Well-Being Outcomes, and Customer Satisfaction

Construct	Items				Evidence from literature	Findings from Study 1
	Modified items	No of items	Source	Description		
Provider processes	• General information provision • Routes coverage • Service provision hours • Prices of tickets • Service frequency • Complaint handling • Ticketing system • The provision of information during the journey (e.g., in case of delay) *(1= Very poor; 7= Very good)*	8	Lai and Chen (2011)	This scale measures the core service of the public transit	Interactions with the service operator's processes relating to the core service offering may influence customer experiences (Grace & O'Cass, 2004; Pareigis et al., 2011)	Service punctuality, reliability, frequency, and service fares.
Employees	• Responsive employees • Courteous employees • Helpful employees • Availability of employees • Knowledgeable employees *(1= Very poor; 7= Very good)*	5	Ding et al. (2010)	The scale measures the quality of service personnel	Service personnel may impact service experiences (Grace & O'Cass, 2004; Pareigis et al., 2011)	Employees' actions and attitudes, skill and knowledge.
Vehicles (Physical environment)	• Vehicle interior appearance • Vehicle exterior appearance • Adequate overall maintenance • Quality of seats • Temperature on-board • Noise level on-board *(1= Very poor; 7= Very good)*	6	Carreira et al. (2014)	The scale measures the vehicle maintenance – one of the travel experience factors.	Physical environment (e.g., temperature) may contribute to travel experiences (Bitner, 1992; Grace & O'Cass, 2004; Pareigis et al., 2011)	The condition of the carrier vehicle itself and its atmospheric elements.
Departure points	• Cleanliness • Appearance • Quality of facilities and services (e.g., shelters, shops and parking facilities) • Ambient conditions (e.g., temperature, ventilation, noise and odour)	5	Garg, Rahman, and Qureshi (2014)	The scale measures servicescape of the banks	Pareigis et al. (2011) include the train and bus station to the physical environment, which they found as significant to the travel experiences.	Physical environment of the station/stop/shelter, including the amenities and facilities

	• Provision of information (e.g., signage, boards) *(1= Very poor; 7= Very good)*				
Customer roles	• I am happy to perform some service roles that would be normally provided by the transport provider (e.g., buying ticket online) • I enjoy planning my own journey • I am happy to take on some service roles (e.g., getting my ticket from the machine) • I think I am responsible in the service process (e.g., changing bus/train) *(1= Strongly disagree; 7= Strongly agree)*	4	Dong et al. (2015)	The scale measures customer participation on service outcomes (i.e., perceived service quality, customer satisfaction)	Activities and interactions customers undergo during a service affect their service experiences (Pareigis et al., 2011)	Customers' participation in the service process, including buying a ticket, and changing buses or trains.
In-vehicle activities	• It is nice to be able to be productive on the way to or from work • Travel time is generally wasted time • My commute time is useful transition between home and work (e.g., to wind-down, listening to music) • I spend my commute time productively (e.g., working, reading) *(1= Strongly disagree; 7= Strongly agree)*	4	Mokhtarian and Salomon (2001a)	The scale measures the ability to conduct other activities while travelling.	How time was spent when travelling was often mentioned as a process that had an impact on the service experience (Pareigis et al., 2011).	Customers' activities during the trip.
Fellow passengers	• Fellow passengers behave in a pleasant manner • Fellow passengers behave in a way that I am not expecting • I enjoy being around the other passengers • Fellow passengers conduct themselves in a manner that I do not find appropriate • Fellow passengers behave in a way that I find to be unpleasant	6	Reynolds and Harris (2009)	The scale measures the dysfunctional behaviour of fellow passengers in a retail context.	The influence of other customers on service experience (Grove & Fisk, 1997; Pareigis et al., 2011; Zhang et al., 2010)	Interactions with fellow passengers, including their number and attitude.

	• Fellow passengers behave in a way that I do not agree with. *(1= Strongly disagree; 7= Strongly agree)*					
Psychological well-being	*Hedonic* As a result of your daily commute, how often do you feel the following? • Positive • Negative • Good • Bad • Pleasant • Unpleasant • Happy • Sad • Afraid • Joyful • Angry • Contented *(1= Never; 5=Always)*	12	Diener et al. (2010)	The scale assesses hedonic well-being, including both positive and negative feelings of individuals.	From the hedonic perspective, well-being is defined as the experiences of happiness and pleasure (Ryan & Deci, 2001), which are normally reported in the travel context (De Vos et al., 2013; Ettema et al., 2010).	Customers can experience a sense of pleasantness, happiness (i.e., positive emotions), frustration, and stress (i.e., negative emotions) when commuting. For instance, customers are happy and pleasant to commute when the service is punctual and runs as it is supposed to, but they feel frustrated when there is a delay.
	Eudaimonic • My commute makes my life purposeful and meaningful. • My commute helps me to maintain social relationships. • Commuting helps me to engage in my daily activities. • I can contribute to the happiness and well-being of others when commuting. • Due to the daily commute, I am capable to do some important activities. • My commute helps me to live a good life.	8		The scale measures the eudaimonic aspect of well-being, describing important aspects of human functioning, ranging from positive relationships, to feelings of competence, to having meaning and purpose in life.	Eudaimonia is linked to self-acceptance, positive interpersonal relationships, personal growth, life purpose, environmental mastery, and autonomy (Ryan & Deci, 2001; Ryff, 1989). In the context of travel, these can be influenced by the activity participation it allows, the strengthening of social bonds, and the achievement of personal goals (De Vos et al., 2013).	Daily commutes may promote a sense of purpose in individuals by being able to perform their routines, commute, and be connected, but may also cause a sense of pressure in time management, as the interviewee is concerned about how much time has been spent in commuting and how much time is left for others.

	• My commute makes me optimistic about my daily life. • During my commute, I feel being respected by others. *(1 Strongly disagree; 7 Strongly agree)*					
Physical well-being	In general, my commuting journey makes me feel: • Energetic • Comfortable • Relaxed *(1 Strongly disagree; 7 Strongly agree)*	6	Bustamante and Rubio (2017)	This scale was designed to assess customers' physiological responses in their interactions with retail environments, which were assumed to be closely linked to physical well-being. The scale has been adapted to assess exhaustion in the commute context (e.g., Hansson et al., 2011).	Commuting has a relationship with physical well-being (Office for National Statistics, 2014), as it may cause tiredness (Lyons & Chatterjee, 2008), low vitality, health problems (Hansson et al., 2011), and discomfort (Li, 2003) among commuters.	Commuting may be beneficial to physical health, but it can also cause exhaustion and discomfort.
	As a result of your daily commute, how often • ……do you have a lot of energy? • … do you feel worn-out? • … do you feel tired? *(1= Absolutely never; 7= All the time)*		Sullivan et al. (1995)			
Social well-being	In general, how often does your daily commute make you feel: • … lack of companionship • … left out • … isolated from others • … lonely *(1= Absolutely never; 7= All the time)*	4	Matthews et al. (2016)	The scale measures feelings of loneliness (adapted from the UCLA Loneliness Scale Version 3 (Russell, 1996)). Matthews et al. (2016) defined loneliness as the subjective feeling of distress arising when social connections are	The absence of social relationships (e.g., social isolation and loneliness) has implications for individuals' health and well-being (Matthews et al., 2016).	Being respected; not feeling connected with others; being isolated.

| Customer satisfaction | • I am satisfied with my decision to commute using this transport provider
• My choice to commute with this transport provider is a wise one
• I think I am doing the right thing when commuting with this transport provider
• I feel that my experience with this transport provider is enjoyable
(1= Strongly disagree; 7= Strongly agree) | 4 | Brady and Robertson (2001) | perceived to be inadequate or unfulfilling.
The scale measures the extent to which customers satisfied with the service provided. | Assessed with four emotion-laden items derived from Westbrook and Oliver's (1991) satisfaction measure. | Customer satisfaction may have an impact on the relationship between service experience and well-being |

5.2.3 Questionnaire Design

Questionnaires are widely used and useful instruments for collecting data in quantitative research, particularly surveys. Online questionnaires benefited the present study due to their ability to gather large-scale data in scattered and possibly remote locations; therefore, they are more economical than alternative methods (e.g., interviews, observations) in terms of time and money. It also provides structured, numerical data, making it appropriate for the proposed statistical analysis of the model under study.

The online questionnaire was developed using the measures that were previously outlined in Section 5.2.2 (i.e., Measurement). In constructing the questionnaire, the structure and flow were carefully designed, and questions on similar subjects were clustered within the same section to ensure it could be easily and well understood by participants (de Vaus, 2014). Following de Vaus's (2014) guidelines on constructing questionnaires, five sections were subsequently designed (see Appendix 5).

Part A detailed the history of commuting, including its frequency, length, and primary mode of public transportation. It is important to start the questionnaire with such general questions to build rapport and the respondent's confidence. *Part B* addressed customers' experiences across a range of touchpoints, including provider processes, employees, vehicles, departure points, customer roles, in-vehicle activities, and fellow passengers. *Part C* included questions about customers' satisfaction with transportation services. On *Part D*, well-being outcomes were asked for, including customers' perceived psychological, social, and physical well-being as a result of the daily commute. The questionnaire concluded with *Part E,* in which demographic information about participants such as gender, age, and income were asked.

The questionnaire was then sent to two experts in the area of marketing to verify the content validity of the questions and some minor amendments were made to the wording and positioning of the questions. To validate and fine-tune the instrument, the researcher also conducted a pre-test with seven doctoral students in the Department of Marketing at the University of Strathclyde who were particularly

studying about marketing and service marketing. Each respondent completed a questionnaire, both offline and online (through Qualtrics), recorded the time spent on the survey, and provided feedback regarding the appropriateness and clarity of the items. Overall, pre-test respondents indicated that the questionnaire was relatively clear and easy to complete. The questionnaire also had a reasonable length, taking less than 10 minutes for respondents to complete. Several suggestions pertaining to the wording of particular items were incorporated into the revised instrument.

5.3 Data Collection Procedure

As mentioned previously, data for both the pilot and main studies was collected using online surveys. While the reasons for employing online surveys over other methods have been explained in Section 5.2, this section focuses on the administration and procedure of data collection during the pilot and main surveys. Finally, this section discusses the ethical considerations taken while conducting the study.

5.3.1 Pilot Study

Prior to the main survey, a pilot study was conducted to examine important psychometric properties of the questionnaire and the feasibility of methods and procedures for later use in a large study. The researcher followed Saunders et al.'s (2009) and Kelley et al.'s (2003) recommendations to test the questionnaire on a small group of people who are as similar as possible to the population of interest and administer the questionnaire in exactly the same way as it will be administered in the main study. Therefore, the pilot study was conducted with 31 regular users of public transport services who were commuting to work within Edinburgh and Glasgow. The size was deemed adequate as the minimum number for a pilot study, according to Saunders et al. (2009), is 10. The online survey tool, Qualtrics, was used to create and administer the pilot questionnaire, and this was a good preparation to check its

workability because a link to the online questionnaire that was also created using Qualtrics will be used when setting up the main study on Prolific.

The pilot study also provided useful information regarding the minimum and average completion time for the survey and some additional questions that should be added to the questionnaire for later use in the main survey to cross-check the answers. The questions include the departure and arrival points of the typical journey to work, the city of the working place, and the name of the transport provider. Nonetheless, no major issues with questionnaire design or the appropriateness of questions and scales were discovered, with the exception of some minor wording changes to improve clarity and readability. Data from the pilot survey was also evaluated by measuring the consistency of survey responses to given questions (Glasow, 2005). Using the value of Cronbach's alpha outlined in Table 5.3, the results indicate the internal consistency of the instrument measures (more than .70), satisfying the standard cut-off point for reliability (Cronbach, 1951).

Table 5.3. Reliability Test for Pilot Study

Variable	No. of items	Cronbach's alpha
Provider processes	8	.915
Employees	5	.934
Vehicles	6	.931
Departure points	5	.905
Customer roles	4	.807
In-vehicle activities	4	.827
Fellow passengers	6	.740
Hedonic well-being	12	.844
Eudaimonic well-being	8	.956
Social well-being	4	.939
Physical well-being	6	.746
Customer satisfaction	4	.853

5.3.2 Main Survey

Data for the main study was collected through a self-administered questionnaire that was conducted online from October to November 2018, involving customers of public transport services across ten cities in the UK. During this period,

the survey was published on the Prolific website in stages based on cities to make the survey process more manageable, and a careful inspection of the collected data could be done to ensure it met expectations and, as a result, to decide which submissions to accept or reject.

As previously stated, respondents were required to meet certain criteria and were only eligible to participate in the survey if they were currently employed full-time or part-time and worked in any of the ten cities chosen during the sampling procedure. However, before respondents started to answer the questionnaire, they were required to provide consent on a form in which the purpose of the study, confidentiality, duration and researcher's contacts were clearly presented on the first webpage. To increase the quality of the data, respondents were then needed to answer questions related to (i) do you commute to or from work using public transport? (ii) in what city do you work? (iii) name of departure and arrival points, and (iv) name of transport provider. This information was used to validate each response by checking on Google Maps to confirm if other information in the survey (e.g., length of public transport journey, public transport mode) was satisfactorily provided before the payment for submissions could be approved.

Figure 5.1 illustrates an example of how the validation process was conducted on Google Maps. The provided travel time is estimated based on the average speed during typical times and does not take into account all of the factors (e.g., weather, accidents) that may impact travel time; a 10-minute allowance was thus given. If there was a conflict of information found between a respondent and Google Maps, the researcher would contact the respondent and ask them to verify the answers before deciding to approve or reject the submission. At the end of the questionnaire, respondents received instructions to enter a unique code to verify that they had completed the study in order to receive payment. A total of 800 valid survey responses were finally obtained, and participants were being paid £0.60 per submission, based on the minimum reward rate for participants recruited by Prolific.
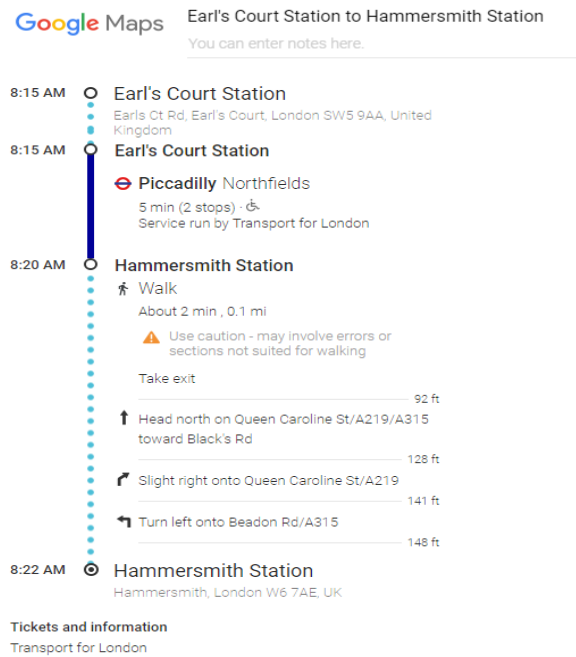
Figure 5.1. An example of Google Maps

5.3.3 Ethical Consideration

Although the research activities of this study involved no risk to participants, a number of actions were taken to ensure the survey was conducted in an ethical manner and accorded with the best research practices. Firstly, at the beginning of the survey, respondents were provided with a brief description of the purpose of the study, the estimated completion time, and what they would be required to do. Respondents' consent must then be obtained by them checking a box if they are willing to proceed, and this must be recorded by the researcher. Secondly, all responses from questionnaires were treated anonymously and confidentially. Although respondents needed to provide their unique Prolific IDs during the survey mainly for identification purposes, no respondents' IDs were mentioned in the study; instead, the survey results were reported only in the aggregate. Thirdly, the researcher also committed to the principle of "ethical rewards" where the minimum pay allowed by Prolific is £5.00 per hour. For approximately a 7-minute survey, £0.60 was rewarded to each respondent, and the payment was made as soon as the submission had been checked, ideally within 24 to 48 hours after completing the survey. Lastly, to maintain privacy and respect for the respondents, all data were

securely stored on network drives that could only be accessed by the researcher. Ethical approval to undertake the survey was obtained prior to the data collection (i.e., August 2018) through the Strathclyde Business School's Research Ethics Committee.

5.4 Analysis Approach

Structural equation modeling (SEM) is recommended as the analysis technique for this study, and this section comprises three sub-sections in regard to this technique. First, the reasons and benefits of using SEM are discussed, as well as how the measurement analysis and structural model enable this study to answer research questions of interest. Secondly, the chosen estimation procedure, maximum likelihood, and the underlying assumptions of SEM are provided. Lastly, goodness-of-fit indices to use in the assessment of model fit are explained.

5.4.1 SEM and the use of two-step approach

Structural equation modeling (SEM) is a powerful method for theory testing that has been widely used in the social sciences, particularly in the marketing discipline (Martı́nez-López et al., 2013; Tarka, 2018). As for the concept and theory development of service experiences and well-being, which is the central investigation of interest, this study requires an analysis approach that is able to operationalise hypothesised latent constructs and associated indicators, which can be attained with SEM. SEM also facilitates the discovery and confirmation of associations among multiple variables, therefore enabling this study to test the research hypotheses. The study used the AMOS Graphics 25 programme with maximum likelihood estimation, the most widely employed technique in SEM. Justifications for the choice of estimation procedure and the assumption will be explained later.

The key strengths of SEM over other analytical methods (e.g., multiple regression) are that it can test research hypotheses in a single process by modeling

complex relationships among many observed and latent variables (Byrne, 2013; Tarka, 2018). Additionally, because it tests the model as a whole rather than in a piecemeal fashion, the goodness-of-fit of the data to the hypothesised model can be estimated. Such information is important; otherwise, it is difficult to assess the adequacy of the theory underlying the hypothesised model (Byrne, 2013; Hair et al., 2021). While conventional techniques analyse variables that can only be directly observed, SEM, on the other hand, has the ability to incorporate both observed (measured) and unobserved variables (latent constructs) in the analysis (Byrne, 2013; Civelek, 2018; Ho, 2006). It can also facilitate the assessment of theoretical models with second- and even third-order factors to provide a better understanding of relationships that may not be apparent empirically (Hair, Gabriel, & Patel, 2014). It can also incorporate the presence of measurement error in the data, therefore improving the results of statistical estimation (Civelek, 2018; Ho, 2006). Lastly, graphical representations of models provide a convenient and powerful way to present the constructs, their measures and the analysed relationships (Martı́nez-Ló́pez et al., 2013).

This study utilised a two-step approach as recommended by Anderson and Gerbing (1988), in which the measurement model for each latent construct was validated first before testing the structural model. While the measurement model examines how well the observed variables measure and represent constructs or latent variables involved in a theoretical model, the structural model investigates the relationships among different latent variables (Civelek, 2018; Kline, 2011). By this means, the study can establish the conceptual soundness of latent variables used in the final structural model. Otherwise, the relationships that the researcher found significant in the structural model may be misleading.

Firstly, for the measurement model testing, this study conducted a separate confirmatory factor analysis (CFA) to assess if each of the items loaded onto the hypothesised construct. By analysing individual constructs, the unidimensionality of each construct can be assessed (i.e., the link between latent constructs and their observed variables), thereby confirming the reliability and validity (Byrne, 2013; Hair et al., 2010, 2018). Once it is known that each measurement part is operating adequately, the researcher can then have more confidence in evaluating the overall

measurement model and the hypothesised structural model (Gimenez et al., 2005). The same procedure has been widely used in scientific research, including marketing studies (e.g., Ding et al., 2010; Gimenez et al., 2005; Reynolds & Harris, 2009). Besides, CFA was employed because it is a theoretically-driven approach in which the factors (latent constructs) and their underlying structure have been specified beforehand based on knowledge of the theory and empirical research, compared to exploratory factor analysis (EFA), which is normally used when researchers have little idea about how the items are structured (Anderson & Gerbing, 1988; Byrne, 2013; Hair et al., 2018).

In addition, this study also conducted a pooled CFA, a procedure that runs all the latent variables at the same time to test the overall measurement model theory. At this stage, a complex structure with a higher level of abstraction was tested using a theoretically based higher-order factor (construct). Specifically, in this study, two second-order constructs were modelled: brand/partner-owned touchpoints (BPOT) with four sub-constructs namely provider processes, employees, vehicles, and departure points; and customer-owned touchpoints (COT) with two sub-constructs namely the customer roles and in-vehicle activities. This higher-order modeling approach leads to more theoretical parsimony and reduces model complexity (Hair et al., 2014).

After testing the sufficiency of the measurement model, a structural analysis was conducted to investigate the conceptualised relationship model, testing a prior set of hypotheses. In testing the structural model, the structure and order of the CFA model were preserved. In addition, the model was mainly developed based on the relations mentioned in the literature. To test the hypotheses, the main objective was to assess the significance and direction of the estimated coefficients, as well as the coefficient of estimation (R^2) for the endogenous constructs (Hair et al., 2010, 2018). Before the hypothesis tests, the fit indices of the model were also examined. The assessment of fit indices for the structural model is discussed in the section below.

5.4.2 Estimation Technique and Assumptions of SEM

As previously mentioned, this study used the maximum likelihood (ML) estimation method because it is the most widely employed technique in SEM and is more efficient and relatively robust than other techniques such as generalised least squares (GLS) and weighted least squares (WLS), particularly when variables are normally distributed (Byrne, 2013; Hair et al., 2010, 2018). A number of assumptions, therefore, were considered when using ML estimation, namely multivariate normality, outliers, missing values, and multicollinearity.

Firstly, in regard to multivariate normality, the variables in the data set have to be normally distributed. The normality can be determined using skewness and kurtosis, in which values between -2 and +2 are considered normal (Civelek, 2018; Pituch & Stevens, 2016). Additionally, normality can be conveniently assessed through a graphical method such as the normal quantile-quantile (Q-Q) plot, where normally distributed data would appear as roughly a straight line. Secondly, it is important to ensure the absence of outliers because extreme scores in the model may distort the results, and this can be determined by examining the Mahalanobis distance (D) value. A value of D^2 with its corresponding probability value (p-value) less than 0.001 indicates potential outliers (Hair et al., 2010; Kline, 2011).

Thirdly, it is also assumed that there are no missing values because SEM, particularly with ML estimation, would work well with a complete data set; otherwise, missing data may complicate the use of SEM in general and the testing of SEM models (Hair et al., 2010, 2018). Lastly, it is necessary to be careful with multicollinearity; a problem occurs when there are high correlations among the latent exogenous constructs (Grewal et al., 2004). A number of methods can be used to diagnose multicollinearity, and the most common ones are the variance inflation factor (VIF) and tolerance values, which are used in this study. The VIF exceeds 10, and tolerance values less than 0.10 indicate multivariate collinearity (Kline, 2011). Data screening therefore needs to be conducted before analysing SEM to ensure the above assumptions regarding normality, outliers, missing values and multicollinearity are met. Next, a brief discussion on the assessment of model fit is presented.

5.4.3 Goodness-of-Fit Assessment

In SEM, at both the measurement and structural model levels, an analysis of the goodness-of-fit of the model is required. Model fit determines the degree to which the postulated model fits the sample data. The SEM literature contains a number of fit statistics, but there is no magical, single statistical significance test that distinguishes between acceptable and unacceptable model fits (Kline, 2011). Although not all fit indices are necessary for evaluating the fit of the models as they are often redundant, good practice dictates that more than one fit statistic should be used, typically three to four fit indices, and each of them represents a different category of model fit: (1) absolute fit indices, (2) incremental fit indices, and (3) parsimonious fit indices (Hair et al., 2010; Ho, 2006). Described next are the three broad categories of fit statistics and the interpretative guidelines associated with each.

Absolute fit indices determine the degree to which the proposed model reproduces (fits) the observed data. As such, this is the most basic assessment to indicate how well a researcher's theory fits the data at hand. Some commonly used measures of absolute fit include the chi-square (χ^2) statistic, Goodness-of-fit Index (GFI), and the Root Mean Square Error of Approximation (RMSEA). In SEM, the researcher is looking for non-significant differences between the actual and predicted matrices; hence, the smaller the chi-square value, the better the fit of the model. But the χ^2 statistic is very sensitive to sample size; therefore, it should not serve as the sole basis for evaluating model fit (Gerbing & Anderson, 1985; Hair et al., 2010). The GFI, in contrast, is reported in most publications, and the RMSEA is sensitive to model misspecifications and does not depend on sample size as strongly as χ^2 (Schermelleh-engel et al., 2003). While GFI values greater than 0.90 are acceptable, lower RMSEA values indicate a better fit, typically below 0.08 (Hair et al., 2010, 2018).

Incremental fit indices, on the other hand, assess how well the estimated model fits compared to some alternative baseline model, often referred to as the null or independence model. Examples of incremental fit indices include the Tucker-

Lewis Index (TLI), the Normed Fit Index (NFI), the Relative Fit Index (RFI), the Incremental Fit Index (IFI), and the Comparative Fit Index (CFI), but the CFI is the most widely reported in the literature and is recommended instead of other indices within the same category as it is less affected by sample size (Bentler, 1990). The usual rule of thumb for these indices is that values greater than 0.90 indicate an acceptable fit.

The third category of indices, the parsimonious fit, provides information about which model among a set of competing models is best, specifically taking model parsimony into consideration. The Adjusted Goodness-of-fit (AGFI) is one of few parsimonious fit indices (Byrne, 2013; Hair et al., 2010), but the Normed Chi-square ($\chi 2/df$) is widely used in current research (Awang, 2014) and has been shown to be independent of sample size (Ding et al., 1995).

Considering the suggested and widely reported fit indices within SEM studies, this study utilised four different types of indices, namely the GFI, RMSEA, CFI, and Chi-square/df, in evaluating the goodness-of-fit of the model (shown in bold in Table 5.4). While this study acknowledges the importance of having a large sample to enhance the precision of parameter estimation (Iacobucci, 2010), these indices have been indicated by a number of studies to be least sensitive to sample size (e.g., Bentler, 1990; Ding et al., 1995; Schermelleh-engel et al., 2003), and thus should always be considered. Table 5.4 outlines the literature support for indices, and the guidelines remain the same throughout the study both for the measurement and structural model evaluations.

Table 5.4. Goodness-of-Fit Indices and Literature support

Category	Measures	Level of acceptance	Comments	Literature support for the respective fitness index
Absolute fit	Chi-square	p > 0.05	Sensitive to large sample (Hair et al., 2010, 2018)	(Gerbing & Anderson, 1985)
	GFI	0.90 or greater	Reported in most publications (Schermelleh-engel et al., 2003)	(Jöreskog & Sörbom, 1982)
	RMSEA	≤ 0.05 = good fit; 0.05–0.08 = adequate fit	Do not depend on a sample size as strongly as χ^2 (Schermelleh-engel et al., 2003)	(Browne & Cudeck, 1993; Hair et al., 2010)

Incremental fit	**CFI**	0.90 or greater	Compared to the NFI, the CFI is less affected by sample size (Bentler, 1990); most widely reported (Hair et al., 2010, 2018)	(Bentler, 1990; Byrne, 2013; Hair et al., 2010, 2018)
	TLI	0.90 or greater	Conceptually similar to NFI	(Hair et al., 2010, 2018)
	NFI	0.90 or greater	Affected by the sample size	(Ho, 2006)
Parsimonious fit	**Chi-square/df**	Chisq/df < 5.0	Relatively independent of the sample size (Ding et al., 1995)	(Byrne, 2013)
	AGFI	0.90 or greater	Similar to GFI	(Hair et al., 2010, 2018)

Note. The indices in bold are recommended as they are frequently reported in literature

5.5 Summary of Chapter 5

This chapter has discussed the research method of the quantitative study, in which the focus was to establish the conceptual soundness of latent constructs and their respective indicators before the relationships between the latent constructs could be tested in the structural model. The use of online surveys through the online crowdsourcing platform was justified in this chapter as practical as well as cost- and time-effective, especially when involving a large and geographically diverse sample. A thorough procedure for administering an online survey was also explained, along with the sampling technique, questionnaire design and ethical considerations. SEM was suggested as the main technique to analyse the data at hand, and the results of the study will be discussed in the following Chapter 6.

CHAPTER 6
QUANTITATIVE FINDINGS

6.1 Introduction

Previously, Chapter 5 outlined the methodological approach undertaken for the quantitative study. The main purposes of the quantitative study were to test the proposed structural model and research hypotheses, in which the following objectives are addressed:

Objective 4: *To investigate the relationship between service experience touchpoints and well-being*;

Objective 5: *To examine the link between customer satisfaction and well-being outcomes associated with customer commuting journeys;* and

Objective 6: T*o explore the degree to which halo effects influence the perception of service experience touchpoints and relationship with well-being.*

On the basis of survey data from 800 respondents, the hypothesised model was tested using structural equation modeling (SEM), following the two-step approach suggested by Anderson and Gerbing (1988). To demonstrate rigour, this chapter discusses in detail the steps of data analysis, commencing with a preliminary evaluation to check if the assumptions of SEM are appropriately satisfied. This chapter then presents the findings of the quantitative study, which was structured into three main sections. The first section presents the results of measurement models tests; the second section addresses the reliability and validity of constructs; and the third section discusses the results of structural model and hypothesis testing. Lastly, the results of halo effects are outlined.

6.2 Respondents' Characteristics

Results from the descriptive analysis presented in Table 6.1 provide demographic information about the respondents. There were different groups of commuters, with the majority (82%) of them commuting 3 to 5 days each week. Bus and national rail were the main modes of transport, but most of them (80-90%) incorporated walking before and after the public transport ride. There was also a good combination of seasonal ticket/multiple journey/smart card holders (45%) and non-holders (55%), and the majority of them (76%) normally commuted during peak time. About 65% were female and male (35.4%), and 66% were aged between 25 and 44. A majority (76.3%) earned between GBP 10,000 and GBP 40,000 annually.

Table 6.1. Respondents' Profile

Measure		Frequency	Percentage
Commuting frequencies	1 day	35	4.4
	2 days	89	11.1
	3 days	136	17.0
	4 days	139	17.4
	5 days	382	47.8
	6 days	17	2.1
	7 days	2	.3
Main mode of public transport	National rail	290	36.3
	Bus / Coach	397	49.6
	Other rails [a]	104	13.0
	Others	9	1.1
Modes of transport used before the public transportation	Bicycle	17	2.1
	Walk	641	80.1
	Car (driver)	105	13.1
	Car (passenger)	32	4.0
	Others	5	.6
Modes of transport used after the public transportation	Bicycle	15	1.9
	Walk	720	90.0
	Car (driver)	35	4.4
	Car (passenger)	18	2.3
	Others	12	1.5
A season ticket/ multiple journey/ smart card holder	Yes	357	44.6
	No	443	55.4
Use any transportation apps	Never	152	19.0
	Rarely	128	16.0
	Sometimes	206	25.8
	Often	151	18.9
	Always	163	20.4
Typical commute's time	Peak time	610	76.3
	Off-peak time	190	23.8
Gender	Male	283	35.4
	Female	517	64.6
Age	16-24	120	15.0
	25-34	333	41.6
	35-44	192	24.0
	45-54	107	13.4
	55-64	45	5.6
	65 and above	3	.4
Gross Personal Income (GBP)	5,000 or less	34	4.3
	5,001-10,000	63	7.9
	10,001-20,000	216	27.0
	20,001-30,000	238	29.8
	30,001-40,000	156	19.5
	40,001-50,000	61	7.6
	50,001-60,000	20	2.5
	60,001 or above	12	1.5

Note. [a] - e.g., underground, light railway systems, trams, subway

6.3 Overview of Fit Indices and Preliminary Evaluation

Of primary interest in structural equation modeling (SEM) is the extent to which the proposed model fits, or, in other words, adequately describes, the sample data. There is a range of fit indices in the literature, and there is no agreement among researchers as to which fit indices should be used. As previously mentioned in Section 5.4.3 (i.e., Goodness-of-Fit Assessment), goodness-of-fit measures can be classified into three categories, namely absolute fit measures, incremental fit measures, and parsimonious fit measures. A number of SEM researchers recommend the use of at least one fit index from each category of model fit (Hair et al., 2010, 2018; Ho, 2006; Holmes-Smith et al., 2006). Outlined in Table 6.2 are some of the most widely used measures for each category of fit indices, but the GFI, RMSEA, CFI, and Chi-square/df are the most commonly reported (Civelek, 2018; Hair et al., 2010, 2018; Ho, 2006), therefore used in the present study. Table 6.2 summarises the recommended values for each of the fit statistics measures.

Table 6.2. Goodness-of-Fit Indices

Category	Measures	Level of acceptance
Absolute fit	Chi-square	$p > 0.05$
	GFI	GFI > 0.90
	RMSEA	RMSEA < 0.08
	AGFI	AGFI > 0.90
Incremental fit	**CFI**	CFI > 0.90
	TLI	TLI > 0.90
	NFI	NFI > 0.90
Parsimonious fit	**Chi-square/df**	Chisq/df < 5.0

Note. The indices in bold are recommended as they are frequently reported in literature

Before analysing the quantitative data, it is also necessary to understand that SEM has its assumptions; hence, a preliminary evaluation was conducted to check if these assumptions are appropriately satisfied. This includes the assessment of missing values, the normality of data, outliers, and multicollinearity.

6.3.1 Missing Data

Ideally, SEM would always work well with a complete data set, and the best approach to attaining it is through prevention (Kline, 2011). As previously noted, the data for this study were collected via an online platform (i.e., Prolific), and the online questionnaire by design inherently minimised missing responses. The researcher inspected each response at the end of data collection, and only completed submissions that satisfied the researcher's expectations were accepted and then paid. In assisting this process, Prolific automatically republished rejected submissions to allow new participants to complete the study. That is, for every rejected response, a new questionnaire will be published, allowing for the collection of a complete set of data. To reconfirm the absence of missing values, the results of the frequency statistics were thoroughly examined, and the results show that there were no missing data within the 800 responses collected.

6.3.2 Multivariate Normality

Multivariate normality is the important assumption of the maximum likelihood estimation method used in SEM. Violation of this assumption leads to a high relative chi-square (CMIN/DF) value and a significant test outcome (Civelek, 2018). Multivariate normality can be assessed in several ways, and this study used the following most popular approaches.

First, the skewness and kurtosis values were assessed to determine whether the variables in the data set are normally distributed. In brief, skewness refers to the symmetry of a score distribution, while kurtosis measures the peakedness or flatness of the distribution. For both skewness and kurtosis, a score distribution is approximately normal if the values of skewness and kurtosis each lie within a range of ±2 (Civelek, 2018; Pituch & Stevens, 2016). As presented in Table 6.3, the skewness and kurtosis values for each construct in this study were between -2 and +2, indicating no violation of the normality assumption.

Table 6.3. Normality Statistics

Construct	Skewness	Kurtosis
Provider processes (PP)	-.198	-.033
Employees (EM)	-.443	-.041
Vehicles (VC)	-.339	-.079
Departure points (DP)	-.079	-.190
Customer roles (CR)	-.467	.581
In-vehicle activities (IA)	-.157	.382
Fellow passengers (FP)	-.053	-.397
Hedonic well-being (HWB)	-.091	.149
Eudaimonic well-being (EWB)	.428	-.653
Social well-being (SWB)	.711	-.240
Physical well-being (PWB)	.055	-.279
Customer satisfaction (CS)	-.320	-.234

In addition to the statistical test, another common way to assess data normality is through a graphical method such as the normal quantile-quantile (Q-Q) plot. Such a graphical analysis is particularly useful for a medium- to large-sized (e.g., n > 50) sample (Kim, 2013), as is the case with this study. The Q-Q plot shows the distribution of the data against the expected normal distribution, where normality is tenable when points on a plot fall on a relatively straight line (Hair et al., 2010, 2018). Diagrams of the Q-Q plot presented in Appendix 6 show that all variables do not deviate from normality and the values cluster around a straight line, demonstrating the normality of the data.

6.3.3 Multivariate Outliers

Multivariate outliers refer to observations with extreme scores on two or more variables, making them different from the rest of the data. Multivariate outliers are very important to detect, particularly before performing structural equation modeling (SEM), as they can easily jeopardise fit indices (Kline, 2011). To identify multivariate outliers, the Mahalanobis distance (D) statistic was assessed. Within large samples with normal distributions, D^2 is distributed as a central chi-square (χ^2) statistic with degrees of freedom equal to the number of variables. A value of D^2 with a low p value (p < .001) indicates potential outliers (Hair et al., 2010; Kline,

2011). Since the level of statistical significance of these observations was less than the suggested value of .001, the results in Table 6.4 identify eight potential outliers.

Table 6.4. Multivariate Outliers Detection Results

Case	Mahalanobis Distance (D)	p-value of D^2
24	48.51	.0000
604	47.30	.0000
492	47.24	.0000
789	38.96	.0001
480	38.26	.0001
386	37.90	.0002
22	34.72	.0005
762	33.93	.0007

Further assessment of these eight observations shows that the outliers were not caused by wrong data entry or instrument errors but by valid values obtained from the participants. Although these observations had patterns of scores that were atypical from the rest, they were unique in the combination of values across variables. As Hair et al. (2010, 2018) suggested, these observations should be retained unless demonstrable proof indicates that they are truly aberrant and not representative of any observations in the population. Because the sample is large (i.e., 800), it can be expected that a few outliers may occur and probably will not greatly impact results (Parke, 2013). Based on these diagnostic tests, no observations demonstrate the characteristics of outliers that should be eliminated.

6.3.4 Multicollinearity

Multicollinearity occurs when correlations among the latent exogenous constructs in a model are so high that what seem to be separate variables actually measure the same thing. A high degree of multicollinearity can be problematic as it may lead to fallacious path coefficient estimates or even result in unreliable statistical inferences made about the data. The present study examined the variance inflation factor (VIF) and tolerance values to ensure the absence of multicollinearity. As outlined in Table 6.5, the VIF values of all predictor variables range between 1.20

and 2.01, clearly inside the acceptable range of 10, with lower values being better (Kline, 2011). The values for tolerance were also above the rejection threshold of .10 (Kline, 2011). These criteria indicated an absence of multicollinearity among the exogenous constructs proposed.

Table 6.5. Multicollinearity Results

Construct	Collinearity statistics	
	Tolerance	**VIF**
Provider Processes (PP)	.56	1.80
Employees (EM)	.50	2.01
Vehicles (VC)	.51	1.96
Departure Points (DP)	.64	1.55
Customer Roles (CR)	.71	1.41
In-vehicle Activities (IA)	.81	1.24
Fellow Passengers (FP)	.84	1.20

6.4 Measurement Model – Confirmatory Factor Analysis

The quantitative data within this study was mainly analysed by structural equation modeling (SEM). In the two-step approach described by Anderson and Gerbing (1988), the findings of SEM typically consist of two basic components, namely the measurement model and the structural model. On this basis, the next section discusses the results of confirmatory factor analysis (CFA) for individual and overall latent constructs first, followed by the results of the structural model.

This study conducted CFA to test the reflective measurement model, examining how and to what extent the latent constructs are represented by the observed variables. It mainly indicates the construct validity of scales; therefore, if the measurement model fit indices are low, it makes no sense to test the structural model (Civelek, 2018). In the case where the study has too many latent constructs, individual measurement models could be assessed before the pooled or overall measurement model (Awang, 2014). This approach would help to determine the source of poor fit and ensure the unidimensionality of a measurement model (i.e., to what extent a single dimension underlies a set of measures) (Babyak & Green, 2009; Hair et al., 2010, 2018). On this basis, the following section presents the results of CFA, starting

with seven latent constructs of service experience (provider processes, employees, vehicles, departure points, customer roles, in-vehicle activities, and fellow passengers), four latent constructs of well-being outcomes (hedonic, eudaimonic, social, and physical), and finally customer satisfaction. At the end of this section, results for the pooled measurement model are presented.

6.4.1 Service Experience Touchpoints

Firstly, the CFA results of service experience are presented. Before analysing and discussing the multiple factors measurement model of service experience, the results of the single latent constructs are demonstrated. This includes (1) provider processes, (2) employees, (3) vehicles, (4) departure points, (5) customer roles (6) in-vehicle activities, and (7) fellow passengers.

Provider processes

As shown in Table 6.6, provider processes were theoretically assumed to be measured by eight observed indicators from PP1 to PP8. The standardised parameter estimates were all greater than 0.50, indicating significant path coefficients (p < .001). However, the measure of overall fit was below the recommended threshold (GFI = .919, RMSEA = .121, CFI = .918, x^2/df = 12.7), indicating that the initial measurement model of provider processes needs to be re-specified. Further assessment was conducted, particularly on the standardised residuals and modification indices, to identify the source of misspecification in the model and to suggest how the model can be modified to fit the data better.

The examination of the standardised residuals showed that all items were within acceptable values (less than 4); however, some indicators (PP4, PP6, PP7, and PP8) indicated unacceptably high values of modification indices and had the lowest factor loadings of all. Thus, these items were excluded for further analyses. By means of an iterative procedure, the items were removed one by one until the acceptable fit indices were met. The purpose of this process was to remove as few items as possible, aiming to derive a more parsimonious model.

Table 6.6. Provider Processes

Item	Description	Estimates	Specification
PP1	General information provision	.73	
PP2	Routes coverage	.73	
PP3	Service provision hours	.78	
PP4	Prices of tickets	.63	Deleted
PP5	Service frequency	.80	
PP6	Complaint handling	.65	Deleted
PP7	Ticketing system	.59	Deleted
PP8	The provision of information during the journey, in particular in case of delay	.66	Deleted

Model fit indices: GFI = .919, RMSEA = .121, CFI = .918, x^2/df = 12.7

Next, the measurement model was re-estimated with four items. As presented in Figure 6.1, the model fit indices were significantly improved with GFI = .995, RMSEA = .064, CFI = .995, and x^2/df = 4.29, which adequately satisfied the cut-off values. The deletion of the items makes sense theoretically, as the indicators including ticket prices (PP4), complaints handling (PP6), the ticketing system (PP7), and information provision (PP8) may have less relevance among regular customers, particularly when commuting daily between home and work.

GFI=.995 ; RMSEA=.064 ; CFI=.995 ; Chi-square/df=4.286
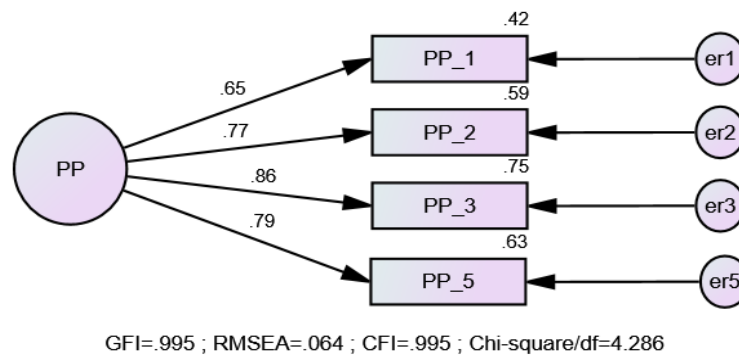
Figure 6.1. The re-specified measurement model of provider processes

Employees

As shown in Table 6.7, the latent construct of employees was measured by five indicators (EM1 to EM5). The preliminary findings indicate that all indicators loaded highly and significantly on the latent construct, with values ranging from .76

to .93 (p < .001). However, the fit of the model indices indicate that the measurement model did not fit the data, with the GFI = .972, RMSEA = .111, CFI = .987 and x^2/df = 10.81. Because all of the coefficient estimates were very high (above .70), the deletion of any item was not statistically suggested. The modification indices furthermore indicate that both er4 and er5 have a substantially large value, and correlating both items will reduce the chi-square value by at least 25.873. The justification is that availability of employees (EM4) and knowledge of employees (EM5) appear to share something in common, thus correlating both items is theoretically justified.

Table 6.7. Employees

Item	Description	Estimates	Specification
EM1	Responsive employees	.90	
EM2	Helpful employees	.93	
EM3	Courteous employees	.92	
EM4	Availability of employees	.76	Correlate error terms
EM5	Knowledgeable employees	.81	(er4 and er5)

Model fit indices: GFI = .972, RMSEA = .111, CFI = .987 and x^2/df = 10.81

The modified measurement model is outlined in Figure 6.2. The re-specified measurement model of employees indicates that the fit indices improved significantly with GFI = .987, RMSEA = .085, CFI = .994, and x^2/df = 6.74. Given that all indices were within the recommended values, the modified model represents a significantly better fit to the data than the initial model.
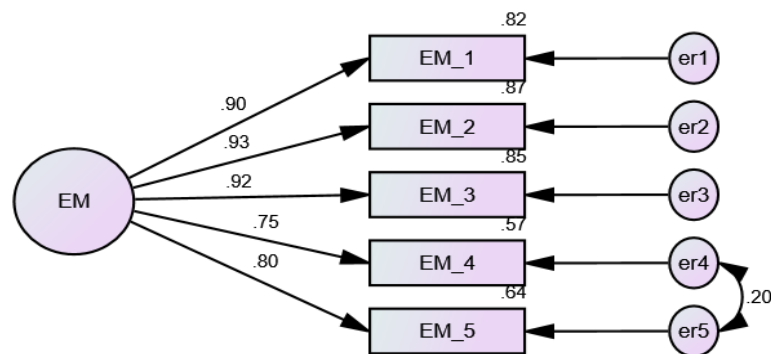
GFI=.987 ; RMSEA=.085 ; CFI=.994 ; Chi-square/df=6.743

Figure 6.2. The re-specified measurement model of employees

Vehicles

As outlined in Table 6.8, indicators VC1 to VC6 represents their latent construct, vehicle. Although the standardised coefficient estimates of all indicators were significant (p < .001) and exceeded the recommended value of .50, the fit indices were below cut-off values (GFI = .943, RMSEA = .138, CFI = .966, and x^2/df = 16.11), indicating the need of re-specification. Further assessment of the measurement model indicates that VC6 had a slightly high standardised residual (more than 4) and the lowest factor loading among all. Accordingly, this indicator was dropped as the noise level on board may not necessarily be relevant to every mode of transportation investigated within this study.

Table 6.8. Vehicles

Item	Description	Estimates	Specification
VC1	Vehicle interior appearance	.92	
VC2	Vehicle exterior appearance	.85	
VC3	Adequate overall maintenance	.91	
VC4	Quality of seats	.89	
VC5	Temperature on-board	.73	
VC6	Noise level on-board	.69	Deleted

Model fit indices: GFI = .943, RMSEA = .138, CFI = .966, and x^2/df = 16.11

As shown in Figure 6.3, the deletion of VC6 substantially improved the model fit with GFI = .984, RMSEA = .082, CFI = .992, and x^2/df = 6.35. It shows that the modified model fits the data well, and thus no further re-specification is needed.

GFI=.984 ; RMSEA=.082 ; CFI=.992 ; Chi-square/df=6.346
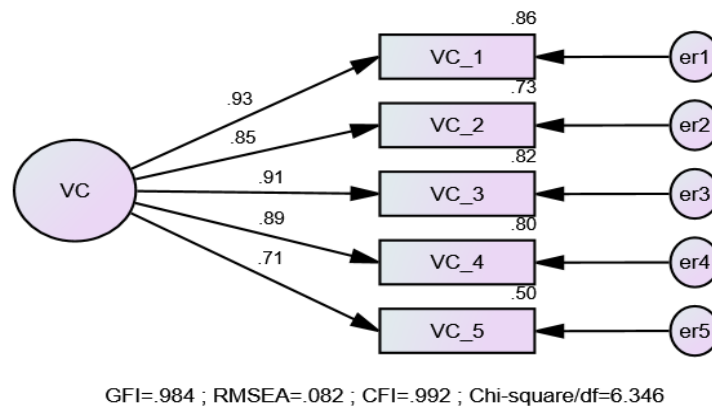
Figure 6.3. The re-specified measurement model of vehicles

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Departure Points

Table 6.9 shows how the departure point was theoretically measured from DP1 to DP5. Although the standardised coefficient estimates loaded highly (from .63 to .93) and significantly (p < .001), the fit indices were below the recommended value. The GFI = .819, RMSEA = .305, CFI = .859, and x^2/df = 75.35. Further assessment resulted in removing DP5, as it obtained the lowest loading and highest standardised residual (more than 4). Additionally, modification indices were suggested for error terms of er3 and er4 to correlate, and this makes sense theoretically. The justification is that customers may reflect the ambience of the departure point (DP4) as part of the quality of facilities and services (DP3), hence explaining why both indicators appeared to share something in common.

Table 6.9. Departure Points

Item	Description	Estimate	Specification
DP1	Cleanliness	.88	
DP2	Appearance	.93	
DP3	Quality of facilities and services (e.g., shelters, shops and parking facilities)	.70	Correlate error terms (er3 and er4)
DP4	Ambient conditions (e.g., temperature, ventilation, noise and odour)	.73	
DP5	Provision of information (e.g., signage, timetable boards)	.63	Deleted
Model fit indices: GFI = .819, RMSEA = .305, CFI = .859, and x^2/df = 75.35			

Accordingly, the re-specification results shown in Figure 6.4 show that the model fit is significantly improved, with GFI = .998, RMSEA= .056, CFI= .999, and x^2/df = 3.50, indicating that the modified measurement model adequately fits the data.

GFI=.998 ; RMSEA=.056 ; CFI=.999 ; Chi-square/df=3.495
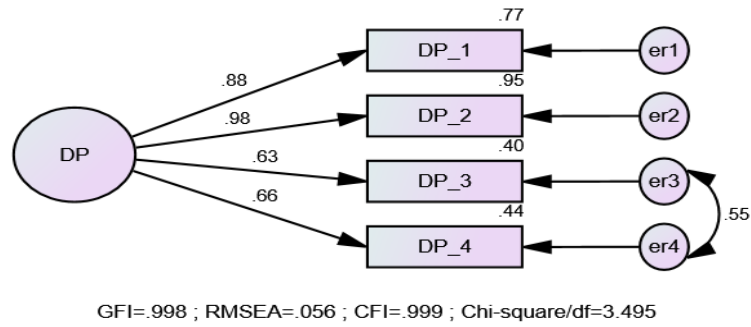
Figure 6.4. The re-specified measurement model of departure points

Customer Roles

As outlined in Table 6.10, four indicators were used to measure the latent construct, customer roles (CR1 to CR4). The results indicate that the standardised coefficient estimates for all indicators were statistically significant (p < .001) and are highly loaded on their construct (from .68 to .86). In fact, the goodness-of-fit indices outlined in both Table 6.10 and Figure 6.5 were all within acceptable ranges, with GFI = .998, RMSEA = .023, CFI = .999, and x^2/df = 1.43. Hence, no further assessment was required.

Table 6.10. Customer roles

Item	Description	Estimate	Specification
CR1	I am happy to perform some service roles that would be normally provided by the transport provider *(e.g., buying a ticket online)*	.77	No modification
CR2	I enjoy planning my own journey	.68	
CR3	I am happy to take on some service roles *(e.g., getting my ticket from the machine)*	.86	
CR4	I think I am responsible for this service process *(e.g., changing buses/trains)*	.71	
Model fit indices: GFI = .998, RMSEA = .023, CFI = .999, and x^2/df = 1.43			

GFI=.998 ; RMSEA=.023 ; CFI=.999 ; Chi-square/df=1.432
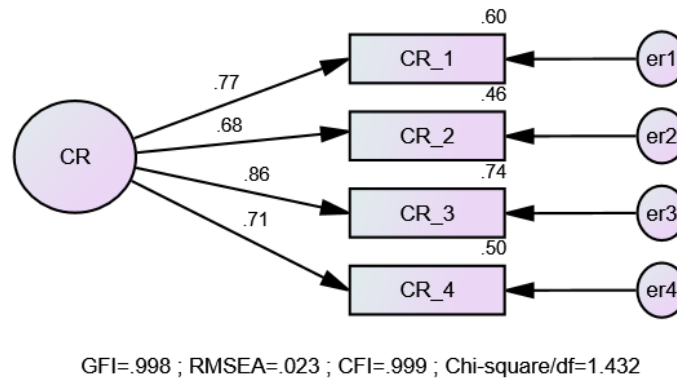
Figure 6.5. The re-specified measurement model of customer roles

In-vehicle Activities

In-vehicle activities were theoretically measured by four indicators, from IA1 to IA4. Table 6.11 shows that IA2 had a slightly low factor loading (i.e., .51), indicating that this indicator should be dropped. Alternatively, the results of the modification indices indicate that the error terms er2 (IA2) and er3 (IA3) should correlate. The researcher decided to correlate the suggested error terms mainly because it makes more theoretical sense that the indicators IA2 (i.e., travel time is generally wasted time) and IA3 (i.e., my commute time is a useful transition between home and work) share something in common. That is, as respondents do not perceive their daily commutes as wasting time, they may also reflect this on the useful transition.

Table 6.11. In-vehicle activities

Item	Description	Estimate	Specification
IA1	It is nice to be able to be productive on the way to or from work	.61	
IA2r	Travel time is generally wasted time	.51	Correlate error terms (er2 and er3)
IA3	My commute time is a useful transition between home and work *(e.g., to wind-down, listening to music)*	.60	
IA4	I spend my commute time productively *(e.g., working, reading)*	.86	
Model fit indices: GFI = .973, RMSEA = .161, CFI = .944, χ^2/df = 21.67			

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As shown in Figure 6.6, the re-specification considerably improved the fit indices, with GFI = .999, RMSEA = .040, CFI = .998, and χ^2/df = 2.30, all within the recommended values. Although the standard estimate for IA2r was less than the minimum accepted value of .50 (Hair et al., 2010, 2018), the researcher decided to keep the indicator at this stage to avoid saturation of the measurement model. This indicator, however, will be re-examined later within the measurement model of service experience.

GFI=.999 ; RMSEA=.040 ; CFI=.998 ; Chi-square/df=2.299
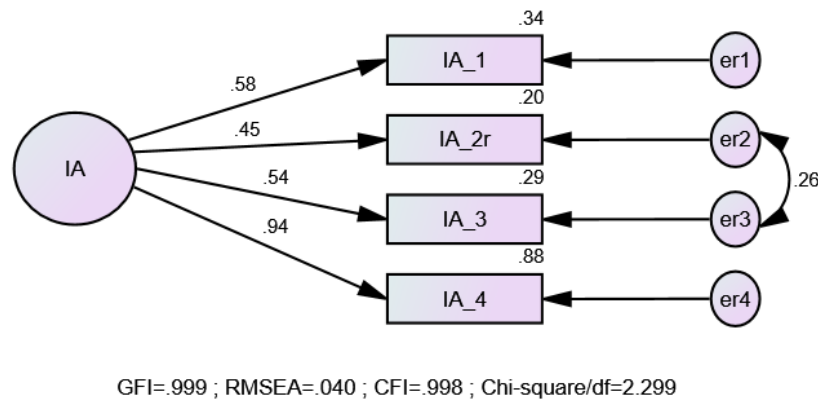
Figure 6.6. The re-specified measurement model of in-vehicle activities

Fellow Passengers

As shown in Table 6.12, fellow passengers were theoretically posited to be measured by six observed indicators, namely FP1 to FP6r. The results show that all standard estimates were greater than .50 except FP2, hence it was deleted. Additionally, assessment of modification indices is suggested for er3 (i.e., FP3r) and er4 (i.e., FP4r) to correlate. The justification is that both indicators represent misbehaviour by fellow passengers, which customers typically do not expect and find inappropriate. The re-specification was not only theoretically justified, indicating an overlap between both indicators, but it also eventually improved the goodness-of-fit of the measurement model.

Table 6.12. Fellow passengers

Item	Description	Estimate	Specification
FP1	Fellow passengers behave in a pleasant manner	.63	
FP2	I enjoy being around the other passengers	.44	Deleted
FP3r	Fellow passengers behave in a way that I am	.68	Correlate error

	not expecting		terms (er3 and
FP4r	Fellow passengers conduct themselves in a manner that I do not find appropriate	.87	er4)
FP5r	Fellow passengers behave in a way that I find unpleasant	.95	
FP6r	Fellow passengers behave in a way that I do not agree with	.94	

Model fit indices: GFI = .888, RMSEA = .211, CFI = .913, χ^2/df = 36.41

Specifically, as shown in Figure 6.7, the model fit considerably improved, with GFI = .994, RMSEA = .052, CFI = .997 and χ^2/df = 3.13 being within acceptable values, indicating that the measurement model for fellow passengers needs no further re-specifications.

GFI=.994 ; RMSEA=.052 ; CFI=.997 ; Chi-square/df=3.131
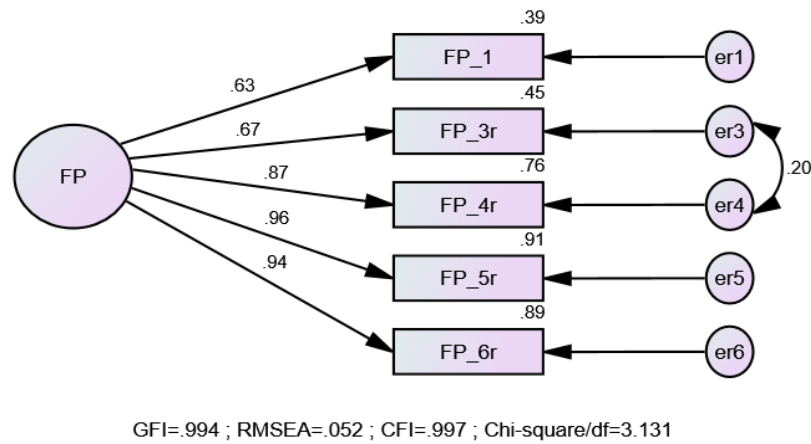
Figure 6.7. The re-specified measurement model of fellow passengers

Measurement Model of Service Experience

Besides individual assessments on each construct, all factors of the service experience were tested as a whole using CFA. This procedure provides a clearer picture of how the seven constructs and their indicators work within a measurement model of service experience, and to what extent each construct differs from one another to provide evidence of discriminant validity. On the basis of the single measurement models, seven latent factors, namely provider processes (PP), employees (EM), vehicles (VC), departure points (DP), customer roles (CR), in-vehicle activities (IA), and fellow passengers (FP), together with their respective

measurement indicators and the correlated error terms, were incorporated into the measurement model.

Except for the indicator IA2r, the results in Figure 6.8 show that the standardised estimates were all high and significant (more than .50, p < .001), ranging from .60 (IA3) to .96 (FP5r). As previously outlined in the measurement model of in-vehicle activities, the standardised estimate of this indicator remained low (less than .50), indicating a poor correlation between the observed indicator (i.e., IA2r) and its latent construct (i.e., in-vehicle activities). This indicator was then deleted from the model, and the results show that the remaining 30 indicators represented their respective latent constructs of service experience touchpoints. Additionally, none of the latent constructs correlated highly enough to exceed .85, indicating the uniqueness of each construct as service experience touchpoints.

In addition to that, the fit indices, as outlined in Figure 6.8, indicate that the hypothesised seven-factor model of service experience touchpoints fits the data well. The GFI was .905 and the RMSEA was .054, both of which were within the recommended ranges (GFI > .90, RMSEA< .08). The CFI of .951 was satisfactory, and finally, the normed chi-square (χ^2 /df) of 3.29 was less than 5.0. Hence, the overall measurement model of service experience touchpoints needs no further modification (Anderson & Gerbing, 1988).
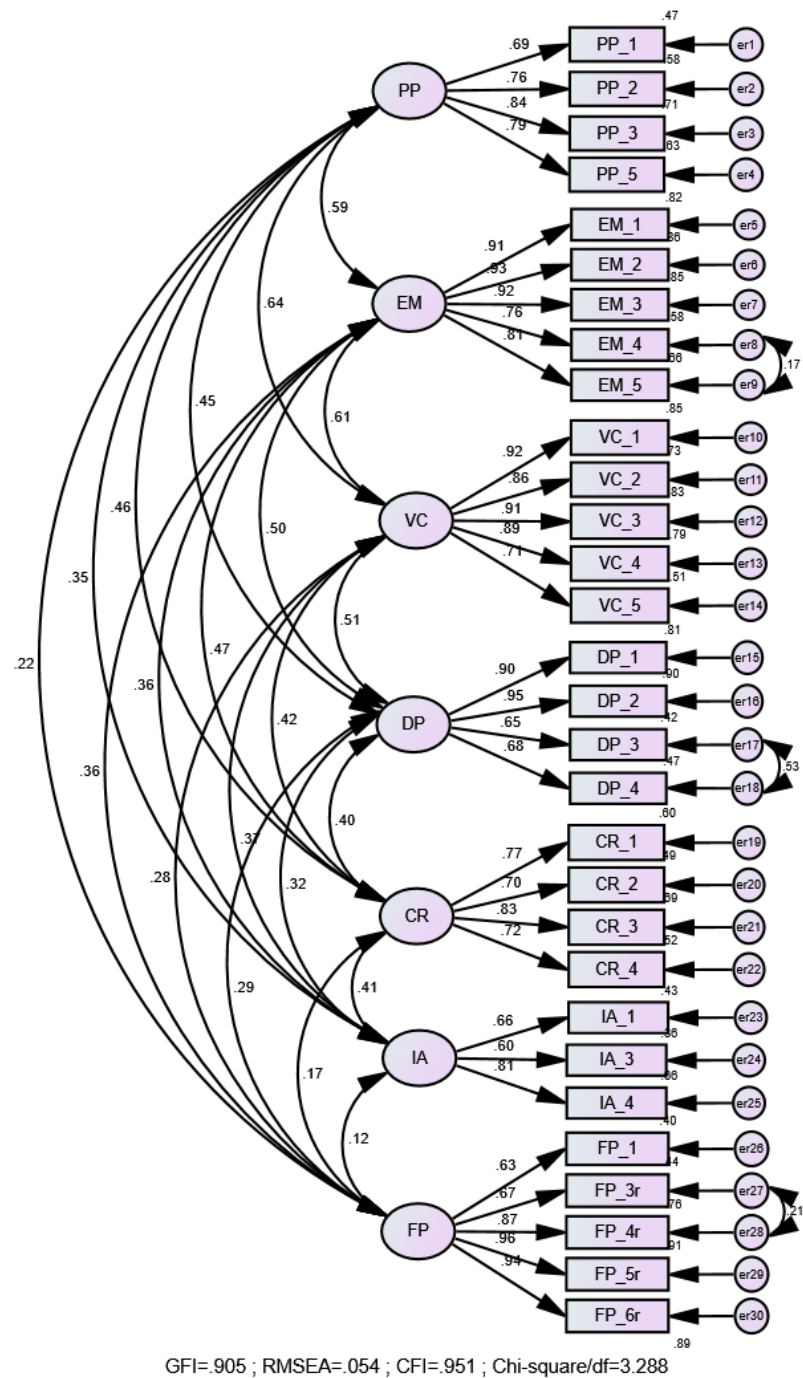
Figure 6.8. Measurement model of service experience

GFI=.905 ; RMSEA=.054 ; CFI=.951 ; Chi-square/df=3.288

6.4.2 Well-Being Outcomes

This section presents the findings of the measurement model of well-being outcomes. The analysis starts with the single-factor models of hedonic, eudaimonic, social, and physical well-being, before the overall four-factor model of well-being is combined and examined.

Hedonic well-being

Theoretically, hedonic well-being refers to the mental state of individuals in terms of pleasure attainment and pain avoidance (Ryan & Deci, 2001). As outlined in Table 6.13, the latent construct of hedonic well-being was theoretically measured by twelve indicators, from HWB1 to HWB12. However, the results of CFA indicate that the initial measurement model did not fit the data well, as the key indices, including GFI = .680, RMSEA = .178, CFI = .790, and χ^2/df = 26.4, were not within the acceptable threshold. Therefore, further assessment and re-specification are needed.

Table 6.13. Hedonic well-being

Item	Description	Estimate	Specification
HWB1	Positive	.91	
HWB2r	Negative	.70	Deleted
HWB3	Good	.89	
HWB4r	Bad	.62	Deleted
HWB5	Pleasant	.85	
HWB6r	Unpleasant	.64	Deleted
HWB7	Happy	.86	
HWB8r	Sad	.45	Deleted
HWB9r	Afraid	.20	Deleted
HWB10	Joyful	.67	
HWB11r	Angry	.48	Deleted
HWB12	Contented	.71	
Model fit indices: GFI = .680, RMSEA = .178, CFI = .790, χ^2/df = 26.4			

The standardised estimates outlined in Table 6.13 were statistically significant (p = .001) and loaded well on their latent construct (more than .50), except for HWB_9r (Afraid, β = .20), HWB_8r (Sad, β = .45), and HWB_11r (Angry, β = .48). Furthermore, the results show that the residual covariance of indicators HWB_2r (Negative), HWB_4r (Bad), and HWB_6r (Unpleasant) were

above the acceptable value of 4, suggesting that all the aforementioned negative indicators be removed from the measurement model. The justification is that, firstly, customers may find the negative emotions less relevant, particularly to their daily commute experiences, and secondly, to measure hedonic well-being using all positive indicators still makes sense theoretically, as the high score reflects a better state of hedonic well-being in individuals while the low score reflects the opposite (i.e., based on a five-point scale from never to always).

Next, the modified model was re-analysed with the six remaining indicators, and the results are outlined in Figure 6.9. The fit indices exhibited a substantial improvement with GFI = .972, RMSEA = .089, CFI = .985, and Chi-square/df = 7.33, indicating that the modified model fitted the data better than the original model. Additionally, the standardised estimates obtained within the modified model were all significant and high, ranging from .69 to .90. That is, all positive indicators posited to measure hedonic well-being were theoretically and statistically supported.

GFI=.972 ; RMSEA=.089 ; CFI=.985 ; Chi-square/df=7.331
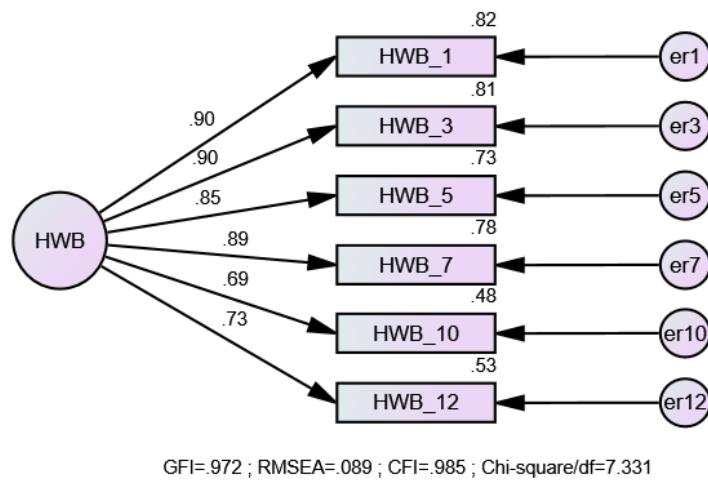
Figure 6.9. The measurement model of hedonic well-being

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Eudaimonic well-being

The eudaimonic approach to well-being focuses on a sense of achievement and purpose within individuals. As outlined in Table 6.14, it was theoretically measured using eight indicators, from EWB1 to EWB8. According to the CFA results, all indicators loaded highly and significantly on their latent construct, eudaimonic, with values ranging from .65 to .88. The goodness-of-fit indices were within the recommended value (GFI = .959, RMSEA = .082, CFI = .975) except for the χ^2/df = 6.42 that was greater than 5.

Further assessment was accordingly made on modification indices, and the highest value appeared between er6 and er7 (M.I. = 24.17), suggesting that these error terms should correlate. That is, both EWB6 (My commute helps me to live a good life) and EWB7 (My commute makes me optimistic about my daily life) share something in common and appear to reflect hedonic well-being, hence correlating these indicators was theoretically justified.

Table 6.14. Eudaimonic well-being

Item	Description	Estimate	Specification
EWB1	My commute helps to make my life purposeful and meaningful	.82	
EWB2	My commute helps me to maintain social relationships	.79	
EWB3	Commuting helps me to engage better in my daily activities	.85	
EWB4	I can contribute to the happiness and well-being of others as a result of commuting	.79	
EWB5	My daily commute gives me the capability to undertake important activities	.77	
EWB6	My commute helps me to live a good life	.88	Correlate error terms (er6 and er7)
EWB7	My commute makes me optimistic about my daily life	.73	
EWB8	During my commute, I feel I am respected by others	.65	
Model fit indices: GFI = .959, RMSEA = .082, CFI = .975, χ^2/df = 6.42			

The re-specified measurement model outlined in Figure 6.10 shows a better fit to the data with GFI = .968, RMSEA = .074, CFI = .981, and χ^2/df = 5.34. Additionally, the standardised estimates of all indicators remained statistically significant (p < .001) and highly similar to those obtained within the original model.

GFI=.968 ; RMSEA=.074 ; CFI=.981 ; Chi-square/df=5.344
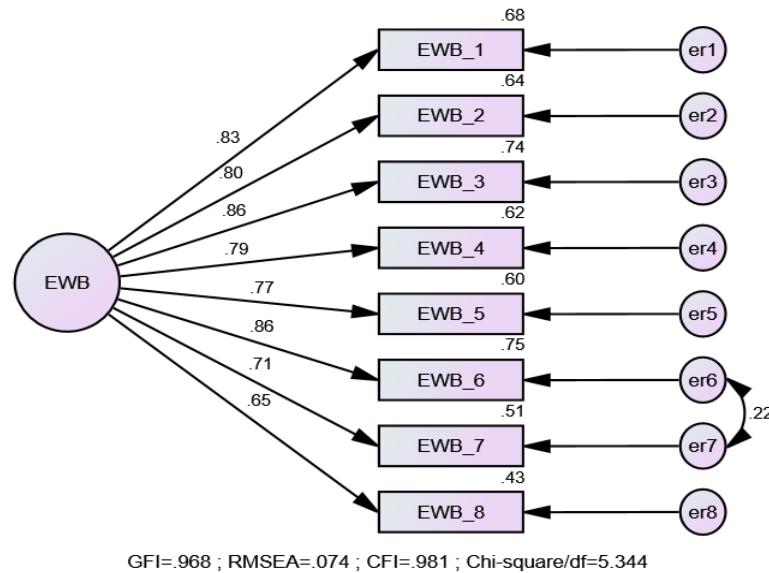
Figure 6.10. Measurement model of eudaimonic well-being

Social well-being

Social well-being measures the quality of one's relationships with other people and communities. As outlined in Table 6.15, four indicators (SWB1r to SWB4r) were theoretically posited to measure the latent construct, social well-being. The results indicate that the standardised coefficient estimates of all indicators were statistically significant ($p < .001$) and loaded highly on social well-being construct, ranging from .81 to .94. Furthermore, the fit indices shown in Figure 6.11 were all within the recommended values, with GFI = .996, RMSEA = .056, CFI = .998, and χ^2/df = 3.47. That is, the measurement model fits the data well, and no further assessment is required.

Table 6.15. Social well-being

Item	Description	Estimate	Specification
SWB1r	In general, how often does your daily commute make you feel… a lack of companionship	.81	
SWB2r	In general, how often does your daily commute make you feel… isolated from others	.91	No
SWB3r	In general, how often does your daily commute make you feel… left out	.94	modification
SWB4r	In general, how often does your daily commute make you feel… lonely	.92	

GFI=.996 ; RMSEA=.056 ; CFI=.998 ; Chi-square/df=3.468
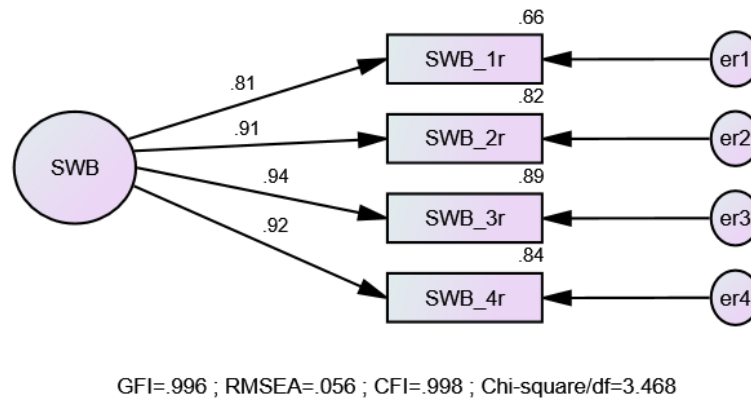
Figure 6.11. Measurement model of social well-being

Physical well-being

Physical well-being theoretically refers to individuals' subjective experiences of physical health, and it was measured using six indicators, from PWB1 to PWB6r, as shown in Table 6.16. The initial results indicate that the model did not fit the data well, and some indicators were below the recommended loading of .50. Further assessment was made on the standardised residuals and modification indices to identify the source of misspecification in the model.

As expected, the results demonstrated a very high modification index (M.I. = 123.63) between er1 (PWB1) and er4 (PWB4). The main reason is that both indicators are apparently similar and thus removing one indicator with a lower factor loading, PWB4 ($\beta = .67$), was deemed appropriate. Similarly, the modification index appeared very high between er5 and er6 (i.e., PWB5r and PWB6r), hence the decision to remove PWB5r from the measurement model. Besides, the standardised residuals for both PWB4 and PWB6r were also above the acceptable value of 4, hence providing more support for deleting these indicators.

Table 6.16. Physical well-being

Item	Description	Estimate	Specification
PWB1	In general, my commuting journey makes me feel … Energetic	.71	
PWB2	In general, my commuting journey makes me feel … Comfortable	.90	
PWB3	In general, my commuting journey makes me feel … Relaxed	.91	
PWB4	As a result of your daily commute, how often … do you have a lot of energy?	.67	Deleted
PWB5r	As a result of your daily commute, how often … do you feel worn-out?	.44	Deleted
PWB6r	As a result of your daily commute, how often … do you feel tired?	.44	
Model fit indices: GFI = .777, RMSEA = .373, CFI = .680, χ^2/df = 112.43			

As outlined in Figure 6.12, the goodness-of-fit statistics of the modified model improved accordingly. As can be seen, the model fits the data well, with the normed chi-square (χ^2/df) = 2.05, GFI = .997, RMSEA = .036, and CFI = .999 all falling within acceptable limits. Despite the fact that the standard estimate of PWB6r appeared to be slightly lower than the recommended value of .50, the researcher decided to keep this indicator at this stage to avoid the model becoming saturated or simply identified due to a lack of information in the observed covariance matrix to calculate the goodness-of-fit statistic (Ho, 2006). This indicator, however, will be re-examined later within the four-factor model of well-being.

GFI=.997 ; RMSEA=.036 ; CFI=.999 ; Chi-square/df=2.052
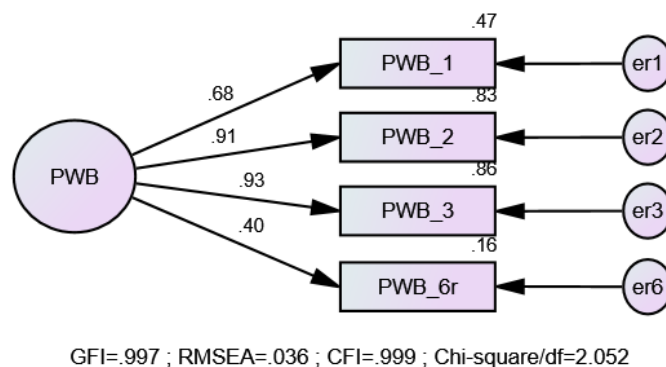
Figure 6.12. Measurement model of physical well-being

Measurement Model of Well-being

Following the confirmation of all single latent constructs, the next assessment focused on the overall measurement model of well-being. On the basis of the structure of the single-factor models, a four-factor model comprising hedonic (HWB), eudaimonic (EWB), social (SWB), and physical well-being (PWB) together with their respective measurement indicators and the correlated error term, was posited and assessed.
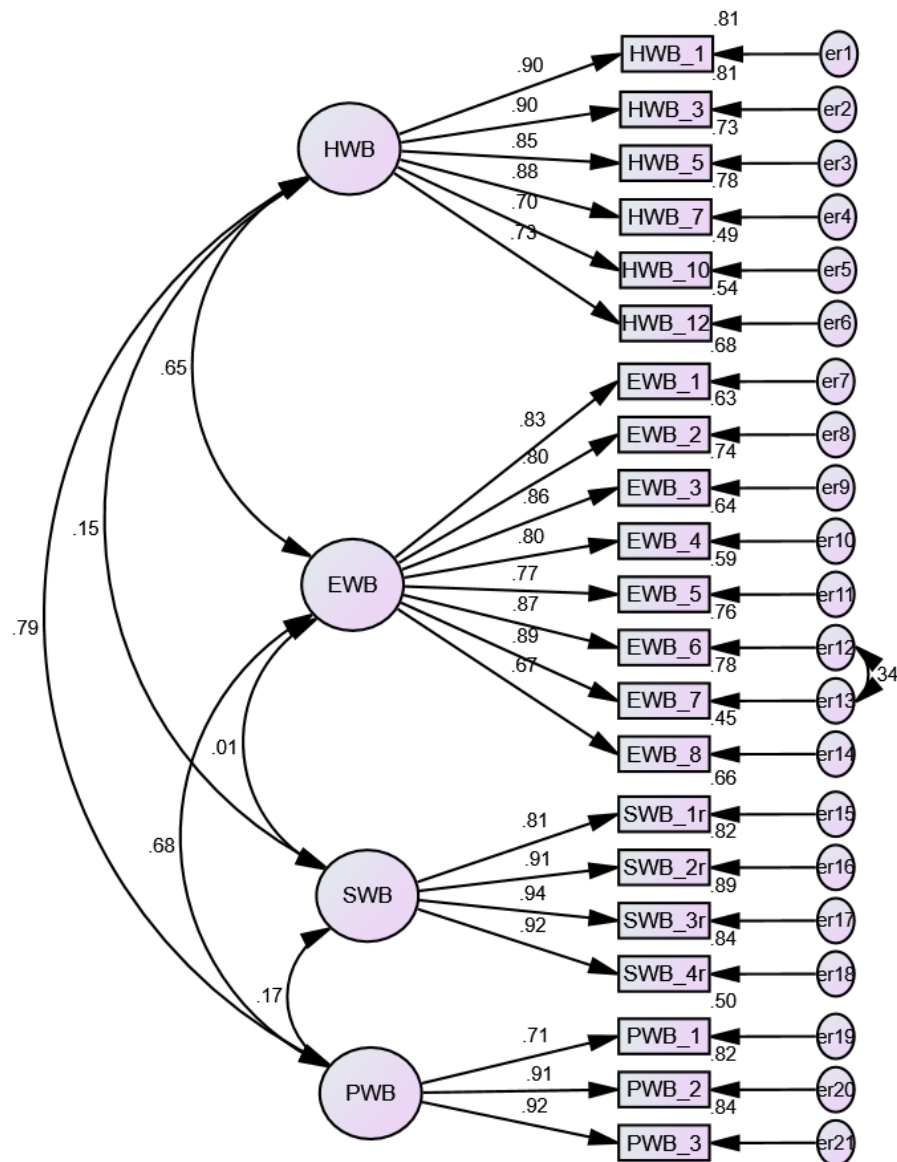
GFI=.914 ; RMSEA=.063 ; CFI=.961 ; Chi-square/df=4.166

Figure 6.13. Measurement model of well-being

As indicated in Figure 6.13, all indicators loaded highly and significantly on their respective latent constructs, ranging from .67 (EWB8) to .94 (SWB9r). None of the latent constructs correlated highly, more than .85, indicating the uniqueness of each construct as well-being outcomes. Furthermore, the squared multiple correlations (SMC) presented at the right end of each indicator ranged from 45% to 89%, indicating a high variance of the given indicators explained by its latent variables. However, the indicator PWB6r was dropped as its standardised estimate remained below the acceptable value of .50. With the removal of PWB6r, the fit indices remained high and were within the recommended threshold (GFI = .914, RMSEA = .063, CFI = .961, and $\chi^2/df = 4.17$).

6.4.3 Customer Satisfaction

In this section, another latent construct of customer satisfaction with the respective indicators is analysed and presented. As outlined in Table 6.17, customer satisfaction was theoretically measured by four indicators, namely CS1 to CS4. The results show that all indicators (ranging from .53 to .94) loaded highly and significantly on the given latent construct, satisfaction ($\beta > .50$, $p < .001$). Furthermore, the goodness-of-fit indices shown in Figure 6.14 were all within an acceptable range, with GFI = .994, RMSEA = .069, CFI = .997, and $\chi^2/df = 4.85$. Therefore, no further assessment was required.

Table 6.17. Customer Satisfaction

Item	Description	Estimate	Specification
CS1	I am satisfied with my decision to commute using this transport provider	.91	
CS2	My choice to commute with this transport provider is a wise one	.94	No modification
CS3	I think I do the right thing when commuting with this transport provider	.88	
CS4	I feel that my experience with this transport provider is enjoyable	.53	

GFI=.994 ; RMSEA=.069 ; CFI=.997 ; Chi-square/df=4.845
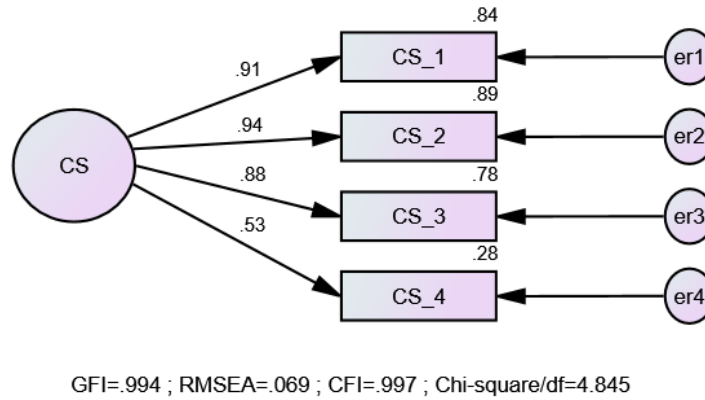
Figure 6.14. Measurement model of customer satisfaction

Once the CFA procedures for every measurement model have been completed, the validity and reliability of study constructs are assessed prior to conducting the structural model. The following section discusses the reliability and validity results.

6.5 Reliability and Validity

Since a number of items were removed and respecified in the measurement model test, the reliability and validity of the constructs need to be assessed prior to the structural model analysis. Results of reliability, convergent validity, and discriminant validity for each latent construct are outlined below.

6.5.1 Reliability

Reliability refers to the stability and repeatability of measurements. To determine the reliability, Cronbach's alpha (α) and composite reliability of each latent construct were assessed. Values of Cronbach's alpha outlined in Table 6.18, ranging from .72 to .94, were greater than the cut-off value of .70 (Cronbach, 1951). This indicates a good internal consistency of all constructs.

Table 6.18. Factor Loading, Cronbach's Alpha and Composite Reliability

Construct	Indicators	Factor loading	Cronbach's alpha (α)	Composite reliability
Provider processes (PP)	PP1	.70		
	PP2	.76	.85	.86
	PP3	.83		
	PP5	.80		
Employees (EM)	EM1	.91		
	EM2	.92		
	EM3	.92	.94	.94
	EM4	.76		
	EM5	.81		
Vehicles (VC)	VC1	.92		
	VC2	.85		
	VC3	.91	.93	.93
	VC4	.89		
	VC5	.72		
Departure points (DP)	DP1	.90		
	DP2	.95	.89	.88
	DP3	.65		
	DP4	.68		
Customer roles (CR)	CR1	.77		
	CR2	.70	.84	.84
	CR3	.84		
	CR4	.72		
In-vehicle activities (IA)	IA1	.65		
	IA3	.61	.72	.73
	IA4	.81		
Fellow passengers (FP)	FP1	.63		
	FP3r	.67		
	FP4r	.87	.91	.91
	FP5r	.95		
	FP6r	.94		
Hedonic well-being (HWB)	HWB1	.91		
	HWB3	.90		
	HWB5	.85	.93	.93
	HWB7	.88		
	HWB10	.69		
	HWB12	.73		
Eudaimonic well-being (EWB)	EWB1	.83		
	EWB2	.80		
	EWB3	.86		
	EWB4	.80	.94	.94
	EWB5	.77		
	EWB6	.87		
	EWB7	.88		
	EWB8	.67		
Social well-being (SWB)	SWB1r	.82		
	SWB2r	.91	.94	.94
	SWB3r	.94		
	SWB4r	.92		

Physical well-being (PWB)	PWB1	.70		
	PWB2	.91	.88	.88
	PWB3	.92		
Customer satisfaction (CS)	CS1	.92		
	CS2	.93	.94	.90
	CS3	.88		
	CS4	.56		

Additionally, the composite reliability (CR) was also assessed to provide more evidence of reliability. Composite reliability was estimated based on standardised factor loadings and error variances, which are thus normally used when analysing CFA. To calculate the CR scores, the following formula was used (Raykov, 1997):

$$CR = \frac{(\Sigma \lambda i)^2}{(\Sigma \lambda i)2 + \Sigma \varepsilon i}$$

Whereby, λ_i is the standardised loading for each observed variable, and ε_i is the error variance associated with each observed variable. As outlined in Table 6.18, the composite reliability scores exceeded the recommended value of .70 (Hair et al., 2010, 2018), demonstrating reliability for all constructs.

6.5.2 Convergent Validity

Convergent validity measures the extent to which the latent variable correlates to the pre-specified indicators when measuring the same construct. That is, indicators of a construct should share a high proportion of variance to provide evidence of convergent validity (Hair et al., 2010, 2018). Within this study, convergent validity was determined using two indicators, including standardised estimates (i.e., factor loadings) and average variance extracted (AVE).

As outlined in Table 6.18, all factor loadings were high, ranging from .56 (CS4) to .95 (DP2 and FP5r), and statistically significant with t-values higher than 1.96. Furthermore, the average variance extracted (AVE) for each latent construct presented on the diagonal in Table 6.19 varied between .489 (IA) and .808 (SWB). Since both factor loadings and the AVE of all constructs exceeded the recommended

value of .50, this indicates a good convergent validity (Fornell & Larcker, 1981; Hair et al., 2010, 2018).

6.5.3 Discriminant Validity

Discriminant validity indicates the extent to which a construct is empirically unique to represents the measure of interest and not a reflection of some other constructs (Hair et al., 2010, 2018). Within this study, discriminant validity was assessed using Fornell and Larcker's (1981) test to compare AVE with the squared correlation between constructs. AVE estimates need to be greater than squared correlation estimates in order for discriminant validity to be supported.

Comparisons between constructs are listed in Table 6.19. The results indicate that the AVE estimates are greater than the squared correlation estimates, confirming the discriminant validity of all latent constructs.

Table 6.19. Average variance extracted (AVE) and shared variance estimates

Construct	1	2	3	4	5	6	7	8	9	10	11	12
1 PP	**.599**	.328	.343	.189	.178	.095	.059	.287	.158	.010	.206	.448
2 EM		**.751**	.360	.240	.195	.106	.135	.310	.194	.018	.268	.381
3 VC			**.742**	.257	.154	.109	.089	.308	.168	.012	.295	.379
4 DP				**.750**	.143	.099	.102	.228	.139	.008	.202	.255
5 CR					**.577**	.126	.035	.102	.065	.004	.072	.216
6 IA						**.489**	.027	.176	.180	.012	.151	.181
7 FP							**.678**	.099	.045	.070	.133	.116
8 HWB								**.691**	.404	.015	.549	.483
9 EWB									**.660**	.000	.462	.294
10 SWB										**.808**	.019	.023
11 PWB											**.722**	.404
12 CS												**.700**

Note. AVE estimates are presented on the diagonal, and squared correlations are above the diagonal.

6.6 Pooled CFA with Second-Order Constructs

Prior to analysing the hypothesised structural model, a pooled CFA (also known as the second-order CFA) was conducted, a procedure that runs all the latent variables at the same time. At this stage, the second-order constructs were included to estimate the factor loading of the higher-order construct on its respective sub-constructs (Byrne, 2013; Kline, 2011). On the basis of customer experience theory, two second-order constructs were hypothesised in the model, including brand/partner-owned touchpoints (BPOT) with four sub-constructs namely provider processes, employees, vehicles, and departure points, and customer-owned touchpoints (COT) with two sub-constructs namely customer roles and in-vehicle activities.

Empirically, the results of second-order CFA show that BPOT and COT loaded statistically well on their respective sub-constructs. As shown in Figure 6.15, the standardised factor loading of BPOT on provider processes (β = .80, p < .001), vehicles (β = .78, p < .001), employees (β = .77, p < .001), and departure points (β = .62, p < .001) were all high and significant. Likewise, the standardised factor loadings of COT on customer roles and in-vehicle activities were β = .66 (p < .001) and β = .62 (p < .001), respectively. With the second-order factor loadings exceeding the cut-off value of .50, this demonstrates a good convergent validity of the second-order constructs. Furthermore, the values of squared multiple correlation (SMC) of all sub-constructs ranged from .38 (IA) to .64 (PP), indicating a good amount of variance in the observed indicator variables accounted for by its latent constructs (Ho, 2006). Accordingly, the results support the hypothesised second-order structure of BPOT and COT in the model.

Furthermore, the results provide information on the interrelationships among latent constructs, where a high correlation (above .85) indicates that they are similar at the measurement level and therefore need more refinement to improve their discriminant validity. As illustrated in Figure 6.15, none of inter-factor correlations, particularly between second-order constructs (i.e., BPOT and COT) were above .85, and thus no modification was required and discriminant validity was supported.

In terms of goodness of fit, there was a good fit between the overall measurement model and the data. The GFI of .847 was slightly lower than the ideal value of .90, but a similar measure, the RMSEA, was significantly lower at .048, indicating evidence of a good absolute fit. Other indices were all within acceptable values, with χ^2 /df = 2.82 and CFI = .933. With the adequate model fit and parameter estimates, no modifications were indicated from the analysis and thus the structural model can be estimated based on all first- and second-order constructs along with their respective indicators confirmed in the pooled measurement model.
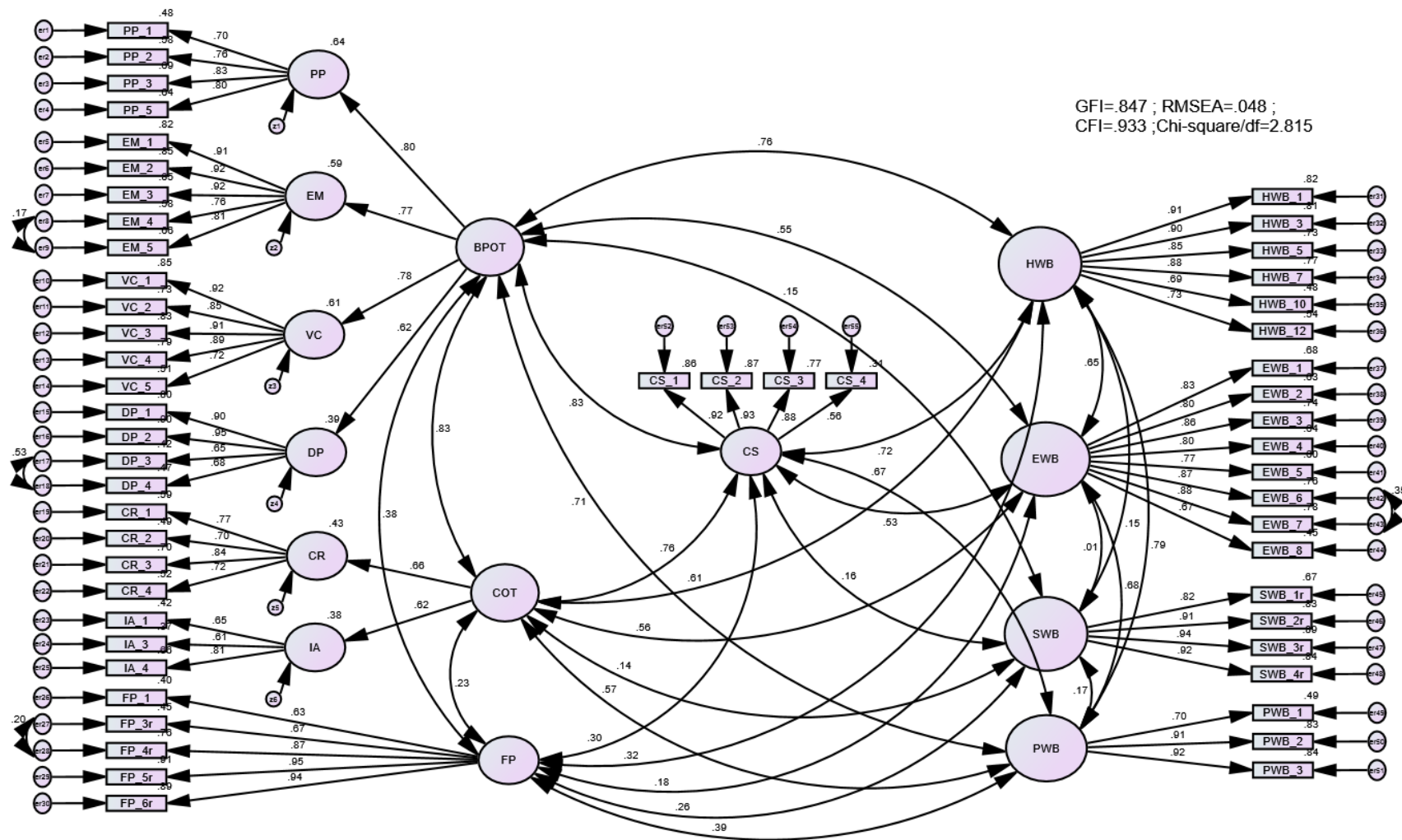
**Figure 6.15.** Results of Pooled CFA

6.7 Structural Model and Hypotheses Testing

Given adequate reliability and validity of the study constructs, the analysis proceeds to estimate how the latent constructs are related to each other in the structural model. Drawing on the factor structure derived from the pooled measurement model, a structural model with single-headed arrows was developed to represent hypothesised relationships between constructs. As illustrated in Figure 6.16, the structural model hypothesised nineteen relationships, which are listed in Table 6.20 from H1 to H5.

Table 6.20. Study Hypotheses

Hypotheses	
H1:	Customer experiences of brand/partner-owned touchpoints are positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.
H2:	Experiences of customer-owned touchpoints are positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.
H3:	Customer experiences of social touchpoints are positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.
H4:	There is a positive association between customer satisfaction and customer experiences of (a) brand/partner-owned touchpoints, (b) customer-owned touchpoints, and (c) social touchpoints.
H5:	Customer satisfaction is positively associated with (a) hedonic well-being, (b) eudaimonic well-being, (c) social well-being, and (d) physical well-being.

The following section presents and explicates the results from the structural model analysis. Firstly, the results of common method bias are presented, secondly, the structural model with the goodness-of-fit is assessed, and finally, results from hypotheses tests are discussed.
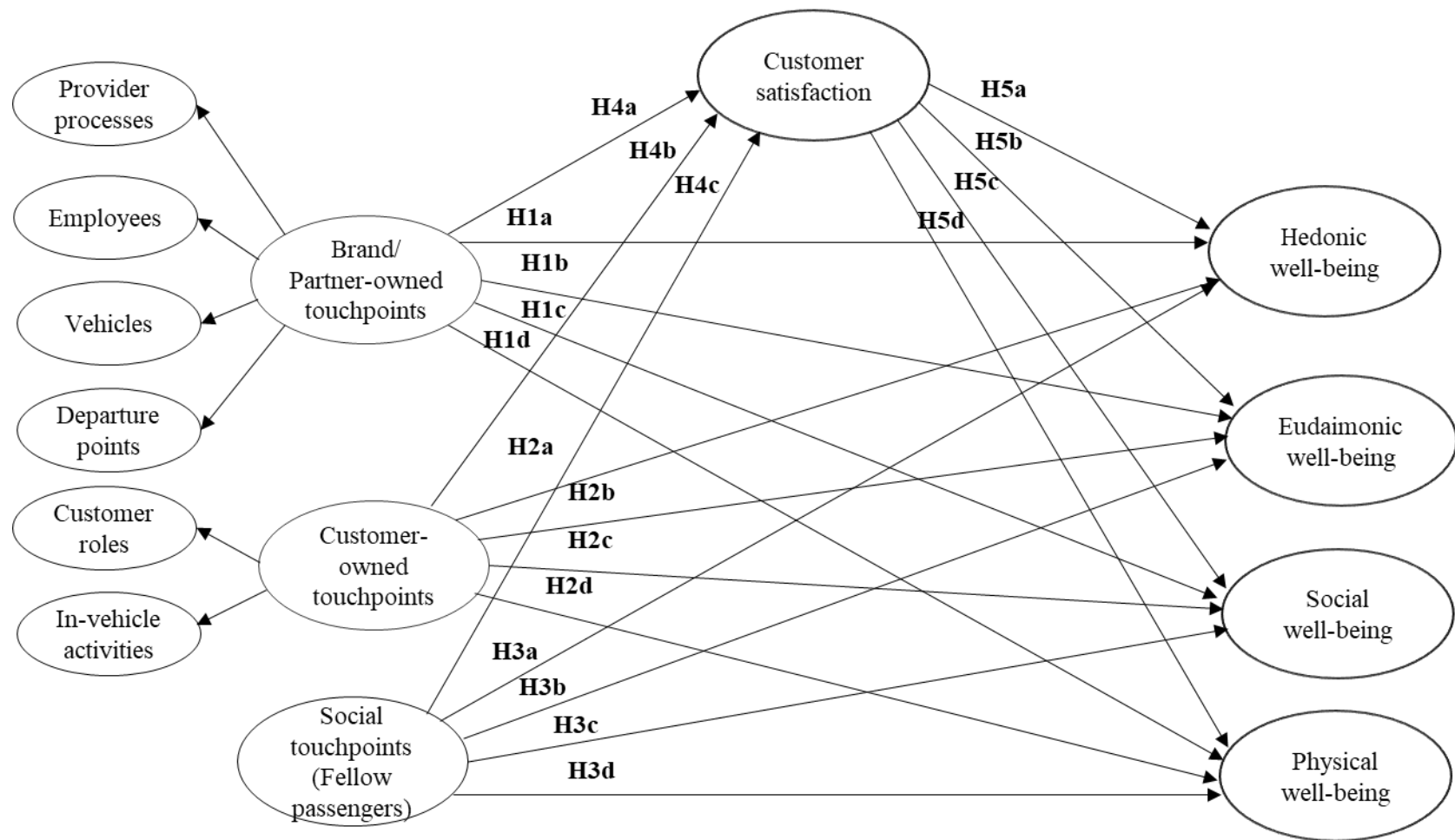
Figure 6.16. The Overview of Hypothesised Structural Model

6.7.1 Assessment of Common Method Bias

As the independent and dependent constructs in the model were obtained from the same respondents, common method bias presents a potential risk to the interpretation of the findings (Kock et al., 2021; Podsakoff et al., 2003, 2012). To assess the risk of common method bias, Harman's exploratory factor analysis test was employed, verifying whether variance in the data can be largely explained by a single factor. As shown in Appendix 8, the results show that the single factor accounts for less than 50% of the variance (i.e., 33.6%), indicating the absence of common method bias (Podsakoff et al., 2003). Additionally, to minimise common method bias, the questionnaire was designed to include different scale formats, including both Likert-type scales (e.g., fellow passengers, eudaimonic well-being) and semantic differential scales (e.g., provider processes, hedonic well-being) (Kock et al., 2021; Podsakoff et al., 2003). Finally, the use of both positively and negatively worded items on constructs has reduced the likelihood of common method bias in this study (Baumgartner & Steenkamp, 2001; Kock et al., 2021). Afterwards, the results of the structural model are detailed.

6.7.2 Assessment of Structural Model and the Goodness-of-Fit

Figure 6.17 shows the results of the structural model analysis. To evaluate the fit of the structural model, a range of indices, including the normed chi-square, CFI, GFI and RMSEA, were assessed. The GFI was .828, which is slightly lower than the cut-off value of .90, but the RMSEA was .052 which indicates an adequate absolute fit. Additionally, the CFI was .92 and the χ^2/df was 3.15, both exceeded the recommended values, indicating the incremental and parsimonious fit of the model, respectively. These diagnostics indicate that the hypothesised structural model fits the empirical data adequately.

Additionally, the results of the structural model outline the coefficient of determination (R^2) values of all endogenous constructs. The R^2 value represents the amount of variance in endogenous constructs accounted for by the exogenous constructs. As Figure 6.17 indicates, 78% of the variance in customer satisfaction is

accounted for by the joint influence of the brand/partner-owned, customer-owned, and social touchpoints. Along with these three touchpoints, satisfaction played an important role in explaining well-being outcomes. In particular, 72% of the variance of hedonic and physical well-being, respectively, was determined by the joint influence of customer satisfaction and their experiences with brand/partner-owned, customer-owned, and social touchpoints. Furthermore, the R^2 value was somewhat lower for eudaimonic well-being, showing that 61% of this construct's variance was explained by its exogenous latent variables. However, the direct paths linking BPOT-SWB (p = 4.16), COT-SWB (p = .874), and CS-SWB (p = .115) were not significant, thus it is no surprise that social touchpoints explained only about 7% of the variance in social well-being.

Although the amount of R^2 should not be used as the only basis for understanding the model's predictive accuracy, it is important to note that there were also negative coefficient estimates on the paths linking CS-HWB (β = -.31), CS-EWB (β = -.54), and CS-PWB (β = -.42). Due to this researcher's concern, partial analyses were conducted to ensure the stability of the results. The results are presented in Appendix 7, and a comparison with the structural model shows the following diagnoses: Firstly, factor loadings for both first- and second-order constructs within partial analyses remained high and significant (loading more than .50, p-value less than .001). Secondly, there were no substantial changes in the variance explained (R^2) values. Hedonic, eudaimonic and physical well-being had R^2 values between 33% and 79%, which are comparable to the R^2 obtained in the structural model (between 61% and 72%). Similarly, the values of R^2 for social well-being obtained in partial analyses (between 3% and 8%) were quite close to the small R^2 of .07 within the overall structural model. Lastly, when analysing partial models, negative coefficients were found on the paths connecting CS-HWB, CS-EWB, and CS-PWB, while the path connecting CS-SWB remained non-significant. Given the fairly stable diagnostics between the overall and partial models, the structural model is deemed statistically satisfactory, and the results of the hypotheses testing are now assessed.
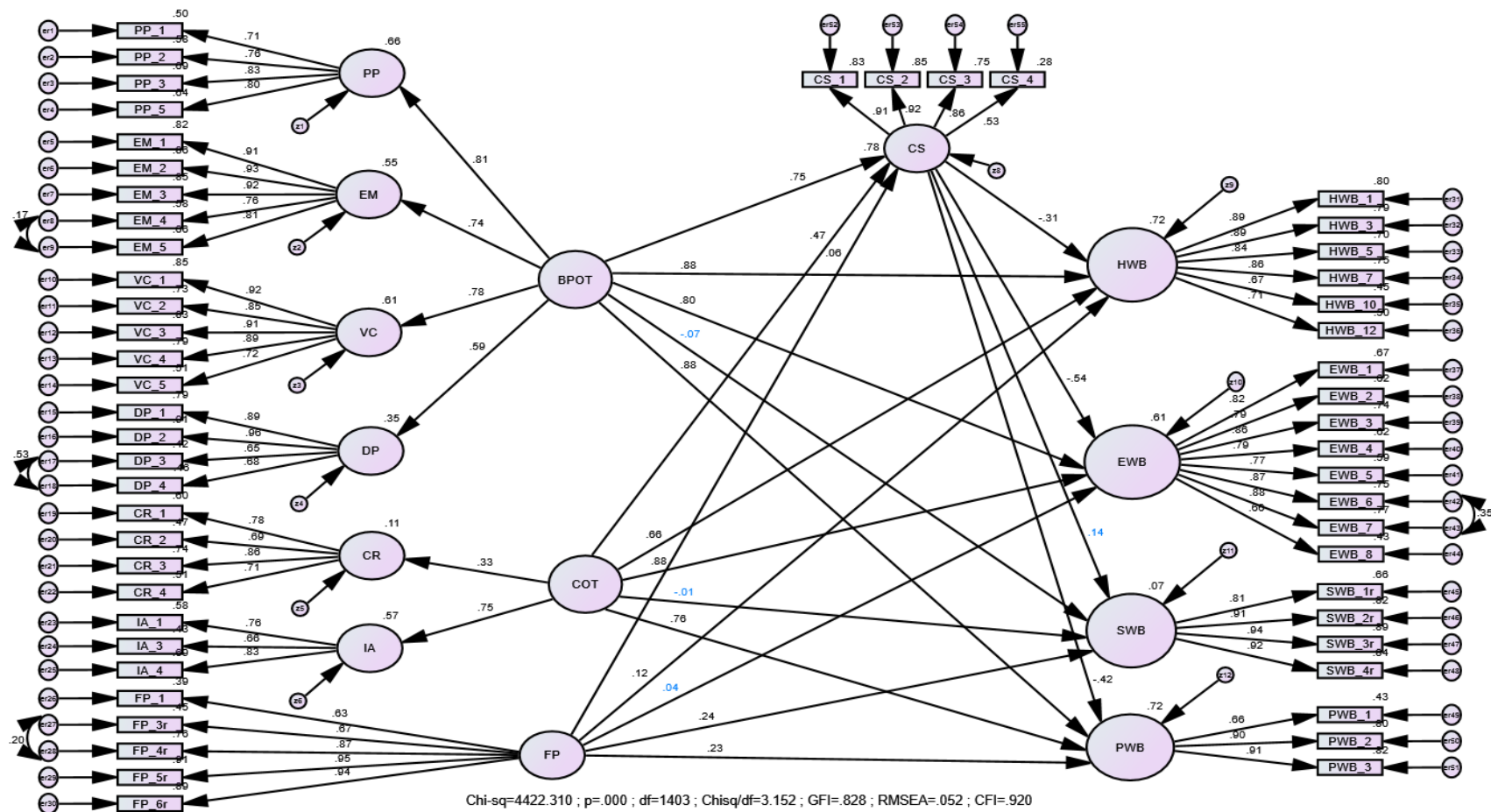
Figure 6.17. Results for Structural Model

Chi-sq=4422.310 ; p=.000 ; df=1403 ; Chisq/df=3.152 ; GFI=.828 ; RMSEA=.052 ; CFI=.920

Note. Coloured values show non-significant standardised estimates

FP = SOT

169

6.7.3 Hypotheses Testing

As shown in Figure 6.17, hypothesised relationships within the structural model were simultaneously tested using SEM. Table 6.21 summarises the standardised coefficient estimates, standard error (S.E.), critical ratio (C.R.), and p-values for each path to determine how the exogenous constructs affect the endogenous constructs as hypothesised in the structural model.

Firstly, the relationships between brand/partner-owned touchpoints (BPOT) and well-being outcomes were examined. As Table 6.21 outlines, BPOT exhibited a positive and significant relationship with hedonic (β = .88, p < .001), physical (β = .88, p < .001), and eudaimonic well-being (β = .80, p < .001), supporting H1a, H1b, and H1d. That is, the better the customers' experience with the brand/partner-owned touchpoints, the greater the reported perception of their well-being, both physically and psychologically. However, the path from BPOT to SWB was below the threshold value of $\pm$ 1.96 (C.R = -.81, p = .416, β = -.07), indicating that what customers experienced within BPOT was not significantly related to social well-being. Therefore, H1c was rejected.

Secondly, the results also support H2a, H2b, and H2d, indicating that customer-owned touchpoints (COT) are positively associated with physical and psychological well-being. The association with eudaimonic well-being was strongest (β = .88, p < .001), followed by physical well-being (β = .76, p < .001) and hedonic well-being (β = .66, p < .001). However, the relationship between customer-owned touchpoints and social well-being was not significant (C.R. = -.16, p = .874) and the standardised coefficient was small (β = -.01), indicating that H2c was rejected. Among the plausible explanations for the non-significant relationship with social well-being is that modern commuters commonly indicated their dislike of interacting with other passengers on their commute to and from work; instead, they preferred engaging with their own activities (e.g., social media, playing games); this was revealed and highlighted in Study 1.

Thirdly, the study found support for H3a, H3c, and H3d, which focus on the relationship between social touchpoints (SOT) and social well-being (β = .24, p <

.001), physical well-being (β = .23, p < .001), and hedonic well-being (β = .12, p < .001). However, no evidence was found to support H3b (SOT – EWB) as the C.R value was not significant (C.R = 1.09, p = .278) and the standardised weight (β) was only .04.

Fourthly, the data also support the hypotheses linking journey touchpoints and customer satisfaction. The standardised coefficient estimate of .75 (C.R = 12.84, p < .001) indicates that customers strongly and positively linked their satisfaction with brand/partner-owned touchpoints – the core service aspects that are largely controlled by service providers (e.g., service frequency, routes covered). Both customer and social touchpoints were also significantly and positively related to satisfaction (β = .47, C.R = 11.20, p < .001; β = .06, C.R = 2.28, p < .05, respectively), supporting hypotheses H4a to H4c.

Finally, the results indicate that customer satisfaction is significantly associated with hedonic well-being (β = -.31, C.R = -3.65, p < .001), eudaimonic well-being (β = -.54, C.R = -5.21, p < .001) and physical well-being (β = -.42, C.R = -6.57, p < .001). Unexpectedly, the associations found between satisfaction and these well-being outcomes were negative, therefore rejecting H5a, H5b, and H5d. That is, even satisfied customers may be experiencing emotional deprivation, a lack of purpose, and physical discomfort. Similarly, no relationship was found between satisfaction and social well-being (β = .14, C.R = 1.58, p = .114), thus rejecting also H5c.

Table 6.21 summarises the results of hypotheses testing. In the next section, this study presents and discusses the results of halo effects.

Table 6.21. Results of Structural Estimates

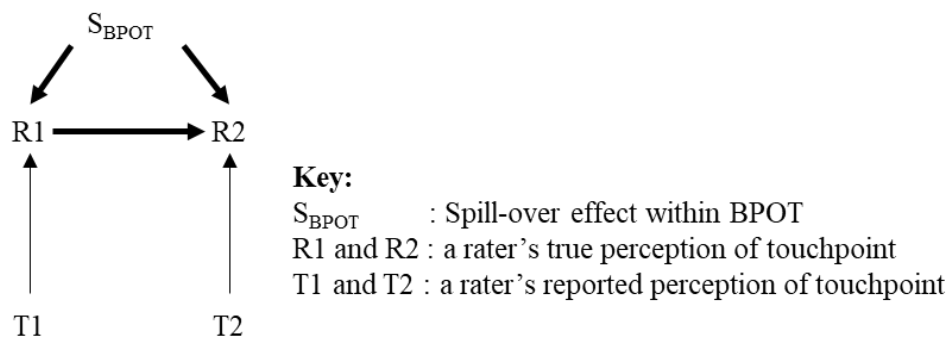| Hypothesised Paths	Standardised Estimate	S.E.	C.R.	P	Decision
H1a: BPOT -- HWB	.88	.071	12.23	***	Supported
H1b: BPOT -- EWB	.80	.130	9.71	***	Supported
H1c: BPOT -- SWB	-.07	.133	-.81	.42	Rejected
H1d: BPOT -- PWB	.88	.079	11.42	***	Supported
H2a: COT -- HWB	.66	.043	12.22	***	Supported
H2b: COT -- EWB	.88	.085	13.03	***	Supported
H2c: COT -- SWB	-.01	.078	-.15	.874	Rejected
H2d: COT -- PWB	.76	.046	14.91	***	Supported
H3a: SOT -- HWB	.12	.029	3.71	***	Supported
H3b: SOT -- EWB	.04	.053	1.09	.278	Rejected
H3c: SOT -- SWB	.24	.058	6.22	***	Supported
H3d: SOT -- PWB	.23	.037	6.51	***	Supported
H4a: BPOT -- CS	.75	.057	12.84	***	Supported
H4b: COT -- CS	.47	.033	11.20	***	Supported
H4c: SOT -- CS	.06	.024	2.28	.023	Supported
H5a: CS -- HWB	-.31	.085	-3.65	***	Rejected
H5b: CS -- EWB	-.54	.167	-5.21	***	Rejected
H5c: CS -- SWB	.14	.152	1.58	.114	Rejected
H5d: CS -- PWB	-.42	.074	-6.57	***	Rejected

Note.

BPOT = brand/partner-owned touchpoints; COT = customer-owned touchpoints; SOT = social touchpoints; HWB = hedonic well-being; EWB = eudaimonic well-being; SWB = social well-being; PWB = physical well-being; CS = customer satisfaction

6.8 Findings on Halo effects – The role of BPOT, COT and SOT on relationship between touchpoints and well-being

As mentioned in Section 1.2 (i.e., Aim and Objectives), Objective 6 of this thesis is *to explore the degree to which halo effects influence the perception of service experience touchpoints and relationship with well-being.* To address this objective, a partial correlation analysis was conducted; this is a similar approach used in halo effect studies (e.g., Landy et al., 1980; Leuthesser et al., 1995). A simple correlation coefficient provides a good sense of a linear relationship between attributes, but very often attributes other than the two under consideration are also responsible for the observed association. The partial correlation coefficient shows how the relationship between attributes changes when the influence of other attributes is partialed-out. Comparisons between the simple correlations and partial correlations are outlined in Tables 6.22 to 6.24. By examining the difference, the presence of the halo effect can be verified by observing which ratings of certain attributes are influenced by rater evaluations of certain other, more salient attributes (Lance et al., 1994).

6.8.1 Spill-over effects within BPOT (S_{BPOT})

This section addresses the spill-over effect within brand/partner-owned touchpoints (BPOT) involving provider processes, employees, vehicles, and departure points. As Figure 6.18 illustrates, a customer's perception of particular touchpoints (R1) may influence their perception of other related touchpoints (R2) within the BPOT.

Key:
S_{BPOT} : Spill-over effect within BPOT
R1 and R2 : a rater's true perception of touchpoint
T1 and T2 : a rater's reported perception of touchpoint

Figure 6.18. Spill-over effects

As Table 6.22 outlines, a comparison between zero-order correlations and partial correlations suggests evidence of spill-over effects within BPOT, distorting the perception of other BPOT and its link to well-being outcomes. In particular, a degree of spill-over effect from provider processes (PP) was shown in Table 6.22 (A), resulting in an inflated relationship between vehicles and social well-being (VC-SWB). After controlling for the provider process construct, the strength of the relationship between VC and SWB decreased by 41%, and the p-value became marginally significant ($p = .065$).

Secondly, the findings also found the existence of spill-over effects of employees. As shown in Table 6.22 (B), the strength of the relationships of PP-SWB, VC-SWB, and DP-SWB reduced significantly when controlling for the employee construct, with p-values becoming non-significant. The findings therefore imply that employees significantly distorted or coloured the touchpoints with provider processes, vehicles, and departure points, resulting in increased correlations of these touchpoints with social well-being.

Thirdly, the findings indicate a degree of spill-over effect of vehicles. As Table 6.22 (C) outlines, vehicles particularly distorted or influenced the link of PP-SWB and DP-SWB, resulting in the inflated correlation strengths of 58% and 57%, respectively. The p-value also became non-significant (.243 and .302, respectively) after controlling for the vehicle construct. The findings therefore imply that the perception that customers had towards vehicles might spill over to the other brand/partner-owned touchpoints (i.e., PP and DP) and their links with social well-being.

Table 6.22. Spill-over effects within BPOT

A. Control Variable: Provider Processes

Variables	Zero-order correlation	Partial correlation	D
EM-HWB	.557*	.361*	35%
VC--HWB	.555*	.353*	36%
DP--HWB	.477*	.320*	33%
EM--EWB	.441*	.283*	36%
VC--EWB	.41*	.238*	42%
DP--EWB	.373*	.242*	35%
EM--SWB	.134*	.096*	28%
VC--SWB	**.110***	**.065**	**41%**
DP--SWB	.087*	.050*	43%
EM--PWB	.518*	.352*	32%
VC-- PWB	.543*	.384*	29%
DP-- PWB	.449*	.314*	30%

C. Control Variable: Vehicles

Variables	Zero-order correlation	Partial correlation	D
PP--HWB	.536*	.313*	42%
EM-HWB	.557*	.336*	40%
DP--HWB	.477*	.273*	43%
PP--EWB	.398*	.213*	46%
EM--EWB	.441*	.267*	39%
DP--EWB	.373*	.210*	44%
PP--SWB	**.098***	**.041**	**58%**
EM--SWB	.134*	.085*	37%
DP--SWB	**.087***	**.037**	**57%**
PP--PWB	.454*	.200*	56%
EM--PWB	.518*	.286*	45%
DP--PWB	.449*	.241*	46%

B. Control Variable: Employees

Variables	Zero-order correlation	Partial correlation	D
PP--HWB	.536*	.319*	40%
VC--HWB	.555*	.333*	40%
DP--HWB	.477*	.281*	41%
PP--EWB	.398*	.198*	50%
VC--EWB	.410*	.204*	50%
DP--EWB	.373*	.200*	46%
PP--SWB	**.098***	**.026**	**73%**
VC--SWB	**.110***	**.038**	**65%**
DP--SWB	**.087***	**.025**	**71%**
PP--PWB	.454*	.225*	50%
VC--PWB	.543*	.340*	37%
DP--PWB	.449*	.262*	42%

D. Control Variable: Departure Points

| Variables	Zero-order correlation	Partial correlation	D
PP--HWB	.536*	.415*	23%
EM-HWB	.557*	.422*	24%
VC-HWB	.555*	.414*	25%
PP--EWB	.398*	.282*	29%
EM-EWB	.441*	.319*	28%
VC-EWB	.410*	.272*	34%
PP--SWB	.098*	.067*	32%
EM-SWB	.134*	.105*	22%
VC--SWB	.110*	.077*	30%
PP--PWB	.454*	.322*	29%
EM-PWB	.518*	.382*	26%
VC--PWB	.543*	.410*	24%

Note. D = difference
  *Significant at .05 significance level
  Values in bold highlight the change of significant p-value

6.8.2 Cross-over effects of BPOT/SOT ($C_{BPOT/SOT}$)

This section addresses the halo effects across touchpoints (i.e., cross-over effects), particularly in relation to brand/partner-owned and social touchpoints. As Figure 6.19 illustrates, a customer's perception of particular touchpoints (R1) may influence their perception of other distinct touchpoints (R2), resulting in cross-over effects.
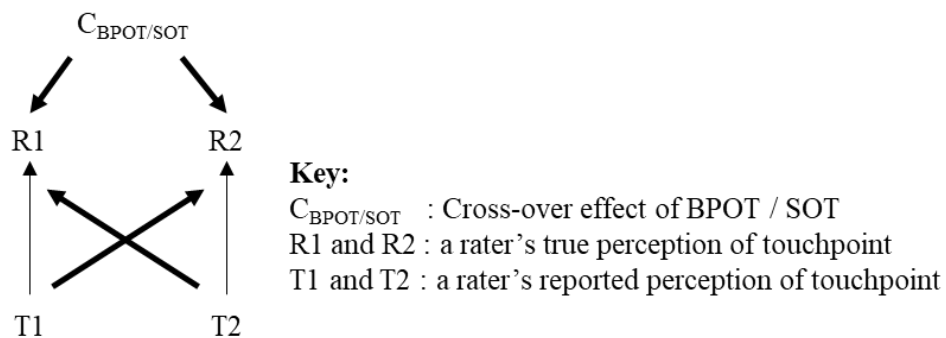
Figure 6.19. Cross-over effects

Firstly, the role of brand/partner-owned touchpoints (BPOT) was tested. The results, as Table 6.23 outlines, indicate that the correlation magnitude and the statistical significance of all associations reduced remarkably (up to 89%) when controlling the BPOT, except for the relationship between SOT and SWB (12%). This indicates the degree of influence of the BPOT on other touchpoints and the impacts on well-being outcomes. As an example, controlling for the BPOT decreased the strength of the relationship between SOT and EWB by 89%, and the p-value became non-significant (p = .412). This implies that the perception that customers had towards SOT and EWB was most likely distorted or "coloured" by their experience with BPOT, indicating the potential presence of a cross-over halo effect.

Table 6.23. The cross-over effect of BPOT

Variables	Zero-order correlation	Partial correlation	Difference (%)
COT -- HWB	.452 [*]	.146 [*]	.306 (68%)
SOT -- HWB	.315 [*]	.090 [*]	.225 (71%)
COT -- EWB	.416 [*]	.196 [*]	.220 (53%)
SOT -- EWB	**.212** [*]	**.024**	**.188 (89%)**
COT -- SWB	**.108** [*]	**.042**	**.066 (61%)**
SOT -- SWB	.265 [*]	.233 [*]	.032 (12%)
COT -- PWB	.404 [*]	.106 [*]	.298 (74%)
SOT -- PWB	.365 [*]	.180 [*]	.185 (51%)

Note. [*]Significant at .05 significance level
Values in bold highlight the change of significant p-value

Secondly, the associations of BPOT and COT with well-being outcomes were examined, assessing if there is a significant influence of SOT on these associations. As the findings in Table 6.24 show, the coefficients of each association decreased after SOT was controlled. A remarkable difference was exhibited in the relationship between BPOT and SWB (73%), implying the cross-over effect of SOT on this relationship. That is, touchpoints with fellow passengers had distorted the perception on BPOT, inflating the link between BPOT and social well-being. The truth might be different, though, because it was evident that the strength of the relationship became weak and insignificant without SOT ($r = .036$, $p > .05$).

Table 6.24. The cross-over effect of SOT

Variables	Zero-order correlation	Partial correlation	Difference (%)
BPOT -- HWB	.659 [*]	.615 [*]	.044 (7%)
COT -- HWB	.452 [*]	.415 [*]	.037 (8%)
BPOT -- EWB	.503 [*]	.468 [*]	.035 (7%)
COT-- EWB	.416 [*]	.389 [*]	.027 (6%)
BPOT -- SWB	**.133** [*]	**.036**	**.097 (73%)**
COT -- SWB	**.108** [*]	**.055**	**.053 (49%)**
BPOT -- PWB	.611 [*]	.547 [*]	.064 (10%)
COT -- PWB	.404 [*]	.358 [*]	.046 (11%)

Note. [*]Significant at .05 significance level
Values in bold highlight the change of significant p-value

6.8.3 The personal halo effect of COT (P_{COT})

Lastly, this section addresses the personal halo effects of customer-owned touchpoints (COT) involving customer roles and in-vehicle activities. As shown in Figure 6.20, COT has a personal halo effect, which can distort or influence one's perception towards other touchpoints (R1 and R2) during the commute and have an impact on well-being outcomes.
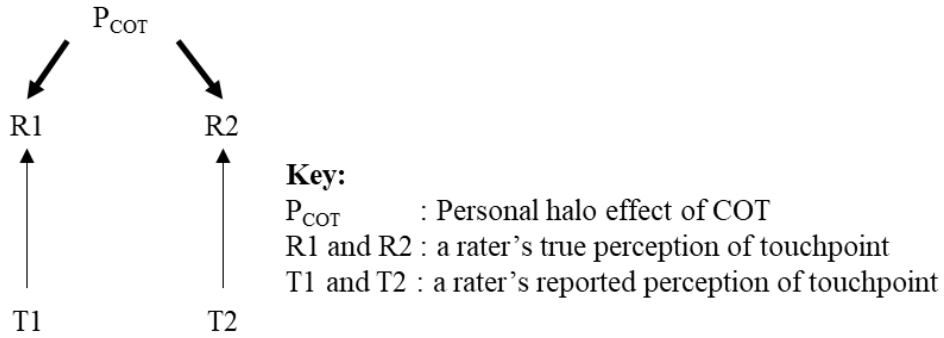
Figure 6.20. Personal halo effects

As outlined in Table 6.25, the results show that the coefficients decreased between 6% and 34% after controlling for COT, but the differences were not substantial and the p-values remained significant for all associations. As a result, this study suggests that the halo effect may occur in various relationships between touchpoints and well-being outcomes, but the role of COT in influencing or "colouring" customers' perceptions on this matter is rather negligible.

Table 6.25. The personal halo effect of COT

Variables	Zero-order correlation	Partial correlation	Difference (%)
BPOT -- HWB	.659 [*]	.552 [*]	.107 (16%)
SOT -- HWB	.315 [*]	.251 [*]	.064 (20%)
BPOT -- EWB	.503 [*]	.363 [*]	.140 (28%)
SOT -- EWB	.212 [*]	.139 [*]	.073 (34%)
BPOT -- SWB	.133 [*]	.089 [*]	.044 (33%)
SOT -- SWB	.265 [*]	.249 [*]	.016 (6%)
BPOT -- PWB	.611 [*]	.509 [*]	.102 (17%)
SOT -- PWB	.365 [*]	.313 [*]	.052 (14%)

Note. [*]Significant at .05 significance level

Overall, this study suggests that halo effects might occur in the context of mundane service experiences, in which some touchpoints will colour or influence other touchpoints to a certain extent. The most obvious finding to emerge from this study is the cross-over effects of BPOT and SOT on the three following paths: (1) BPOT distorted and increased the link of SOT-EWB by 89%; (2) SOT distorted and increased the link of BPOT-SWB by 73%; and (3) both BPOT and SOT distorted and increased the link of COT-SWB by 61% and 49%, respectively (see highlighted paths in Table 6.23 and Table 6.24). Surprisingly, these were the same non-significant paths that were shown on the structural model and thus rejected. To recall, the rejected hypothesised paths were H1c (BPOT-SWB), H2c (COT-SWB), and H3b (SOT-EWB) – exactly the same paths highlighted from the partial correlation analysis (see Table 6.26). The consistency of findings indicates the stability of the structural model and implicitly shows the benefit of analysing a range of service experience touchpoints simultaneously through SEM.

6.9 Summary of Chapter 6

This chapter presents the results of the quantitative study. Structural equation model analysis was conducted using AMOS, involving (1) CFA for both individual and overall measurement models, and (2) structural model analysis for hypotheses testing. The statistical results supported all hypotheses except the links BPOT-SWB (H1c), COT-SWB (H2c), SOT-EWB (H3b), and CS-all well-being outcomes (H5a to H5d), as Table 6.26 summarises. Except for social well-being, the findings show that service experience touchpoints had a positive impact on customer well-being, however negative relationships were found between customer satisfaction and well-being outcomes. Additionally, partial correlation analyses were conducted, and the results found the potential presence of halo effects, particularly for BPOT and SOT. The following chapter provides a discussion of both qualitative and quantitative studies.

Table 6.26. Summary of results for all hypothesised relations

Hypotheses		Result
H1a	Customer experiences of brand/partner-owned touchpoints are positively associated with hedonic well-being	Supported
H1b	Customer experiences of brand/partner-owned touchpoints are positively associated with eudaimonic well-being	Supported
H1c	Customer experiences of brand/partner-owned touchpoints are positively associated with social well-being	Rejected
H1d	Customer experiences of brand/partner-owned touchpoints are positively associated with physical well-being	Supported
H2a	Experiences of customer-owned touchpoints are positively associated with hedonic well-being	Supported
H2b	Experiences of customer-owned touchpoints are positively associated with eudaimonic well-being	Supported
H2c	Experiences of customer-owned touchpoints are positively associated with social well-being	Rejected
H2d	Experiences of customer-owned touchpoints are positively associated with physical well-being	Supported
H3a	Customer experiences of social touchpoints are positively associated with hedonic well-being	Supported
H3b	Customer experiences of social touchpoints are positively associated with eudaimonic well-being	Rejected
H3c	Customer experiences of social touchpoints are positively associated with social well-being	Supported
H3d	Customer experiences of social touchpoints are positively associated with physical well-being	Supported
H4a	There is a positive association between customer satisfaction and customer experiences of brand/partner-owned touchpoints	Supported
H4b	There is a positive association between customer satisfaction and customer experiences of customer-owned touchpoints	Supported
H4c	There is a positive association between customer satisfaction and customer experiences of social touchpoints	Supported
H5a	Customer satisfaction is positively associated with hedonic well-being	Rejected
H5b	Customer satisfaction is positively associated with eudaimonic well-being	Rejected
H5c	Customer satisfaction is positively associated with social well-being	Rejected
H5d	Customer satisfaction is positively associated with physical well-being	Rejected

CHAPTER 7
DISCUSSION

7.1 Introduction

This thesis utilised a sequential exploratory mixed-methods design. On the basis of this design, three stages of analyses were conducted: after the primary qualitative phase (see Chapter 4), after the secondary quantitative phase (see Chapter 6), and finally at the integration phase that connects the two strands of qualitative and quantitative data. This chapter reports on the final integration phase of the thesis. The first section of the chapter highlights the integration of interview data into variables for a survey, which entails identification of the salient service experience touchpoints during a commute and the well-being outcomes. The second section demonstrates data integration that leads to the generation of research hypotheses and focuses on the relationships between service experience touchpoints and well-being outcomes. Finally, the chapter concludes with a discussion of the prevalent halo effects based on the results of the two studies.

7.2 Interviews > Survey: Touchpoints and Well-Being Outcomes

This section outlines study integration, which involves converting interview data into survey items that can be statistically used for further analysis. The interviews with regular public transportation users were conducted in order to better understand the phenomenon of mundane service experiences and the subsequent well-being outcomes, specifically what constructs should be measured in order to best understand the salient touchpoints of commuting journeys and the well-being outcomes of such experiences. Key themes emerging from the interviews informed the key concepts and item pool of the online survey, thereby supporting the development or refinement of the quantitative instrument. This section also discusses

the results of the measurement model of service experience touchpoints and well-being to show how it reflects the qualitative findings. The following discussion starts with the service experience touchpoints and, subsequently, the well-being outcomes.

7.2.1 Touchpoints of Mundane Service Experiences

Prior research highlights that every touchpoint always results in an experience, regardless of how ordinary or mundane the service is (Halvorsrud et al., 2016). Because mundane service experiences have received little attention compared to extraordinary or peak experiences (e.g., theme parks) (McColl-Kennedy et al., 2015), this research provides important insights into this phenomenon, particularly in understanding the key service touchpoints during the customer journey with public transport. Study 1 adopted the sequential incident technique to develop an in-depth and comprehensive understanding of the customer's end-to-end journey rather than focusing on individual touchpoints or aggregate evaluations of customer experience, as recently criticised in Becker and Jaakkola (2020). Such a detailed understanding of different touchpoints of public transport service and how they contribute to everyday commuting experiences also provides a further elaboration on Lemon and Verhoef's (2016) conceptual model of customer experience.

Study 2 extended the qualitative findings by statistically measuring if the theorised second-order constructs (i.e., brand/partner-owned and customer-owned touchpoints) loaded on their respective sub-constructs. The findings of the quantitative study were crucial because the existing research, to date, has barely measured customer experience touchpoints at the second-order level. By empirically testing both first- and second-order constructs (using CFA), the findings provide evidence of the unidimensionality, validity and reliability of each latent construct, which is needed at a later stage when modeling their inter-relationship in a structural model (through hypotheses testing).

Consistent with prior studies on commuting experiences (e.g., Carreira et al., 2013; Pareigis, Edvardsson, & Enquist, 2011), Study 1 found that key commuting touchpoints were most often associated with *provider processes* (e.g., ticketing

system, reliability), *the physical environment* (e.g., appearance, facilities, cleanliness), and *employees* (e.g., behaviour, attitude). Participants also highlighted the relevance of partner-owned touchpoints within a public transport setting involving *stations* or *stops* and the *infrastructure*. Although these touchpoints are often jointly designed, managed, or controlled by other transport or retail providers, this study demonstrates their importance on customer experiences, and thus supporting the notion that customers are influenced even by factors beyond the control of service providers (McColl-Kennedy et al., 2015). However, this thesis aligns with some prior studies that suggest boundaries between certain touchpoints may blur (Lemon & Verhoef, 2016; Tax et al., 2013), as the qualitative study found that customers did not typically distinguish between brand- and partner-owned touchpoints. Accordingly, both touchpoints were conflated as brand/partner-owned touchpoints when tested in the quantitative study. Study 2 found that the sub-constructs of brand/partner-owned touchpoints had high factor loadings (between β = .80 and β = .62), as expected, confirming the critical role of provider processes, vehicles, employees, and departure points in commuting experiences.

While brand/partner-owned touchpoints were largely mentioned by participants as crucial to their service experiences, the account of customer-owned and social touchpoints supports a broader view of the service experience beyond what the organisation delivers. This is crucial because public transport research and practitioners have traditionally focused on the core (e.g., reliability) and technical aspects of the service (vehicle design) (e.g., Hine & Scott, 2000; Pareigis et al., 2011), but tend to overlook the social and personal aspects of customers. In Study 1, customers commented on how fellow passengers influence their service experiences, either directly through interpersonal interaction or indirectly through their use of the service environment, for instance by *leaving garbage behind* or *taking up a seat with their bag*. Consistent with previous research (e.g., Harris & Baron, 2004; Moore, Moore, & Capella, 2005), behaviour of this kind can intentionally or unintentionally create unpleasant feelings, impacting negatively on the commuting experience. The interviews also extend this knowledge by demonstrating that fellow passengers can negatively influence customers' experiences simply through proximity and anti-social behaviour. Furthermore, Study 2 provides statistical evidence on the customer-

to-customer interactions as all items had significant factor loadings and adequately explained the respective construct (fellow passengers; between $\beta = .63$ and $\beta = .95$).

Additionally, Study 1 also revealed that service experiences involve customer-owned touchpoints. Consistent with previous research, participants mentioned that consumers' experiences are influenced by how they spend their time during the journey, for example, by *listening to music*, *reading*, or *browsing the internet.* Ettema et al. (2012), for example, indicated that customer participation can positively influence the service experience as it increases customer enjoyment. Interestingly, participants also referred to activities such as *buying tickets* and *changing buses or trains* as part of the service process. Participation in customer roles provides greater convenience and more control over timing of delivery and service outcomes – in line with what has been mentioned in prior studies (e.g., Bendapudi & Leone, 2003; Bitner et al., 1997; Ettema et al., 2012; Moore et al., 2005). The findings also uphold the notion that customers are no longer passive recipients of what an organisation does for or to them; instead, customer experience depends on what a customer can and is willing to do and how much an organisation allows the customers to actually do themselves (e.g., McColl-Kennedy et al., 2015). Following that, Study 2 subsequently provided statistical evidence of the importance of customer roles and in-vehicle activities within customer-owned touchpoints ($\beta = .66$ and $\beta = .62$, respectively).

Table 7.1 shows a joint display that maps qualitatively derived codes to survey items on customer experience touchpoints. Building on the interview data, a 38-item survey on service experience touchpoints was selected from the literature and adapted for the public transport context based on participants' phrases during the interviews. These touchpoint measures were then analysed and tested using quantitative data.

Table 7.1. A joint display that maps qualitatively derived codes to survey items - Service experience touchpoints

Concept/ Touchpoint	Qualitative findings	Development of the research instrument	Quantitative findings	Comments
Brand and partner-owned touchpoints (BPOT)	Key commuting touchpoints include • *provider processes* (e.g., reliability, ticketing system): *"It is annoying to me when the train is always late. The train was supposed to stop at my station, but it didn't and just passed [through the station] and kept going"* (Participant 3, Train).	*Provider processes (*Lai & Chen, 2011)		
	• *physical environment* (e.g., appearance, facilities, cleanliness) *"Sometimes there are quite a lot of litters on the train, and some trains have Wi-Fi, which is good. I suppose the train itself could be better because there were times when the doors, for example, didn't function [properly]"* (Participant 6, Train)	*Vehicles* (Carreira et al., 2014)	The standardised factor loading of BPOT on provider processes (β = .80, p < .001), vehicles (β = .78, p < .001), employees (β = .77, p < .001), and departure points (β = .62, p < .001) were high and significant.	• The hypothesised second-order structure of BPOT was confirmed. • All items explained their respective first-order constructs (i.e., BPOT); some item scales were either deleted because they were irrelevant in the present study context (i.e., everyday commutes), or correlated by error terms because they measured something in common.
	• *employees* (e.g., behaviour, attitude "*Staff at the ticket counter are always pleasant and friendly to me, and helpful too"* (Participant 2, Train)	*Employees* (Ding et al., 2010)		
	and, • *stations/stops/infrastructure* *"Stations are pretty good. There are several coffee shops and restaurants, and there is also a small Sainsbury's, which is also pretty convenient. Overall, I think the amenities are good"* (Participant 12, Train)	*Departure points* (Garg et al., 2014)		

Concept/ Touchpoint	Qualitative findings	Development of the research instrument	Quantitative findings	Comments
Customer-owned touchpoints (COT)	During the commuting journey, customers typically will: • *participate in the service process* (e.g., buying tickets, changing buses or trains) *"Once there [the connecting station], I just crossed the road and got the second bus from there"* (Participant 1, Bus) and, • *undertake their preferable activities* (e.g., reading, working) *"During the ride, I normally just sit down and put the earphones on, listen to the songs and read books. If I am not reading, I will just look out the window and spend the journey changing songs"* (Participant 7, Train)	*Customer roles* (Dong et al., 2015) *In-vehicle activities* (Mokhtarian & Salomon, 2001a)	The standardised factor loading of COT on customer roles and in-vehicle activities were β = .66 (p < .001) and β = .62 (p < .001) respectively.	• The hypothesised second-order structure of COT were confirmed. • All items explained their respective first-order constructs (i.e., COT); some item scales were either deleted because they were irrelevant in the present study context (i.e., everyday commutes), or correlated by error terms because they measured something in common.
Social touchpoint (SOT)	• Fellow passengers (FP) may influence the service process and the commuting experience, including by their action and behaviour: *"Some passengers are really selfish; they, for instance, put their bags on the seats, and* then someone has to ask for the seat" (Participant 17, Subway)	*Fellow passengers* (Reynolds & Harris, 2009)	The standardised factor loading of all items on FP were high and significant (from β = .63 to β = .95, p < .001).	• All items remained as it adequately explained the respective construct – FP.

7.2.2 Well-being in Relation to Everyday Commuting

Besides service experience touchpoints, results from Study 1 revealed the presence of all three well-being outcomes – psychological, physical, and social – in the daily commuting experience. The findings contribute significantly to the customer well-being literature because the concept itself remains nebulous (Dodge et al., 2012; Ryff et al., 2021) and transformative service research lacks a common measure to assess customer well-being (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011). Importantly, the interviews provide a clearer idea of the customer's well-being and enable the study to offer a more precise definition, particularly in the context of commuting (e.g., what commuting well-being means to customers of public transport). This precision facilitates the selection of scale items for the following quantitative study (Study 2), theory testing, and eventually theory development.

Psychologically, the evidence suggests that both hedonic and eudaimonic well-being were affected by the commuting experience – the two psychological outcomes that have been mentioned in the conceptual work of TSR (Anderson et al., 2013). For hedonic well-being, participants reported their affective responses during an episode or journey, including their pleasant and unpleasant moods or emotions (e.g., *I feel frustrated, irritable, and angry sometimes if I get a really rude driver* (Participant 8, Bus); *if the train is on time, and I get to the workplace in time, I am happy* (Participant 3, Train)). This supports the common practice of including both positive and negative scales in assessing the affective component of well-being (e.g., De Vos et al., 2013; Diener & Suh, 1997).

The findings also provide empirical evidence supporting the existing proposition that well-being is more than emotion and affect (e.g., De Vos et al., 2013), but it can significantly contribute to eudaimonic well-being. In particular, participants largely acknowledged how their daily commute contributed to a broad sense of purpose. The instance of *"I like passing through the coffee shops, the early morning rush at Central Station. It gives me a feeling of being awake and starting the day, and everybody is getting ready to go to the office. I like the feeling of doing something, like going to university"* (Participant 1, Bus) supports the indication that

daily commutes and/or activities that people undertake during commuting allow people to feel "functional" as individuals and make good progress in everyday life. Fulfillment of such needs is essential for psychological well-being (De Vos et al., 2013; Ettema et al., 2010).

While hedonic and eudaimonic well-being have been mentioned as the most germane outcomes to service research (Anderson et al., 2013), this study expands the view by identifying that services could also have physiological and social impact. Participants, for example, reported physical discomfort as a result of poor service environments such as *uncomfortable* or *poorly designed seating* (Participant 9, Train) or feeling *physically exhausted* by the end of the journey (Participant 15, Train). While extant literature provides evidence of the opposing health effects of commuting, for example, increased blood pressure and a higher body mass index (BMI) (e.g., Chatterjee et al., 2017, 2019; Hansson et al., 2011; Künn-Nelen, 2015), this study demonstrates the subjective response of physical outcomes, including symptoms of fatigue, loss of alertness, and somatic pain or discomfort. Such negative health outcomes of commuting may be less obvious compared to blood pressure and body weight measurements, but over time they are likely to take a toll.

In terms of social well-being, the interviews revealed how commuting makes it difficult to maintain family ties and social relationships. According to participants, it displaces time spent with a *spouse, family, or friends* (e.g., Participant 5, Train), ultimately reducing the quality of social relationships. Yet, such activities have been shown to be associated with greater life satisfaction, happiness and social well-being (Diener et al., 2010; Lorenz, 2018). Other social aspects mentioned by participants were related to the impact of other passengers. While some studies find the positive effect of social interaction in commuting, for example, making the commutes more pleasant and relaxing (Ettema et al., 2012; Harris & Baron, 2004), the interviews demonstrate that the behaviour of other passengers – for instance, those *speaking too loudly on a mobile phone* or *taking up too much space* – can result in social discomfort for commuters, thus having an the undesirable effect that requires careful attention from service providers.

Table 7.2 shows a joint display that maps qualitatively derived codes to survey items on four well-being outcomes. On the basis of interview findings, different scales were adapted to measure hedonic and eudaimonic well-being (Diener et al., 2010), physical well-being (Bustamante & Rubio, 2017; Sullivan et al., 1995), and social well-being (Matthews et al., 2016) in the context of public transport service.

Furthermore, the results from confirmatory factor analysis provided support for the proposed measures of well-being and validated the four-factor conceptualisation of customer well-being. Surprisingly, the results of hedonic well-being contradicted Diener et al.'s (2010) measure, where all negative indicators had low factor loadings. The modification and use of positive indicators on a five-point scale (from never to always) was justified in the context of daily commutes and made sense theoretically, as negative emotional reactions can still manifest as a low score on positive indicators. A similar example was found in Ettema et al. (2012), who measured the affective state of well-being using a bipolar scale where the negative and positive poles can be interpreted as negative and positive emotions, respectively. Additionally, two eudaimonic items, EWB6 (*My commute helps me live a good life*) and EWB7 (*My commute makes me optimistic about my daily life*), had something in common; hence, a combined item is worth considering in future research. For physical well-being, three items from PWB1 to PWB3 were retained for further analysis within the thesis, while no modification were made to social well-being.

Overall, the thesis is one of a few empirical studies that conceptually develops and empirically tests a framework of well-being outcomes pertaining to mundane service experiences by incorporating different aspects of customer well-being. This is particularly vital to TSR literature since most studies to date have either measured well-being at a broad level (e.g., Chatterjee et al., 2019; Dagger & Sweeney, 2006) or concentrated on psychological or subjective well-being (e.g., De Vos et al., 2013; Sharma, Conduit, & Hill, 2017).

Table 7.2. A joint display that maps qualitatively derived codes to survey items – Well-being outcomes

Concept/ Well-being	Qualitative findings	Development of the research instrument	Quantitative findings	Comments
Hedonic well-being	Emotions in regard to the commuting journey, normally described into affective responses: *"I feel frustrated, irritable, and angry sometimes if I get a really rude driver"* (Participant 8, Bus): *"If the train is on time, and I get to the workplace in time, I am happy"* (Participant 3, Train)	*Scale of positive and negative experience* (Diener et al., 2010) - assesses subjective feelings of well-being	The standardised estimates were statistically significant (p = .001) and loaded well on their latent construct (> .50), except negative items	Only positive items remained as customers found the negative emotions less relevant, particularly to their daily commute experiences. A high score reflects a better state of hedonic well-being, while a low score reflects the opposite
Eudaimonic well-being	Sense of accomplishment and purpose: *"I like passing through the coffee shops and the early morning rush at Central Station. It gives me a feeling of being awake, starting the day, and everybody is getting ready to go to the office. I like the feeling of doing something, like going to university"* (Participant 1, Bus)	*The flourishing scale* (Diener et al., 2010) – measures important aspects of human functioning, including feelings of competence, meaning and purpose in life	Modification indices (M.I. = 24.17) suggested for error terms between er6 (EWB6) and er7 (EWB7) to be correlated	EWB6 (*My commute helps me to live a good life*) and EWB7 (*My commute makes me optimistic about my daily life*) had something in common; findings suggested a mixture of items
Physical well-being	Individuals' subjective experiences of physical health: *"The seats are not comfortable; this is my only complaint. I started suffering from backaches because of the seats"* (Participant 9, Train)	*Physical well-being* (Bustamante & Rubio, 2017; Sullivan et al., 1995) – assesses physiological responses in their interactions service	PWB4, PWB5r and PWB6r were deleted due to low-factor loadings	Three items (i.e., PWB1 to PWB3) remained for further analysis
Social well-being	Quality of one's relationships with others including communities: *"There is not usually much interaction because the train is quite isolated. It is not easy. When you're faced with a long commute or a lot of time away from home, it can be really difficult to stay connected"* (Participant 4, Train)	*Social well-being* (Matthews et al., 2016) - assesses social relationships as individuals perceive in their social environments	Standardised coefficient estimates of all indicators were statistically high (ranging from .81 to .94) and significant (p < .001)	All items (SWB1r to SWB4r) adequately explained social well-being, thus no modifications were made

7.3 Integration: Hypotheses Formulation and the Findings

Prior service research has indicated that customers encounter and interact with different touchpoints of service (e.g., employees, service offerings, or processes), and such experiences are likely to affect their well-being (Anderson, 2010; Anderson et al., 2013). However, the existing research, to date, has been largely conceptual, with many empirical studies focusing on services that have clear transformative goals (e.g., healthcare and education) (Xie et al., 2020). The empirical understanding of how and to what extent the mundane experiences of service touchpoints influence a wide range of potential well-being outcomes remains limited. Accordingly, this thesis intends to generate and then test hypotheses about customer experience touchpoints that may be related to well-being outcomes. To address this, a quantitative study (Study 2) used the conceptualised touchpoints and well-being outcomes built from the qualitative study (Study 1).

This section describes the integration of qualitative and quantitative findings pertaining to the relationships between mundane service experiences and customer well-being using a joint display shown in Table 7.3. The first section focuses on the effects on physical well-being; the second on hedonic and eudaimonic well-being; and the third on social well-being.

7.3.1 Touchpoint impact on physical well-being

While commuting by public transport, according to some research, might increase one's daily physical activity as opposed to driving (Chatterjee et al., 2017), this thesis suggests that getting exercise in this way on the daily commute may not necessarily have the positive physical impacts we would expect. As informed by the participants in Study 1, they experienced somatic symptoms such as stiff neck, headaches, and lower back pain after hours of sitting for their daily commutes (Participant 9 and 15, Train). A lack of seats on an overcrowded bus or train was also found to cause physical discomfort such as fatigue and headaches (Mohd Mahudin et al., 2012; Tirachini et al., 2013), thereby formulating hypotheses that customer experiences of brand/partner-owned (H1d), customer-owned (H2d), and social

touchpoints (H3d) are positively associated with physical well-being. The confirmation of Hypothesis 1d, 2d, and 3d furthermore suggests that service experience touchpoints have a significant and positive influence on physical well-being. More importantly, Study 2 found that the degree of influence on physical well-being was relatively high compared to other well-being outcomes (e.g., hedonic and eudaimonic) that have been focused on by many transformative service researchers.

While prior research has shown the detrimental impact of commuting on physical health (Chatterjee et al., 2017; Cox et al., 2006; Hansson et al., 2011; Humphreys et al., 2013; Künn-Nelen, 2015), this study expands on this view by empirically testing the link between different touchpoints during the commuting journey and physical well-being. Such understanding facilitates service researcher and practitioners in determining which touchpoints merit their attention in order to better manage customer experience and well-being. The findings particularly revealed a significant and positive relationship between customer experiences of brand/partner-owned touchpoints and physical well-being (β=.88, p < .001). That is, pleasant experiences such as comfortable seats, punctual services, and tidy departure points can positively influence the physical well-being of customers. This, in fact, has been the main issue for a growing number of commuters in the UK, as commuting daily without comfortable seats and a comfortable temperature, especially in a highly crowded carriage, has been shown to have negative effects on health and well-being (Royal Society for Public Health, 2016). This thesis emphasises the importance of considering the physiological effects of public transportation design and servicescape on customer well-being because such an outcome is frequently unintended or overlooked by non-transformational service providers (Anderson et al., 2013; Rosenbaum et al., 2011).

Since the effect of commuting on customers is worse when they have less control over factors (e.g., unreliable services and poor vehicle environment) (Lyons & Chatterjee, 2008), this thesis provides another important finding, particularly to service and transformative service research, in terms of customer-owned touchpoints. Participants during the interviews indicated that commuters were positive about the activities they have on board, preferably spending it with some readings, listening to

music, and mostly browsing and social networking (Participant 2 and 7, Train), thus positing a positive impact of such activities on physical well-being. The quantitative study consequently confirmed this relationship (β=.78, p < .001), implying that the more they perceived their commuting time as useful, productive, and not wasted, the better they perceived their physical well-being (Lyons et al., 2007; Mokhtarian & Salomon, 2001a). The findings also support Ettema et al. (2012), who suggested that positive thoughts of in-vehicle activities during commutes elicit feelings of relaxation and less hurrying, which in turn contribute positively to physical well-being.

7.3.2 The impact on hedonic and eudaimonic well-being

The majority of empirical studies to date have been focused on hedonic well-being, where pleasure and satisfaction are prioritised as outcomes of service experiences, but have rarely considered the eudaimonic impact (De Vos et al., 2013; Xie et al., 2020). This thesis found that mundane experiences such as commuting have a great impact on eudaimonic well-being too, and when incorporated to assess customer well-being outcomes, they could provide broader insights than just feelings and emotions. Based on the available evidence from qualitative study and literature, the thesis formulated that customer experiences of brand/partner-owned, customer-owned and social touchpoints are positively associated with hedonic well-being (H1a, H2a, and H3a, respectively), as well as eudaimonic well-being (H1b, H2b, and H3b respectively). Additionally, the quantitative assessments of these relationships reveal the importance of particular touchpoints in impacting hedonic and eudaimonic well-being, which will be further discussed below.

The findings from the quantitative study found that experiences with service touchpoints can elicit various emotional or affective responses, such as joyful – depressed and happy – sad, which is consistent with the qualitative interviews and the current literature regarding hedonic well-being (e.g., Bergstad et al., 2011; Olsson et al., 2012), thereby supporting Hypothesis 1a, 2a, and 3a. Such impacts of commuting on hedonic well-being are not surprising in and of themselves, but the significant and positive influence of brand/partner-owned touchpoints (β= .88, p <

.001) that was empirically reported on the structural model is more insightful and lends support to BPOT's critical role. In other words, it is within the power of firms to influence how customers feel about their journey, and ultimately their hedonic well-being. This particularly provides more evidence that a good core service, including a well-maintained vehicle, friendly staff, and timely information provision, may positively affect mood during and after the journey (e.g., Carreira et al., 2014; Transport Focus, 2020), and thus should be kept in focus by transportation companies.

Furthermore, the structural model results revealed a positive and significant relationship between customer-owned touchpoints and eudaimonic well-being (β= .88, p < .001). This provides empirical evidence supporting the qualitative findings and the proposition (i.e., Hypothesis 2b) that customers psychologically perceive the everyday commute as worthwhile when being able to perform certain tasks (e.g., browsing the internet, organising and planning work), and see themselves more in control when involving themselves in the service process (e.g., purchasing tickets online rather than offline). Perceptions of this kind are essential and can evoke a sense of purpose or eudemonia (Cooke et al., 2016; De Vos et al., 2013; Ryan & Deci, 2001). The thesis therefore contributes to the extant research both in service and transportation studies by empirically demonstrating that customers' activities and participation during the service process not only increase the enjoyment of the service experience (Ettema et al., 2012) and positively affect service outcomes such as customer satisfaction (Dong et al., 2015; Ettema et al., 2012) and service quality perceptions (Dong et al., 2015), but can also uplift eudaimonic well-being by engendering meaning and purpose.

7.3.3 Social well-being is the least affected, solely by social touchpoints

Surprisingly, the results from the structural model indicated a low R^2 value of social well-being (R^2 = 7%), with only social touchpoints exhibiting a significant direct effect (β= .24, p < .001). Although a high R^2 value normally indicates better prediction of a model, this indication is not a reality for many studies, and some variables in the real world are just too complex to measure. Such complexity could

be manifested during interviews with regular commuters, as they shared that the communal experience of being surrounded by fellow passengers could be ironically characterised as lonely and isolating (Participant 1, Bus; Participant 4, Train). Frequent commuting could also limit face-to-face contact with family and friends, reducing time available for social and leisure activities, yet, as mentioned by a participant, people would maintain their social connections and interpersonal relationships by phone, social media and email rather than face-to-face (Participant 12, Train). This could be resulted in the lower impact of social well-being, particularly the non-significant links with brand/partner-owned and customer-owned touchpoints (i.e., H1c and H2c).

Nevertheless, the quantitative study provides empirical evidence supporting the proposition that fellow passengers have a positive relationship with social well-being (i.e., H3c). The link may not be influential as such, but the results align with extant studies that argue the effects of social contact with fellow customers within a service setting and how it contributes to service experiences (e.g., Harris & Baron, 2004; Moore et al., 2005; Zhang et al., 2010). During the interviews, participants indicated that they were affected when fellow passengers behaved in a way that they did not expect and found unpleasant, for instance, the aggressive and intimidating behaviour of some passengers, often by those under the influence of alcohol (Participant 14, Bus; Participant 15, Train). Similar to Harris and Reynolds (2003), the results lend support to the idea that such dysfunctional behaviour by other customers, either intentionally or unintentionally, overtly or covertly, could disrupt otherwise positive service encounters. While previous research has highlighted the negative impact of the misbehaviour of fellow passengers on the service experience (Verhoef et al., 2009), enjoyment of the service (Palmer, 2008), and service satisfaction (Wu, 2007), this thesis expands the current knowledge by demonstrating the potential effect on lowering customers' sense of social well-being.

Furthermore, it is also important to note from the qualitative findings that conversations with fellow passengers were not common among modern commuters, as their journey would be rather spent on social media or smartphones (e.g., Participant 7, Train; Participant 8, Bus). The significant link between social touchpoints and social well-being exhibited in the structural model is perhaps more

about the indirect rather than direct contacts with fellow passengers. For instance, playing loud music and leaving trash on public transportation may trigger a sense of not being respected by others, impacting negatively on social well-being (Participant 17, Subway). This is not surprising, as customers may affect one another indirectly by being part of the service environment (Grove & Fisk, 1997; Harris & Reynolds, 2003; Verhoef et al., 2009), but the negative impact of indirect social touchpoints of the kind identified in this thesis requires particular attention by transport providers.

Table 7.3 is a joint display outlining the study integration, where the qualitative data facilitated hypotheses formulation for testing in the quantitative component, and describing the integration of qualitative and quantitative findings pertaining to the relationships between mundane service experiences and customer well-being. Next, the integration of the study on the link between touchpoints and customer satisfaction and well-being is discussed.

Table 7.3. A joint display to show hypotheses generating and testing – Impacts on well-being outcomes

Concepts/ Impacts	Qualitative findings	Hypotheses formulation	Quantitative findings	Comments
Impacts on hedonic well-being	Experiences with transport providers/partners may influence customers' emotions and responses: *"It can be frustrating when the train gets cancelled or you're sitting on a delayed train"* (Participant 7, Train)	Customer experiences of brand/partner-owned are positively associated with hedonic well-being (H1a)	Brand/partner-owned touchpoints had the greatest impact on customers" emotions (β= .88, p < .001).	Exhibited the crucial of brand-owned touchpoints; better experiences with brand/partner-owned touchpoints lead to a more positive affective response towards the commuting journey (supported H1a)
	Activities during commuting may affect customers' emotions and evaluation of the journey: *"I prefer to travel by train than by car [because] I can sit and read my phone on the train; I just relax and there is no stress"* (Participant 2, Train)	Experiences of customer-owned touchpoints are positively associated with hedonic well-being (H2a)	A significant and positive relationship between customer-owned touchpoints and hedonic well-being (β=.66, p < .001).	Participations in the service process and activities during commuting journey may significantly excite positive emotions (supported H2a)
	Social experiences do have an impact on ones' emotions relating to commuting: *"When you meet inconsiderate people eating and leaving trash on the seat, you can feel annoyed and angry"* (Participant 17, Subway)	Customer experiences of social touchpoints are positively associated with hedonic well-being (H3a)	A positive (but weak) relationship between social touchpoints and hedonic well-being (β=.12, p < .001).	Experiences with fellow passengers might trigger emotional responses (supported H3a), but may be limited to commuting experiences
Impacts on eudaimonic well-being	Experiences with transport provider/partner through the commute may make customers feel significant, cared for, and valued: *"Staff at the ticket counters are normally amazing; everyone is friendly and helpful. I never used the self-service machine because they are a lot quicker... I buy the ticket on a daily basis [rather than the seasonal pass], so it is quite handy and much*	Customer experiences of brand/partner-owned are positively associated with eudaimonic well-being (H1b)	A significant and positive relationship between brand/partner-owned touchpoints and eudaimonic well-being (β=.80, p < .001).	Pleasant experiences of brand/partner-owned touchpoints may uplift sense of eudemonia (e.g., feeling supported and valued as customers) (supported H1b)

	easier with their help" (Participant 3, Train)			
	Commuters who engage in activities, both personal- and service-related, may have a better sense of meaning in life: *Being involved in the service process (e.g., getting a ticket, changing buses/trains) and productive during commuting journey evoked the sense of purpose* (Participant 1, Bus; Participant 12, Train).	Experiences of customer-owned touchpoints are positively associated with eudaimonic well-being (H2b)	Customer-owned touchpoints affected eudaimonic well-being the most (β= .88, p < .001).	Customers-owned touchpoints were crucial, exhibiting the greatest impact on eudaimonic well-being (supported H2b)
	Positive social experiences during commuting may trigger a right sense of functioning in daily life: *"I quite enjoy travelling by train to [and from] work, because you can see what is going on and sometimes you can get into conversation with other passengers"* (Participant 9, Train)	Customer experiences of social touchpoints are positively associated with eudaimonic well-being (H3b)	Social touchpoint (i.e., fellow passengers) did not significantly influence eudaimonic well-being (β= .04, p = .278).	Social touchpoints may affect emotions but had no significant impact on the psychological functioning aspect of customers (rejected H3b)
Impacts on social well-being	Servicescape has influences on social well-being: *"I don't mind standing on my journey but don't like when I stand and it is very crowded… It was apparent that there were more passengers than seats and it's something that affected my journey"* (Participant 13, Train)	Customer experiences of brand/partner-owned touchpoints are positively associated with social well-being (H1c)	Brand/partner-owned touchpoints had no significant impact on social well-being (β -.07. p = .416)	
	People perform some activities to avoid social disconnection: *"Usually, I have 50 minutes, which means if I don't need to do any readings or work, it is a good time for me to connect with people back home. I'll talk to my mom or friends"*	Experiences of customer-owned touchpoints are positively associated with social well-being (H2c)	Customer-owned touchpoints had no significant impact on social well-being (β -.01, p = .874)	Social touchpoints trivially affected social well-being, while other touchpoints had no significant impact (supported H3c, rejected H1c and H2c)

	(Participant 12, Train) Positive interactions with other passengers enhance social connection and well-being: *"I meet friends and colleagues on the train and it's nice to catch up while travelling"* (Participant 15, Train)	Customer experiences of social touchpoints are positively associated with social well-being (H3c)	Social touchpoints had a significant and positive (but minor) impact on social well-being (β=.24, p < .001).	
Impacts on physical well-being	Poor service environment may cause physical discomfort: *"Sometimes, sitting on the train can be tiring, especially with the close environment, which makes it quite hot and stuffy"* (Participant 15, Train)	Customer experiences of brand/partner-owned touchpoints are positively associated with physical well-being (H1d)	A substantial relationship between service experience touchpoints and physical well-being was confirmed (R^2 = .72); customer experiences of brand/partner-owned touchpoints positively affected physical well-being (β=.88, p < .001).	The physical well-being was greatly affected; Brand/partner-owned touchpoints were crucial that cause customers to be physically well/ill (supported H1d).
	Activities during commute may help to minimise physical discomfort: *I enjoyed the downtime that I had on-board, preferably spending it with some readings, listening to music, and mostly browsing and social networking* (Participant 7, Train)	Experiences of customer-owned touchpoints are positively associated with physical well-being (H2d)	A significant and positive relationship between customer-owned touchpoints and physical well-being (β=.78, p < .001).	A positive perception of their involvement and commuting time (i.e., useful, productive and not wasted) lead to a better perception of physical well-being (supported H2d).
	People may be concerned about health and public hygiene: *"Being surrounded by people on train makes me concerned about public hygiene. I have a kind of worry whether I will get a cough or flu"* (Participant 17, Subway)	Customer experiences of social touchpoints are positively associated with physical well-being (H3d)	A significant and positive (but moderate) relationship between social touchpoints and physical well-being (β=.23, p < .001).	Experiences with fellow passengers may cause customers to be physically well/ill (supported H3d).

7.3.4 Service Experience Touchpoints and Customer Satisfaction and Negative Consequences of Satisfactory Experiences

As informed by the qualitative data (see Table 7.4), positive experiences with brand/partner-owned, customer-owned, and social touchpoints positively affected customer satisfaction and, in turn, their perception of well-being. In agreement, prior studies suggest that customers' satisfaction is impacted by experiences of various factors, both within the control of service providers (e.g., cleanliness, safety) and beyond their control (e.g., social interaction, customer roles) (e.g., Grace & O'Cass, 2004; Huang & Hsu, 2010; Stradling et al., 2007). In fact, satisfaction with such aspects is important to enhance well-being (e.g., El Hedhli, Zourrig, & Chebat, 2016; Ettema et al., 2011; Sirgy et al., 2006). Accordingly, the associations between customer satisfaction and customer experiences of brand/partner-owned, customer-owned, and social touchpoints (H4a, H4b, and H4c), and their link with well-being outcomes (H5a, H5b, H5c, and H5d) were formulated.

The significant and positive relationships between service experience touchpoints and customer satisfaction, revealed in the structural model, are anticipated, supporting H4a, H4b, and H4c. For example, brand/partner-owned touchpoints were found to significantly correlate with improved satisfaction in this thesis, supporting previous research that customers who encounter and experience a good core service, a pleasant environment, and friendly employees are more likely to have a positive evaluation of the service (e.g., Carreira et al., 2014; Grace & O'Cass, 2004). While those links between service experience touchpoints and customer satisfaction can still be beneficial, the negative relationships between customer satisfaction and any of the well-being outcomes revealed in this thesis are distinctive and offer interesting theoretical insights.

In particular, the results from the quantitative study confirmed that satisfactory experiences are significantly associated with hedonic, eudaimonic and physical well-being, but the relationships are not always positive. That is, even if customers experience a high level of satisfaction, they may be experiencing physical discomfort, stress, emotional deprivation and unhappiness, as well as a lack of purpose or lower functioning. Although the results contradict the research

hypotheses, it is possible that quality of life may be perceived as low even if satisfaction is high (Dagger & Sweeney, 2006, p. 5). As seen in the qualitative study, for example, some commuting mothers revealed that no matter how pleased they are with public transport services, the long commute to work undeniably limits their ability to perform family roles and makes their domestic life harder (Participant 5, Train; Participant 12, Train). These findings support the fact that customer satisfaction and well-being are distinct (Sirgy et al., 2007), and the relationship is not necessarily direct but could be inverse.

The findings also lend support to criticism of the weak relationship between satisfaction and other dependent variables such as loyalty (Bennett & Rundle-Thiele, 2004) and the triviality of investing in improved satisfaction (Kumar, Pozza, and Ganesh, 2013; Keiningham et al., 2014). Indeed, this understanding makes an important contribution to the recent call within TSR because it exhibits the unintended consequences that might result from satisfactory service experiences (Blocker et al., 2022; Ostrom et al., 2021), particularly in a mundane service setting. Perhaps, customers with high satisfaction but a low sense of well-being are potentially vulnerable to public transport companies, considering that there are various touchpoints throughout the commuting journey that are beyond their control (e.g., delays, overcrowding, loud and disruptive passengers) yet impactful to well-being.

Table 7.4 is a joint display outlining the study integration on the link between touchpoints and customer satisfaction, and customer satisfaction and well-being. The next section addresses the integration of results relating to halo effects and followed by a concluding section.

**Table 7.4.** A joint display to show hypotheses generating and testing – Impact on customer satisfaction

Concepts/ Impacts	Qualitative findings	Hypotheses formulation	Quantitative findings	Comments
Touchpoints and customer satisfaction	Experiences with service attributes associate with satisfaction: *"I used to travel by bus; what makes me love the train is that it is quicker and cleaner than the bus"* (Participant 2, Train)	There is a positive association between customer satisfaction and customer experiences of brand /partner-owned touchpoints (H4a)	Brand/partner-owned touchpoints had the greatest impact on customer satisfaction (β = .75, p < .001)	Customers commonly linked their satisfaction to brand/partner-owned touchpoints that measured the core service (supported H4a)
	Activities during commute relates to service evaluation: *"If it is about the last one that I commute, it was a favourable. I like the train because it gives some space to just put the earphones on and organise my diary"* (Participant 4, Train)	There is a positive association between customer satisfaction and experiences of customer-owned touchpoints (H4b)	Experiences with customer-owned touchpoints were significantly and positively related to satisfaction (β = .47, p < .001)	Commuting experiences might be perceived as delightful as customers feel so involved in the service process and get to perform their preferred activities (supported H4b)
	Experiences with fellow passengers affect service satisfaction: *"The journey can be unpleasant because of crowds, especially when I meet noisy passengers or smelly people more than normally when I travel [from office to home] slightly later"* (Participant 8, Bus)	There is a positive association between customer satisfaction and customer experiences of social touchpoints (H4c)	Experiences with social touchpoints significantly and positively related to satisfaction (β = .06, p < .05)	Pleasant (unpleasant) experiences with fellow passengers were likely to lead satisfaction (dissatisfaction) (supported H4c)
Well-being and customer satisfaction	Dissatisfaction with some touchpoints adversely affect emotions: *"If I am not satisfied with the driver because sometimes, I get a really rude driver and asked 'what happened to the earlier bus' and then he uninterestedly replied 'I dont know', it does affect my mood"* (Participant 8, Bus).	Customer satisfaction is positively associated with hedonic well-being (H5a)	Satisfaction associated significantly (but negatively) with hedonic well-being (β = -.31, p < .001)	Satisfactory experiences were significant to what customers feel, although they may experience emotional deprivation and unhappiness
	A degree of association between	Customer satisfaction is	Satisfaction associated	Satisfactory experiences were

satisfaction and sense of accomplishment: *"Trains provided everything that I need; it got me where I needed to be, I get things [at work] done… It is clean, I get a seat most of the time, it provides everything that I am looking for"* (Participant 3, Train)	positively associated with eudaimonic well-being (H5b)	significantly (but negatively) with eudaimonic well-being ($\beta = -.55$, $p < .001$).	influential to eudaimonic well-being; however, customers may feel less functioning and lack purpose
Satisfaction evokes a sense of being respected: *"I had a good [satisfactory] experience because the driver was very helpful and dropped me off outside the designated stop because it was raining…… It made me feel valued and grateful"* (Participant 11, Bus)	Customer satisfaction is positively associated with social well-being (H5c)	No significant association found between satisfaction and social well-being ($\beta = .14$, $p = .114$)	Satisfaction has no influence on social well-being as this particularly relates to one's relationships with other passengers
Dissatisfaction relates to physical discomfort: *"The seats are not comfortable; this is my only complaint [dissatisfaction]. I started suffering from backaches because of the seats"* (Participant 9, Train)	Customer satisfaction is positively associated with physical well-being (H5d)	Satisfaction associated significantly (but negatively) with physical well-being ($\beta = -.43$, $p < .001$)	Satisfactory experiences were significant to physical well-being; however, they may be, for example, experiencing physical discomfort

7.4 Triangulation of Halo Effects Results

A halo effect, defined as distorting ratings on a multi-attribute model, has been typically investigated within marketing studies on customer satisfaction, and product and brand evaluations (Leuthesser et al., 1995). In contrast, this thesis examines the halo effect concept in the context of service experiences since there is a growing interest in understanding the inter-correlation among touchpoints and the impact that these relationships might have on service experience outcomes (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). In particular, Study 1 explored different occurrences of halo effects in the context of service experience touchpoints, namely spill-over, cross-over, and personal halo effects. The findings provided added context to Study 2, assisting the researcher to better interpret any cognitive distortions that might inflate the hypothesised relationships examined in the structural model. Table 7.5 outlines the integration of both qualitative and quantitative findings on halo effects. The following discussion addresses the key findings of both studies.
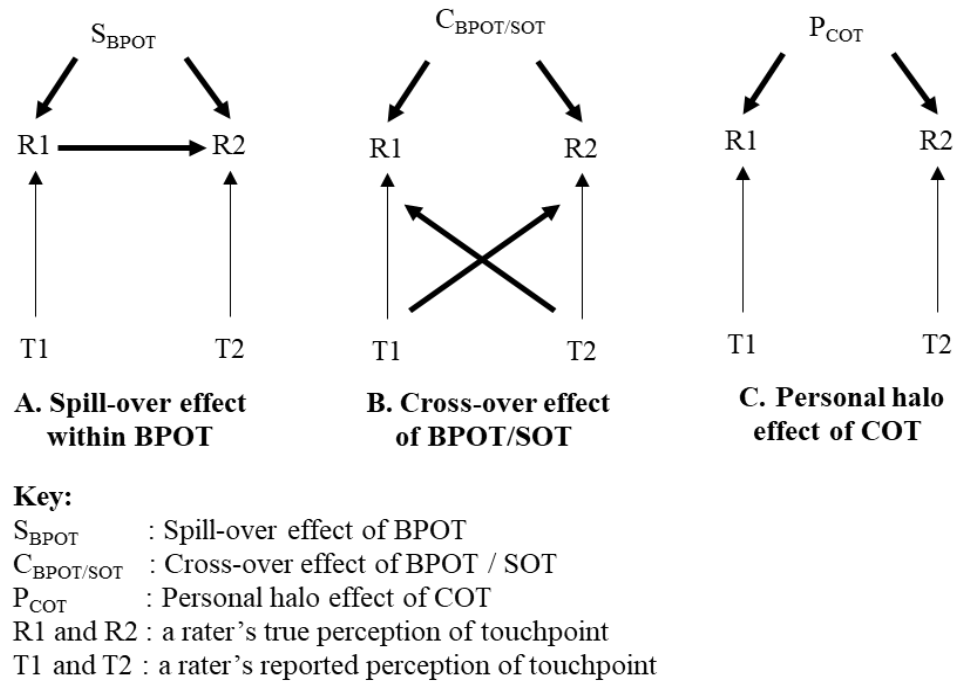
Figure 7.1. Model of Halo Effect Indicators

As illustrated in Figure 7.1, three kinds of interplay were analysed. Firstly, the influence of touchpoints within BPOT (i.e., the spill-over effect) was analysed. Secondly, the influence of BPOT or SOT on other touchpoints (i.e., the cross-over effect) was taken into consideration. Finally, the influence of COT (i.e., the personal halo effect) was investigated.

7.4.1 Spill-over effects within BPOT

The interviews revealed an occurrence of spill-over effects within BPOT involving provider processes, employees, vehicles, and departure points. In one example, a customer indicated that her perceptions within BPOT are interdependent, having a spill-over effect on each other during the commute: "*For me, the important aspects are punctuality and accessibility. These are the main reasons why I prefer the subway over trains and buses. But in terms of cleanliness, you could say they are all the same*" (Participant 17, Subway). Figure 7.1 (A) illustrates how customers' evaluations or perceptions towards particular touchpoints (R1) influence their evaluations or perceptions of other related touchpoints (R2) within the same level (i.e., brand/partner touchpoints). This indicates interdependencies between dimensions within the same domain – spill-over effects, similar to those discovered by prior studies within service (e.g., Borah & Tellis, 2016; Pareigis et al., 2011) and psychology research (e.g., Amstad & Semmer, 2011; Bakker et al., 2009). In Study 2, significant spill-over effects were exhibited on touchpoints such as employees, vehicles, and provider processes but not at the departure point. This thesis therefore supports the "halo effect" theory about the possibility of one dimension distorting and influencing other related dimensions. The findings particularly demonstrate how influential the spill-over effect of BPOT is on its impacts on customer well-being, and this is within the power of firms to influence.

7.4.2 Cross-over effects of BPOT and SOT

Furthermore, this thesis found that brand/partner-owned touchpoints (BPOT) and social touchpoints (SOT) played a significant role in the link between other touchpoints and well-being outcomes, implying the existence of cross-over effects. Within marketing literature, the cross-over effect has been previously used to demonstrate an inter-dimensional effect, for example, when examining the cross-over effect between product satisfaction and behavioural intentions towards the service provider, and between service satisfaction and behavioural intentions towards the product manufacturer (Mittal et al., 1999). This thesis, however, extends the current understanding by demonstrating how the interconnection across touchpoints and its link to customer well-being can be influenced by the cross-over effects of BPOT and SOT. To illustrate, Figure 7.1 (B) shows how perception of particular touchpoints (R1) distorts or influences perception of other distinct touchpoints (R2), resulting in cross-over effects among these touchpoints.

Firstly, the interviews revealed an occurrence of the cross-over effect of BPOT on other distinct touchpoints during the customer journey. For instance, a customer commented that *a range of facilities and shops available at the stations allowed her to conveniently go and grab necessities, and this saved a lot of time and impacted the commuting journey positively* (Participant 12, Train). Study 2 furthermore confirmed the significant existence of cross-over effects of BPOT, particularly on the relationship between social touchpoints and eudaimonic well-being (SOT-EWB), and between customer-owned touchpoints and social well-being (COT-SWB). These findings, which also echoed the interview data, imply the crucial role of BPOT in a mundane setting; in fact, the possibility that such salient touchpoints distort and influence the less salient touchpoints agrees relatively well with halo effect theory (Fisicaro & Lance, 1990; Wirtz, 1996, 2003). This is also consistent with Dagger et al.'s (2013) study, which revealed how the interpersonal skills of frontline employees might spill over to influence perceptions of other unrelated attributes within healthcare services.

Secondly, evidence of cross-over effects was also demonstrated on social touchpoints (SOT). Very often, participants associated social touchpoints with the

presence or behaviours of other fellow passengers. For instance, when someone *speaks too loudly on a mobile phone* or *takes up too much space* (Participant 8, Bus), such an experience can cross-over to other touchpoints and affect the whole commuting experience. Although this is beyond the transport provider's control, social interactions, particularly with fellow passengers, take place in the same service environments and thus may lead to cross-effects, as supported by halo effect theory (Fisicaro & Lance, 1990; Wirtz, 1996, 2003). While prior research highlighted the impact of negative interactions and unpleasant behaviours of passengers on service evaluation (e.g., Baron et al., 2007; Moore et al., 2005), this thesis expands the current knowledge by demonstrating the interconnection of social touchpoints with other touchpoints, particularly how customers' perceptions of their interactions with fellow passengers are used to infer the performance of other unrelated touchpoints.

Furthermore, Study 2 demonstrated the statistical evidence of the cross-over effect of SOT. One interesting finding to emerge from the analysis is that the SOT had influenced and inflated the associations between brand/partner-owned touchpoints and social well-being (BPOT-SWB). That is, the significant influence of BPOT on SWB might not be true because there is evidence that customers used their perception of fellow passengers to evaluate their interaction with BPOT, causing spurious links of BPOT - SWB. The findings therefore suggest another important aspect that prompts the service provider to look at the way they can effectively manage the social touchpoints rather than merely focusing on the ones under their control (i.e., BPOT).

7.4.3 The Personal Halo Effect of COT

The third indicator is the personal halo, often associated by previous studies with the halo or bias within individuals (Fisicaro & Lance, 1990; Wirtz, 1996). In the commuter setting, this thesis identified that a personal halo is associated with an individual's experience of their own involvement in the service process (e.g., *buying tickets, changing buses/trains*) and activities undertaken during a journey (e.g., *reading*, *internet browsing),* wherein such touchpoints were defined as "customer-owned touchpoints" (COT). Therefore, as Figure 7.1 (C) shows, it was assumed that

COT has a personal halo effect that may distort or influence one's perception towards other touchpoints (R1 and R2) during the commute and have an impact on well-being outcomes. This thesis provides additional evidence, similar to that provided by Mokhtarian and Salomon (2001b) in transportation studies, that intentional activities people choose to engage in during commuting will positively affect the perception and evaluation of commuting experiences. Consistent with prior studies (e.g., De Vos et al., 2013; Ettema et al., 2012; Xie et al., 2020), the findings also suggest that activities during commutes can positively influence the commuting experience, and involvement in the service process might increase a sense of choice and freedom in making decisions, resulting in a less stressful experience and ill-being. However, Study 2 found no statistical evidence to support the existence of the personal halo effect of COT. Therefore, this thesis assumes that COT is important to commuting experiences and can significantly influence one's well-being, but not to the extent that might contribute to the perception of other touchpoints and their impact on well-being.

Overall, while prior research has empirically investigated halo effects on customer satisfaction (e.g., van Doorn, 2008; Wirtz, 2000) and service quality perceptions (e.g., Dagger et al., 2013), this thesis investigates different indicators of halo effects embedded within different types of service touchpoints. This thesis also demonstrate how halo effects can be applied as one way to better understand the connectedness or interactions among multiple touchpoints of the customer journey, as called by recent studies (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016). Additionally, while halo effects have previously been observed to influence perceptions of the entire dimensions under study (Fisicaro & Lance, 1990; Wirtz, 1996, 2003), this thesis provides measurable categories of halo, enabling the identification of where each type of halo may be initiated rather than assuming that all halos are equal. This thesis also revealed that customers' everyday experiences were greatly impacted by their interactions with brand/partner-owned and social touchpoints. The results resonate with prior research which found that lack of control over factors like delay, crowding, disruptive behaviour of other passengers negatively affects customers' well-being of commuting (Cox et al., 2006; Hansson et al., 2011). This thesis therefore provides important insight to the transformative

research literature and practitioners about how customer well-being could be diminished or uplifted through certain touchpoints that have been shown to have a more pronounced influence than others through halo effects.

Table 7.5. A joint display that shows integration of findings on halo effects

Concept/ Halo effects	Qualitative findings	Quantitative findings	Comments
Spill-over effect	The halo or distortion that might have initiated intra-level or within brand/partner-owned touchpoints: *"For me, the important aspects are punctuality and accessibility. These are the main reasons why I prefer the subway over trains and buses. But in terms of cleanliness, you could say they are all the same"* (Participant 17, Subway)	Significant spill-over effects exhibited on touchpoints such as employees, vehicles, and provider processes, except departure points.	Confirming the spill-over effect within brand/partner-owned touchpoints.
Cross-over effect	The influence of BPOT or SOT on other touchpoints – the cross-over effect: *a range of facilities and shops available at the stations allowed her to conveniently go and grab necessities, and this saved a lot of time and impacted the commuting journey positively* (Participant 12, Train); *"If there are no annoying passengers [who, for example, speaking too loudly on a mobile phone* or *taking up too much space], I can just sit back and relax; the journey would be favourable"* (Participant 8, Bus)	*Brand/partner-owned touchpoints* had a prevalent cross-over effect on the relationship between social touchpoints and eudaimonic well-being (SOT-EWB), and between customer-owned touchpoints and social well-being (COT – SWB). *Social touchpoints* had a prevalent cross-over effect on the relationship between customer-owned touchpoints and social well-being (COT - SWB), and between brand/partner-owned touchpoints and social well-being (BPOT - SWB).	Demonstrating the statistical evidence of cross-over effect of BPOT and SOT, resulting in inflated links between other touchpoints and well-being outcomes.
Personal halo effect	The bias or distortion caused by the customer-owned touchpoints: *"It (i.e., commuting) gives some space to just put the earphones on and organise my diary, which do you not necessarily get to do in busy times"* (Participant 4, Train)	None of the associations between service experience touchpoints and well-being was haloed or distorted by customer-owned touchpoints (personal).	No evidence of a prevalent personal halo effect.

7.5 Summary of Chapter 7

As the basis of the sequential exploratory mixed-methods design, this chapter has discussed the integrated findings, linking data from the two separate strands of qualitative and quantitative studies. Therefore, through the mixed-methods approach adopted here, this thesis can show the following four key contributions. First, while the customer experience has been largely observed as individual touchpoints or aggregate evaluation (Becker & Jaakkola, 2020), this thesis identifies three distinct touchpoints across the everyday commuting journey, and a detailed understanding of different service touchpoints in the context of mundane experiences provides a further elaboration on Lemon and Verhoef's (2016) conceptual model of the customer experience. Second, this thesis empirically tested the role of physical and social impact, and revealed the importance of well-being dimensions that go beyond the psychological aspects (Anderson, 2010; Anderson et al., 2013). Third, this thesis contributes to the recent research priority of TSR by going beyond traditional measures of customer satisfaction and demonstrating the significant impact of mundane experiences on customer well-being (Anderson et al., 2013; Ostrom et al., 2015; Rosenbaum, 2015), although such services do not have an implicitly transformative goal as opposed to more traditionally transformational services (e.g., healthcare and financial). Moreover, the negative relationships revealed in this thesis between customer satisfaction and any of the well-being outcomes provide interesting theoretical insights, particularly for TSR, as they demonstrate the unintended consequences that may result from satisfactory service experiences (Blocker et al., 2022; Ostrom et al., 2021). Finally, as recently called by Becker and Jaakkola (2020) and Lemon and Verhoef (2016), this thesis examines the connectedness or interactions among multiple touchpoints of the customer journey using halo effect theory. To the best of our knowledge, this thesis is the first study to understand the occurrence of halo effects within and across service touchpoints and how customer well-being could be diminished or uplifted through certain touchpoints through halo effects – a distinctive theoretical contribution to both customer experience and TSR literature. The following, final chapter synthesises the key contributions of this thesis and outlines the theoretical and managerial implications, along with limitations and suggestions for future research.

CHAPTER 8

IMPLICATIONS AND CONCLUSIONS

8.1 Introduction

Previously, Chapter 7 discussed the integrated findings of both qualitative and quantitative studies. Moving on, this chapter synthesises the contributions of the thesis as evidenced in the results of two empirical studies, establishing its original theoretical and managerial implications. The key learning points of this thesis are presented within this chapter, along with a brief summary of the research aim, findings, and implications for theory and practice. Theoretically, this thesis responds to one of the recent priorities in service research by providing empirical evidence on how different touchpoints of mundane service influence well-being outcomes, and additionally using halo effect theory to generate new knowledge in regard to the relationships between service touchpoints and their link to well-being. From a managerial perspective, this thesis informs practitioners and policy makers of the importance of different touchpoints throughout the commuting journey, and in what ways customers' well-being can be facilitated through careful design and management of transportation service touchpoints. Furthermore, this chapter explains the study's limitations, and consequently provides future research suggestions, and finally concludes with some remarks.

8.2 Research Purposes and Methodology Revisited

To recall, this thesis has six research objectives to fill a gap in the current literature on service experiences, customer well-being (i.e., TSR), and halo effects. The first strand of the SED thesis, the qualitative study (Study 1), addresses the first three objectives using data from semi-structured in-depth interviews involving 17 regular users of public transport in the UK. Objective 1 is *to identify salient*

touchpoints during public transport journeys. Results from the thematic analysis confirm the relevance of the identified touchpoints in mundane experiences: brand/partner-owned, customer-owned, and social touchpoints. The results on brand/partner-owned touchpoints suggest, contrary to what Lemon and Verhoef (2016) had suggested, that customers do not typically distinguish between brand- and partner-owned touchpoints (therefore conflated in the quantitative study). The account of customer-owned and social touchpoints also supports a broader view of the service experience beyond what the organisation delivers (e.g., McColl-Kennedy et al., 2015; Voorhees et al., 2016).

Objective 2 is *to explore potential halo effects within customer commuting journeys.* While prior research has typically observed halo effects for the entire dimension under study (e.g., Fisicaro & Lance, 1990; Wirtz, 1996, 2003) or focused on particular indicators of halo (e.g., spill-over) (e.g., Dagger et al., 2013), this thesis identifies different indicators of halo effects within and across service touchpoints, namely the spill-over effect within BPOT, the cross-over effect of BPOT/SOT and the personal halo effect of COT. The findings also contribute to the customer experience literature, which attempts to understand the interconnectedness or interactions of multiple touchpoints across the customer journey (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015).

Objective 3 is *to identify the types of well-being outcomes associated with customer commuting journeys.* The interviews reveal the presence of all three well-being outcomes - psychological, physical, and social—in the daily commute experience, providing a clearer idea of the customers' well-being, particularly in the context of mundane services. While this thesis supports the hedonic and eudaimonic impact of service (Anderson et al., 2013), the findings also reveal a broader range of well-being outcomes, such as physical and social well-being – an impact that has received little attention within TSR.

The qualitative findings inform the development of the survey instrument and assist in generating hypotheses for testing in the subsequent, quantitative study. Building on the qualitative findings, the second strand of the SED thesis, the quantitative study (Study 2), particularly addresses the final three objectives using

online survey data from 800 respondents within 10 cities in the UK. The confirmatory factor analysis is also used to validate the measures that were formerly informed by the qualitative study and, consequently, to test the hypotheses using the structural equation modeling.

Objective 4 is *to investigate the relationship between service experience touchpoints and well-being*. Rather than investigating the impact of service on health and well-being at an aggregate level (e.g., Bergstad et al., 2011; Chatterjee et al., 2017; Cox et al., 2006; Hansson et al., 2011; Humphreys et al., 2013; Künn-Nelen, 2015; Olsson et al., 2012), this thesis investigates distinct relationships between each type of service touchpoint and different well-being outcomes, thus providing an insight into the importance of each touchpoint in impacting customer well-being (Anderson et al., 2013; Lemon & Verhoef, 2016; Ostrom et al., 2010). In particular, a crucial impact of brand/partner-owned touchpoints was demonstrated on physical and hedonic well-being.

Objective 5 is *to examine the link between customer satisfaction and well-being outcomes associated with customer commuting journeys*. The negative relationships revealed between customer satisfaction and any of the well-being outcomes offer interesting theoretical insights – even if customers experience a high level of satisfaction, they may be experiencing physical discomfort, stress, emotional deprivation and unhappiness, as well as a lack of purpose or less functioning. These findings not only exhibit the unintended consequences that might result from satisfactory service experiences (Blocker et al., 2022; Ostrom et al., 2021), but also lend support to criticism of the weak relationship between satisfaction and other dependent variables (such as loyalty, purchase intention, and financial performance) and the triviality of investing in improved satisfaction (e.g., Keiningham et al., 2014; Kumar et al., 2013; Menidjel & Bilgihan, 2022; Otto et al., 2020).

Finally, objective 6 is *to explore the degree to which halo effects influence the perception of service experience touchpoints and relationship with well-being*. The significant cross-over effects of BPOT and SOT particularly suggest that halo effects may occur and be pronounced for some, but not all, service experience touchpoints.

The following sections discuss the theoretical contributions and managerial implications of the thesis, followed by limitations and future research suggestions.

8.3 Theoretical Contributions

The thesis contributes to literature, particularly the service experience and TSR, in several important ways. Firstly, the contribution relates to the identification of key touchpoints in mundane service experiences and, secondly, the well-being outcomes that resulted from these experiences. Thirdly, the thesis provides empirical evidence of the influence of service touchpoints on well-being. Fourthly, the thesis demonstrates the potential unintended consequences of a satisfactory service experience, and finally presents the contributions related to halo effects.

8.3.1 Service experience touchpoints during commute

The first section addresses the first objective of the thesis:

Objective 1: *To identify salient touchpoints during public transport journeys.*

The extant literature has tended to measure customer experience either at one touchpoint or as an aggregate evaluation of experiences (Becker & Jaakkola, 2020; Stein & Ramaseshan, 2016). Although there is growing interest in understanding the dynamic nature of customer experience across multiple touchpoints, there has been limited empirical work to date on the customer experience and customer journey (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). Through a customer journey analysis conducted in Study 1, this thesis confirms the relevance of the identified touchpoints in mundane experiences: brand/partner-owned, customer-owned, and social touchpoints. However, the results on brand/partner-owned touchpoints suggest, contrary to what Lemon and Verhoef (2016) had suggested, that customers do not typically distinguish between brand- and partner-owned touchpoints (therefore conflated in the quantitative study). One potential reason behind this result is that customers may feel a kind of habit or inertia

towards daily commutes (Zhang et al., 2014), and hence they do not pay attention to such differences. Study 2 subsequently confirms four sub-constructs of brand/partner-owned touchpoints: provider processes, vehicles, employees, and departure points.

Additionally, the touchpoints identified within this thesis reflect the nature of ordinary, everyday service experiences, which have been less studied in the past compared to extraordinary or memorable experiences (e.g., theme parks) (Carù & Cova, 2003; McColl-Kennedy et al., 2015). The thesis affirms that even mundane service touchpoints always result in an experience, thereby responding to calls for more research with different contexts to understand mundane experiences in addition to public services and retail research (e.g., Carreira et al., 2013; Stein & Ramaseshan, 2016). This thesis provides empirically defined and measurable service touchpoints for a mundane experience that could be referred to by similar future research (e.g., grocery shopping, restaurant visits) that also attempts to understand this phenomenon using the customer journey approach.

Rather than focusing on individual touchpoints (e.g., servicescape, customer-to-customer interactions) (Becker & Jaakkola, 2020; Stein & Ramaseshan, 2016), this thesis also responds to recent calls for investigating a range of touchpoint types during the customer journey (McColl-Kennedy et al., 2015; Voorhees et al., 2016). The account of customer-owned and social touchpoints, for instance, supports a broader view of the service experience by examining touchpoints beyond what the organisation delivers. Additionally, the identification of partner-owned touchpoints provides additional evidence of the importance of understanding customer experiences from a network perspective (e.g., Tax, McCutcheon, & Wilkinson, 2013), and recognising the roles of other transportation and retail providers that might influence the commuting experience and well-being.

8.3.2 Transformative outcomes in mundane service settings

This section addresses the third objective of the thesis:

Objective 3: *To identify the types of well-being outcomes associated with customer commuting journeys.*

Well-being has been mentioned as one of the transformative outcomes of service (Anderson et al., 2013). However, previous studies have usually examined well-being outcomes within more traditionally transformational service settings, including healthcare and financial (Xie et al., 2020), and neglected well-being outcomes in mundane service settings. Therefore, the second contribution fulfils *objective 3* by highlighting the significance of transformative outcomes in mundane or everyday service settings. This thesis expands the limited scope of current TSR by investigating commuter experiences in a public transport setting and illuminating how everyday service experiences can affect customers' lives and well-being. This is crucial, as commuting is for many people an unavoidable activity that absorbs substantial personal time and resources from their lives (Chatterjee et al. 2019), yet its transformative goal is less apparent than those of visibly transformative services (e.g., healthcare and financial). The negative effects of commuting may be less obvious, but over time, well-being outcomes of the kind identified in the qualitative study, including feelings of social isolation, somatic pain, and anxiety, are likely to take a toll. Additionally, the strong relationships among physical, hedonic, and eudaimonic aspects of well-being in the case of brand/partner-owned and customer-owned touchpoints that were evidenced in the structural model confirm the relevance of measuring well-being in mundane service settings.

The thesis, in fact, provides empirical evidence on how customers perceive and define their well-being as it relates to their daily commutes, thus addressing *objective 3* of the thesis. Many existing studies to date have either measured well-being at a broad level (e.g., Chatterjee et al., 2019; Dagger & Sweeney, 2006) or focused on psychological or subjective well-being (e.g., De Vos et al., 2013; Sharma, Conduit, & Hill, 2017). While this thesis supports the hedonic and eudaimonic impact of service (Anderson et al., 2013), the findings also reveal a broader range of well-being outcomes, such as physical and social well-being – an impact that has

received little attention within TSR. The findings have shown that sitting for hours on a daily commute and a lack of seats on an over-crowded bus or train can cause fatigue, physical discomfort, and other somatic symptoms such as stiff necks, headaches, and lower back pain. Similarly, interacting with the negative behaviour of other customers who play loud music and leave trash on public transport, whether intentionally or unintentionally, overtly or covertly, may trigger a sense of not being respected by others, negatively impacting social well-being. Such impacts may appear insignificant, but they can be detrimental to one's well-being, as evidenced by studies on commuting and public health, which found that public transportation commuters had more social and health issues than private commuters (e.g., Chatterjee et al., 2019; Hansson et al., 2011; Künn-Nelen, 2015).

8.3.3 The influence of service experiences touchpoints on well-being outcomes

This section discusses the fourth objective of the thesis:

Objective 4: *To investigate the relationship between service experience touchpoints and well-being.*

Instead of focusing on increased satisfaction or loyalty, this study responds to the recent call for incorporating customer well-being into service research. This thesis particularly fills a gap in TSR and service experience literature, which lacks a theoretical framework and empirical evidence regarding the link between service experiences and customer well-being (Anderson et al., 2013; Lemon & Verhoef, 2016; Ostrom et al., 2010). This is crucial because the existing studies to date are mostly conceptual and many empirical findings have been studied in healthcare (e.g., Anderson, Nasr, & Rayburn, 2018) and financial services contexts (e.g., Mende & van Doorn, 2015), where the nature of services speaks to customer well-being.

In particular, the thesis addressed *objective 4* by empirically investigating distinct relationships between each type of service touchpoint and different well-being outcomes. While prior research tends to measure it at an aggregate level, the findings provide a crucial insight into the existing research on the strength or importance of each touchpoint in influencing customer well-being. For instance,

many studies have found that commuting has a negative impact on health and well-being (e.g., Bergstad et al., 2011; Chatterjee et al., 2017; Cox et al., 2006; Hansson et al., 2011; Humphreys et al., 2013; Künn-Nelen, 2015; Olsson et al., 2012), but this study expands this view by empirically demonstrating the importance of brand/partner-owned touchpoints (e.g., pleasant experiences of comfortable seats, punctual services, and tidy departure points) in positively impacting customers' emotions and physical well-being. In the case of customer-owned and social touchpoints, the findings also provide a broad insight of the ways in which customer well-being, particularly within the public transport sector, can be diminished or uplifted by touchpoints beyond organisational control. By proposing and testing distinct paths in a model of service experience touchpoints and well-being, this thesis also supports the development of theoretical relationships among them, especially in mundane service settings. Consequently, future research can narrow these findings down and, if needed, determine causation experimentally, because obviously the first criterion for establishing a causal effect is an empirical association.

8.3.4 The unintended consequences of satisfactory service experiences on well-being

The section addresses the fifth objective of the thesis:

Objective 5: *To examine the link between customer satisfaction and well-being outcomes associated with customer commuting journeys.*

In addition to investigating the relationship between service experience and well-being, this thesis, in an attempt to address *objective 5*, also investigates the relationship between experience and customer satisfaction and, as a result, its influences on well-being outcomes. This thesis provides an important theoretical implication, particularly in relation to TSR, by identifying well-being as the potential unintended consequence of mundane experiences. The strong relationship between service experience touchpoints and customer satisfaction is not surprising in itself; the negative relationship between customer satisfaction and any of the well-being measures is more significant and lends support to criticism of the weak relationship

between satisfaction and other dependent variables (such as loyalty, purchase intention, and financial performance) and the triviality of investing in improved satisfaction (e.g., Keiningham et al., 2014; Kumar et al., 2013; Menidjel & Bilgihan, 2022; Otto et al., 2020).

Given the reliance on satisfaction as a measure of success in many service settings, this thesis suggests that the effects of mundane service experiences on well-being can therefore be seen as unintended consequences – that is, service researchers are essentially measuring inadequate service outcomes (Helkkula, 2011; Rosenbaum et al., 2011). The findings expand the traditional understanding of service experience outcomes beyond customer satisfaction (Bennett & Rundle-Thiele, 2004; Dagger & Sweeney, 2006), and more importantly, they contribute to the recent calls of TSR to understand the unintended consequences of a satisfactory service experience (Blocker et al., 2022; Ostrom et al., 2021).

8.3.5 Halo effects within service experiences

This section addresses the second and final objective of the thesis:

Objectives 2 and **6:** *To explore potential halo effects within customer commuting journeys* (objective 2) and *to explore the degree to which halo effects influence the perception of service experience touchpoints and relationship with well-being* (objective 6).

Given that service experience touchpoints are highly associated and do not act in isolation when influencing customer well-being, this thesis provides some useful insights into halo effects. The significant role of halo effects within mundane service touchpoints as revealed in this thesis is unique and different than previous research, which tended to observe the concept in a kind of intentional context like customer satisfaction (e.g., van Doorn, 2008; Wirtz, 2000), service quality perceptions (e.g., Dagger et al., 2013), and brand/product evaluation. What is fascinating about the regular or everyday experience is that people may be aware of the interconnection between touchpoints of commute (i.e., halo effects), but they have no idea when it is already happening – without realising it, they naturally make

judgements. The occurrence of a cognitive bias that distorts the perception of touchpoints in the everyday commute experience, as revealed in this thesis, and its link to customer well-being, confirms the relevance of investigating halo effects in mundane service settings.

While prior research has typically observed halo effects for the entire dimension under study (e.g., Fisicaro & Lance, 1990; Wirtz, 1996, 2003) or focused on particular indicators of halo (e.g., spill-over) (e.g., Dagger et al., 2013), this thesis provides a previously unreported but important finding on different indicators of halo effects within and across service touchpoints, including the spill-over effect within BPOT, the cross-over effect of BPOT/SOT and the personal halo effect of COT. Additionally, since customers are evidently distorted or influenced by particular touchpoints, this thesis provides important insight to customer experience literature, particularly in the attempt of contemporary research to understand the connectedness or interactions of multiple touchpoints across the customer journey (Becker & Jaakkola, 2020; Lemon & Verhoef, 2016; McColl-Kennedy et al., 2015). The findings on the significant cross-over effect of BPOT and SOT particularly suggest that halo effects may occur and be pronounced for some, but not all, service experience touchpoints.

Finally, by observing through a halo effect viewpoint, this thesis contributes to the TSR agenda by providing empirical evidence of which specific touchpoints are subject to halo effects and how customer well-being can be improved through specific service touchpoints, in this case brand/partner-owned and social touchpoints, that have been shown to have a greater influence than others due to halo effects.

8.4 Managerial Implications

Besides theoretical contributions, the findings of this thesis provide a number of valuable managerial implications, particularly for public transport services. The first managerial implication relates to the need to consider other measures beyond customer satisfaction. The second implication relates to the managerial suggestions with respect to brand/partner-owned touchpoints. The third and final suggestions

emphasise the need for managing the uncontrollable touchpoints of customer-owned and social touchpoints.

8.4.1 Measuring customer satisfaction is no longer sufficient

Service providers have long relied on satisfaction as a measure of customer experience. The Bus Passengers Satisfaction Survey (BPSS) and National Passenger Survey (NPS) are examples of constant initiatives by the public transport providers in the UK to monitor passenger satisfaction on a range of service factors. While an increase in passenger satisfaction over time and a significant majority of satisfied passengers (81% in 2016) were reported (Transport Focus, 2016), this satisfaction measure does not translate into an increase in the use of public transport over private cars (Department for Transport, 2019). On the following basis, the thesis argues that concentrating on customer satisfaction is practically no longer sufficient for public transport providers and policy makers. Firstly, findings of the thesis suggest that experiences of different touchpoints may affect physical and psychological well-being as much as they affect customer satisfaction, and secondly, even apparently satisfactory service encounters may result in negative well-being outcomes. By focusing on the satisfaction measure, providers do not fully understand the commuting experience and, in particular, the unintended consequences of journeys. Indeed, initiatives by public transportation companies on improving public health and well-being are crucial to making public transportation a lot more attractive than private cars.

8.4.2 Doing things right is key

This thesis offers a nuanced understanding of the importance of different touchpoints along the customer journey and which of these touchpoints relate to key outcomes of customer well-being and are therefore worth concentrating on. From a managerial perspective, by considering a wide range of touchpoints, firms can identify where they may be falling short and fine-tune their service offerings. Unsurprisingly, brand/partner-owned touchpoints were identified as the most

important touchpoints within this thesis, particularly in terms of their relationships with customer satisfaction and well-being. The potential spill-over and cross-over effect of brand/partner-owned touchpoints to influence other touchpoints, as well as their link to well-being, also support the significance of these touchpoints. The thesis, therefore, suggests that doing things right is key for transportation providers and their partners in order to improve customers' experiences and well-being. Although there is a long list of what they can do to get things right, this study highlights the following.

First, the transport providers should pay extra attention to the punctuality and reliability of the service. It may sound cliché, but delays and cancellations are examples of the little things of great importance, as they continue to affect many commuters, as mentioned by participants in the interviews. Additionally, punctuality has been mentioned as the main factor in overall passenger satisfaction, according to the report by Transport Focus (2016, 2017). Therefore, providing real-time updates to customers, for example, via signage at stops or stations and through web-enabled or mobile devices, is useful, especially in the case of unavoidable delays and cancellations. While information on actual departure, arrival times and service disruptions seems to be routinely provided by transport providers, information on capacity and service usage is currently lacking. With this information, commuters could plan their journey more effectively, for example, by enabling them to avoid the busiest train and bus times or changing their route choices to reduce their travel time. This is important because having more control over their decisions and their journey would have a positive impact (Brakewood & Watkins, 2019), particularly in lessening the commuting strain.

Second, passenger comfort is crucial, and thus improvements to the physical environment of the vehicle, for instance in terms of seats and temperature, should be emphasised by transportation providers as this may negatively affect passengers' health and well-being (Royal Society for Public Health, 2016). In fact, according to a survey on rail passengers' priorities for improvement, getting a seat was ranked as important (ranked second after value for money), and customers at the very least want train designs that allow them to sit in comfort so they can still do something

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useful while commuting (Transport Focus, 2017). Hence, effort and investment should constantly be given to providing sufficient and comfortable seats. In the wake of COVID-19, issues related to physical distancing, public hygiene, and minimised contact between service employees and customers (i.e., contactless payment methods) are new challenges facing public transport companies to improve passenger confidence in their safety and well-being. Above all, the thesis highlights that a great service experience that contributes to customer well-being cannot be attained without getting the basics right.

8.4.3 Customer touchpoints matter

The demonstrable importance of customer-owned touchpoints has some interesting managerial implications. The thesis findings suggest that it is acceptable to have customers take on some roles, such as planning and executing the journey, as these will positively impact their sense of purpose and happiness. Service providers, however, should play their part in assisting customers throughout the commuting journey and stimulating their well-being by making it easier for them to participate in the service process. This includes, for instance, innovatively developing the travel applications (apps), which provide real-time information about transit schedules, delays, shops and services along the routes, making trip planning easier and ultimately putting customers more in control of their experience. Additionally, in the era of modern commutes, mobile ticketing would be a great idea because it enables them to conveniently book, purchase and validate tickets with smartphones, and this would add value to the public transit app that transportation companies might already have. Such innovative services and technology provides customers with the opportunity to (in part) customise the service experience touchpoints to work for their own unique purposes, transforming the outcome from standardised service solutions (Larivière et al., 2017).

8.4.4 Managing fellow passengers

The findings point to the important effects, both positive and negative, of fellow passengers on commuter well-being, including happiness, physical comfort, and feelings of companionship or isolation. The significant influence of social touchpoints in distorting the perception of other touchpoints and the subsequent well-being – as evidenced by the cross-over effect, also highlights important implications for practice. Managers cannot simply ignore the possible impact of fellow passengers on one's commuting experience and well-being, but instead should look for creative ways of mitigating commuters' negative impacts on each other. For example, internal layouts within buses and trains could be reconfigured to accommodate more ergonomic seating and standing arrangements that reduce any such negative impacts.

While improving vehicle design may not be a total solution to reduce social discomfort, it is a strategy that can be considered. For example, providing a "quiet coach" for private or quiet activities such as reading or working (where it would be reasonable to expect a lower level of disturbance from fellow passengers without the stigma of being overtly anti-social), or "ladies only coach" may induce commonality among users and increase perceived control (Thomas, 2009). The long-term goal of public transport should be centred on proactively making the journey socially and physically comfortable rather than catering to the necessity of packing more people into already crowded carriages or buses.

8.5 Limitations and Future Research

This thesis has several limitations that, in turn, provide important avenues for further research. Firstly, using interviews and survey data, this study analysed the customer journey through retrospective assessment. Although these methods are commonly employed in customer experience and journey studies, future research should consider alternative methods such as self-report commute diaries or ecological momentary assessment to capture responses and reactions as they happen (Shiffman et al., 2008). These methods are especially useful for investigating ongoing experiences by collecting data in real time or immediately following a given

event, minimising the recall bias inherent in retrospective research (Siemieniako, 2017). There is also a recent call for more service researchers to adopt promising and increasingly accessible neuroscientific tools, such as eye tracking, electroencephalography (EEG), and functional magnetic resonance imaging (fMRI), to measure experiences in-the-moment along the service journey (Verhulst et al., 2019). Future research could also usefully compare real-time and retrospective assessments for triangulation of different data sources (Halvorsrud et al., 2016).

Secondly, while the use of survey data in this thesis is an important initial step toward understanding the relationship between touchpoints and well-being outcomes, this may not adequately explain causal relationships. Future research should utilise experimental methods to more accurately determine the effects of service touchpoints on well-being. Additionally, it would be especially interesting to explore the temporal dynamics of transformative service experience by collecting longitudinal data (Anderson & Ostrom, 2015) to investigate, for instance, how the relationship between customer experience and well-being varies over time.

Thirdly, the TSR agenda lacks a common measurement tool to assess customer well-being. This may reflect the subjective nature of well-being or (perhaps more likely) the difficulty of developing a single set of measures that can capture well-being across a range of service settings. This thesis deepens current understanding of well-being measures in a setting where such outcomes are less explicit. The focus on mundane service settings allows this thesis to contribute to the TSR agenda, which aims to investigate the transformative impact of not only services that are transformative by design but also those that have transformative potential (Rosenbaum et al., 2011). To increase the generalisability of the thesis, however, future research, could investigate it in other mundane service settings to see if, for example, hedonic, eudaimonic, social and physical well-being outcomes are equally relevant. Indeed, researchers could investigate the impact of service on the well-being of not only individuals, but also families, communities, society, and the ecosystem more broadly (Anderson et al., 2013). Additionally, while there is an increasing trend in technology-based touchpoints (e.g., contactless payment, mobile ticketing), future research could explore the impact of high-tech versus high-touch

service touchpoints on customer experience and what the well-being impact would be by forcing them to involve themselves in such technology-based service touchpoints (Giebelhausen et al., 2014; Reinders et al., 2008).

Lastly, since this is a cross-sectional study, the order effects of the halo or the carry-over effect, which have been mentioned in some studies (e.g., Ruyter et al., 1997; Wirtz, 2003), could not be investigated. Future research with the longitudinal design might collect customers' perceptions of touchpoints and well-being at more than one time period, which would improve our understanding of how perception of particular touchpoints changes or carries over across different stages of the commuting journey. For example, poor service experiences from yesterday may be carried over to today's commute, distorting the perception towards service experience and well-being. Additionally, the current data may also carry an inherent order effect in questionnaires that biases the empirical examination and findings of halo effects (Linek, 2017). Randomising the order of questions, for example, can help future research to address any potential order effect bias that may exist (Lüttin, 2012). Table 8.1 summarises the contribution and limitations of the thesis as well as future research directions.

Table 8.1. Contributions, limitations, and future research questions

Main contributions	Description	Limitations	Future research questions
Key touchpoints during the commuting journey	• Rather than focusing on individual touchpoints or aggregate evaluations of customer experience (Becker & Jaakkola, 2020), this thesis provides an in-depth and comprehensive understanding of the customer's end-to-end journey through the SIT. • A detailed understanding of service and different touchpoints in the context of everyday commuter experiences provides a further elaboration on Lemon and Verhoef's (2016) model of customer experience.	• The customer experience during the customer journey was analysed using self-report surveys. In contrast to real-time assessments such as diaries or ecological momentary assessments, such a retrospective assessment might be potentially influenced by the recall bias (Siemieniako, 2017). • A recent call has been issued for more service researchers to adopt promising and increasingly accessible neuroscientific tools (e.g., eye tracking, EEG, and fMRI) to measure in-the-moment experiences (Verhulst et al., 2019).	• Does the relationship between customer experiences and well-being differ when using real-time data? • How can transport providers benefit from real-time evaluation (e.g., how do customers' emotions shift within minutes of a delay?) • Could neuro-tools help academics and practitioners better understand the importance of various touchpoints along the service journey?
Well-being outcomes	• A wide range of potential well-being outcomes, including the physical and social impacts, were examined, broadening the current knowledge of well-being, which has been typically associated with psychological aspects (Anderson, 2010; Anderson et al., 2013). • The findings contribute significantly to the customer well-being literature because the concept itself remains nebulous (Dodge et al., 2012; Ryff et al., 2021) and TSR lacks a common measurement tool to assess customer well-being (Cooke et al., 2016; Dodge et al., 2012; Rosenbaum et al., 2011).	• While this thesis contributes to current understanding by demonstrating well-being measures in a context where such outcomes are less obvious (i.e., mundane settings), caution is advised when assuming generalisability. • Focusing on the individual well-being.	• Are hedonic, eudaimonic, social and physical well-being outcomes equally relevant in other mundane service settings? • Can well-being measures be applied to understand the effects of service on families, communities, society, and the wider ecosystem beyond individuals?

Main contributions	Description	Limitations	Future research questions
The impact of service touchpoints and customer well-being	• Contributes to the recent research priority of TSR by going beyond traditional measures of customer satisfaction and demonstrating the impact of service experience touchpoints on customer well-being (Anderson et al., 2013; Ostrom et al., 2015; Rosenbaum, 2015) in a mundane setting. • While TSR has greatly focused on services that have clear transformative goals, this thesis demonstrates the transformative impact of mundane services where such outcomes are less explicit. • The findings revealed the unintended consequences that might result from satisfactory service experiences.	• While the findings found relationships between touchpoints and well-being outcomes, they may not adequately explain causal relationships.	• Can we infer a causal link between service touch points and well-being in mundane settings (i.e., through experiment)? • What are the temporal dynamics of transformative service experiences? • Do reactions to experiences fluctuate episodically (e.g., by day and time)? • What would be the impact of high-tech versus high-touch service touchpoints on customer experience and well-being?
Halo effects within and across service touchpoints	• The thesis reveals a previously unreported but important finding on the occurrence of halo effects within and across service touchpoints and how customer well-being could be impacted through certain touchpoints through halo effects, contributing to both customer experience and TSR literature. • The results showed how touchpoints within BPOT affect each other (i.e., spill-over effect), and how BPOT and SOT influence other distinct touchpoints (i.e., cross-over effect).	• While the thesis found potential occurrences of spill-over within and a cross-over effect across touchpoints, there was no evidence to show the personal halo of COT. • As a cross-sectional study, which looks at data at a single point in time, the carry-over effect cannot be examined. • Halo effects might be tested using an experimental approach. • Order effects in questionnaire	• Do perceptions towards touchpoints change across different stages of the customer journey? • Does the carry-over effect happen within service experience touchpoints? • Randomising the order of questions

8.6 Research Conclusion

While prior research and businesses have continued to focus on improving customer satisfaction and loyalty, this research is inspired by the recent calls within transformative service research (TSR) to understand the impact of service on well-being (Anderson et al., 2013; Anderson & Ostrom, 2015). This study explored the mundane service context, recognising how important mundane service experiences are for customer well-being and how much research has so far ignored such experiences in favour of more explicitly transformative contexts. When studying the influence of service experience on customer well-being, it is also important to consider the customer journey approach in order to capture how customers interact with myriad touchpoints across the journey (Lemon & Verhoef, 2016). The comprehensive understanding of the customer's end-to-end journey provided in this thesis is therefore vitally important in response to criticism of the tendency to investigate individual touchpoints or aggregate evaluations of customer experience (Becker & Jaakkola, 2020). Given the growing concern about the negative impact of daily commuting on health and well-being, particularly in the UK (Office for National Statistics, 2014, 2018; Royal Society for Public Health, 2016), public transportation services provided a fruitful context for this research. The significant impacts on physical, hedonic, and eudaimonic aspects of well-being in the case of brand/partner-owned and customer-owned touchpoints confirm the relevance of measuring well-being in mundane service settings. Contrary to what prior research may believe, the negative relationship between customer satisfaction and any of the well-being outcomes shows the unintended consequences of a satisfactory service experience (Blocker et al., 2022) and lends support to criticism of relying on customer satisfaction measures and the triviality of investing in improved satisfaction. It is believed that the evidence presented and the contributions identified can inform both theoretical development and service practitioners that seek to uplift customer well-being through services.

Word count: 81,939

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APPENDIX 1. PARTICIPANT INFORMATION SHEET

Participant Information Sheet

Name of Department: Marketing, Strathclyde Business School
Title of the study: Transformative service experiences in everyday service settings

Introduction
I am Mimi Liana Abu, a doctoral student at Strathclyde Business School.

What is the purpose of this investigation?
The objective of these interviews is to understand experiences of commuting by public transport from the customers' perspective, what touch points they typically interact with during the journey, and what they think about their experiences at each touch point. The findings from this study will help the researcher identify the sequence of touch points that customers normally follow during a specific journey, and they will be used to inform the next stage of the doctoral research.

Do you have to take part?
Informants are recruited using a process called "snowballing" – getting to know the informants and having them introduce the researcher to others who fit the necessary criteria to participate. This process, however, is conducted on a voluntary basis, where the suggested informants are free to withdraw without detriment. Only agreed-upon informants will be interviewed.

What is your role in the project?
The interview style is conversational, where informants will be asked to recall their commutes by public transport. It will be guided by open-ended questions, moving from general to more specific, including what they do in their day-to-day commute activities and with whom they interact, the nature of the interactions, and what they enjoy/dislike about their interactions and their overall service experiences. The interview will take no more than 45 minutes to complete and can be conducted at their agreed locations (e.g., office, café) to make them feel as convenient as possible.

Why have you been invited to take part?
Informants are individuals who are commuting by public transport. The names of potential informants will be recommended by other informants through a "snowballing" technique. Informants who are regular users of public transport are most welcome; thus, informants with no single experience with public transport will be excluded.

What are the potential risks for participating?
There are no potential risks involved in the interview.

What happens to the information in the project?
Information recorded in the interviews will remain confidential and will be treated as anonymous. The data will be stored on my personal computer and securely destroyed at the

end of the doctoral research. Within any further publication, the anonymity of the informants will remain.

What happens next?

The informants will be briefed on the research project at the start of the interview, and then asked whether or not they want to participate in the study. If the informants do not agree to be involved in the interviews, then they will be thanked for their attention. Informants who agree to participate will be asked to sign a consent form to confirm this and give permission to record the conversation. At the end of each interview, informants will be offered a copy of the transcript for review, and they may add further information should they wish.

Researchers' contact details:

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This investigation was granted ethical approval by the University of Strathclyde Ethics Committee.

If you have any questions/concerns, during or after the investigation, or wish to contact an independent person to whom any questions may be directed or further information may be sought, please contact:

Secretary to the University Ethics Committee
Research & Knowledge Exchange Services
University of Strathclyde
Graham Hills Building
50 George Street
Glasgow
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APPENDIX 2. WRITTEN CONSENT FORM

Consent Form

Name of Department: Marketing, Strathclyde Business School
Title of the study: Transformative Service Experiences in Everyday Service Settings

I understand that:

- My participation is entirely voluntary, and I am free to withdraw from the research at any time without any disadvantage. If I exercise my right to withdraw and I don't want my data to be used, any data that has been collected about me will be destroyed.
- All information recorded in the interview will be treated with the utmost confidentiality.
- The digital audio recording of the interview will be kept secure and destroyed upon the conclusion of the research project.
- The anonymity of data (i.e., data that does not identify me personally) will be respected at all times.

I agree / disagree with the use of audio recording during the interview.
(Please delete as appropriate.)

I have read and understand my rights and consent to participate in the project.

Name:	
Signature of Participant:	Date:

APPENDIX 3. INTERVIEW PROTOCOL

Introduction

- Thank you for agreeing to participate in this study
- The purpose of this interview is to understand your experiences of commuting by public transport (e.g., bus/train/subway) and how these experiences affect your lives as a customer.

Ethics/Consent form instructions

- Before we get started, I'd like to emphasise that your participation in this interview is entirely voluntary, and all of your responses will be kept strictly confidential. Your answers will be compiled in a report without any reference to individuals.
- Do you agree that this interview will be audio-recorded?
- You could take a few minutes to read the participant information sheet and consent form (and sign).
- Do you have any questions before we start with the interview?

Main interview

Part 1: Commuting Background

To start with, I would like to ask you some questions relating to yourself and your commuter background.

1) Are you an active user of public transport?
2) How frequently do you commute by public transport in a week?
3) What type of public transport have you regularly used? (Bus/Train/Subway)
4) What is the common purpose of your journey?
5) Where do you commonly start and end your journey?
6) How long does the journey take?
7) What time do you usually commute?
8) Occupation

Part 2: Customer Journey – Sequential Incident Technique (SIT)

For the next section, I would like you to think about your recent experience commuting by train/bus/subway (*depending on the previous answer*), and walk me through/describe in detail the process you have gone through during your journey.

1) ***Pre-journey***
   Can you describe what commonly happens and what you normally do before your journey began?
   Probe:

- How did you usually get to the station from home?
- How far was the station from your house?
- (If you drive) Where did you park your personal transport? Can you tell me about the parking space?
- What would you usually do once you reach the station?
  Probe: What was the common way of buying tickets? / What type of ticket was used for the journey?
- How long did you usually wait for the bus/train/subway to arrive?
- What did you normally do while waiting for the train/bus/subway to arrive?
- Did you usually refer to the timetable beforehand?

2) *During the journey*
Can you describe to me what your experience during the journey looked like, including the activities or interactions that normally happened from the moment you got on the train/bus/subway to the rest of your experience during the journey?
Probe:
- What did you normally do when you were on the train/bus/subway?
- What are some aspects of service that you have regularly encountered during your journeys by public transport?
- How did the employees interact with you?
- Can you describe the physical environment and the atmosphere of the train/bus/subway?
- How about the fellow customers?
- Have other elements affected you while you were in the middle of the journey?

3) *Post-journey*
Can you describe what normally happens and what you normally do once you arrive at your destination?
Probe:
- What were the aspects of service that you interacted with once you got off? How has it affected your experience?
- Where was your final destination? How far was it from the station? How did you get there?

4) *Overall experience*
When you think back on your commuting journey just now, did you consider it a favourable or unfavourable experience?
Probe:
- Is there any particular aspect that makes it a favourable or unfavourable experience?

Part 3: Customer Well-Being

1) Tell me how you feel about commuter life in general.
   Probe: Do you find it easy to commute by public transport?
2) How and to what extent commuting by public transport affects your work life? and your personal life (aside from work)?
3) How and to what extent does commuting affect your well-being?
   Probe: Are you happy with the way you commute every day?

Part 4: Critical Journey

1) Can you recall any specific journey, either good or bad, that you have ever experienced?
   Probe:
   What and when did that happen?
   Is there any specific aspect that makes it a good/bad journey?

- Think of a time when you had a particularly satisfying (or dissatisfying) journey with public transport.
- When did the incident happen?
- What specific circumstances led up to this situation?
  (Exactly what did the employee / the person /…. Say or do?)
- What resulted that made you feel the encounter was satisfying (or dissatisfying)?

Closure

- Do you have any other experience with other means of transport that you would like to share?
  If yes, follow the questions above.
- "Thank you very much for your time"
- "Have you got any questions about the project?"
- "Would you like to see a copy of the transcript"
- Ask permission to follow-up or to invite the quantitative diary study

End of the interview

APPENDIX 4. CROSS-CHECKING OF CODING

CODING EXERCISE

This exercise consists of three parts as follows.

PART 1: COMMUTING TOUCHPOINTS

Please match the suitable type of touchpoints to the quotes below according to the definitions provided in the following table.

Types of touchpoints	Definition
1. Brand-owned touchpoints	These touchpoints are customer interactions during the experience that are designed and managed by the firm and are under the firm's control
2. Partner-owned touchpoints	These touch points are customer interactions during the experience that are jointly designed, managed, or controlled by the firm and one or more of its partners
3. Customer-owned touchpoints	These touchpoints are customer actions that are part of the overall customer experience
4. Social touchpoints	These touchpoints recognise the important roles of others in the customer experience

In the provided space below, please write 1 to 4.

Quotes	Answer (1 to 4)
• *"Stations are pretty good. There are several coffee shops and restaurants, and there is also a small Sainsbury's, which is also pretty convenient. Overall, I think the amenities are good".*	_____
• *"The bus runs every 15 to 30 minutes during the day but in the morning, it comes every 10 minutes. For me, it is frequent enough".*	_____
• *I would try to get things done, like checking emails or stuff that is not related to work that needs to get done. On the way home, I typically continued working for a while just to get more work done, and it was quite a good time to get some uninterrupted working time".*	_____
• *"Some passengers are really selfish; they, for instance, put their bags on the seats, and then someone has to ask for the seat".*	_____

PART 2: CUSTOMER WELL-BEING

Please match the suitable well-being outcomes to the quotes below according to the definition provided in the following table.

Well-being outcomes	Definition
1. Hedonic well-being	Affective responses or emotions (e.g., a sense of pleasure and happiness)
2. Eudaimonic well-being	Sense of accomplishment and purpose
3. Physical well-being	Subjective experiences of physical health
4. Social well-being	The quality of one's relationships with others and communities

In the provided space below, please write 1 to 4.

Quotes	Answer (1 to 4)
• *"The seats aren't very comfortable; I started getting back and neck pain".*	_____
• *"I feel frustrated, irritable, and angry sometimes if I get a really rude driver".*	_____
• *"There is not usually much interaction because the train is quite isolated. It is not easy. When you're faced with a long commute or a lot of time away from home, it can be really difficult to stay connected".*	_____
• *"I liked passing through the coffee shops and the early morning rush at Central Station. It gives me a feeling of being awake and starting the day, and everybody is getting ready to go to the office. I like the feeling of doing something, like going to university".*	_____

PART 3: HALO EFFECTS

Please match the suitable type of halo effects to the quotes below according to the definition provided in the following table.

Halo effects	Definition
1. Spill-over effect	Occurs when customers' evaluations are biassed by the perceptions they have of one or more particular attributes, often involving intra-level interactions within an organisation
2. Cross-over effect	Occurs due to the inability or unwillingness of an individual to distinguish differences between dimensions that are distinct and potentially independent, particularly when different organisations collaborate in delivering the service
3. Personal halo effect	The bias or distortion caused by customers' roles and activities during service

In the provided space below, please write 1 to 3.

Quotes   **Answer**
                                                                                    (1 to 3)

- "*For me, the important aspects are punctuality and accessibility. These are the main reasons why I prefer the subway over trains and buses. But in terms of cleanliness, you could say they are all the same*".   _____

- "*If it is about the last one that I commuted, it was favourable. I like the train because it gives some space to just put the earphones on and organise my diary and do what you don't necessarily get to do in busy times*".   _____

- "*If there are no annoying passengers [who, for example, speaking too loudly on a mobile phone* or *taking up too much space], I can just sit back and relax, and the journey would be favourable*".   _____

Thank you.

APPENDIX 5. QUESTIONNAIRE

Dear Participant,

This survey is being conducted to understand your everyday commutes using public transport. Your participation is voluntary, and all responses will be kept confidential and anonymous. The survey will take approximately 6–8 minutes to complete.

Thank you for your assistance.

Mimi Liana Abu
PhD student,
Department of Marketing, University of Strathclyde

To complete your **electronic consent,** please select your choice below.

Clicking on the "Agree" button below indicates that:

- You have read the above information
- You are 16 years old or above

○ Yes, I agree to participate.

○ No, thank you.

Commuting Experiences with Public Transport

1 Are you currently employed either full-time or part-time?

○ Yes

○ No (If no, cancel)

2 Do you commute to or from work using public transport?

○ Yes

○ No (If no, cancel)

3 How frequently do you typically commute each week?

○ 2 or less (if less than 2 times, cancel)

○ 3–4

○ 5–6

○ 7–8

○ 9–10

○ 11 or more

4 What is your main mode of travel?

○ Train

○ Bus

○ Subway

○ Others (Please specify) _____

PART A: COMMUTING BACKGROUND
Please indicate your response about your current commuting experience.

---

1 Typically, how many minutes does your journey on public transport take (**one way only**)?

_____

2 Estimate your total commuting time to or from work (**including before and after the journey).**

_____

3 Modes of transportation used **before** taking public transport

◯ Bicycle

◯ Walking

◯ Car (driver)

◯ Car (passenger)

◯ Others (please state) _____

4 Modes of transportation used **after** taking public transport

◯ Bicycle

◯ Walking

◯ Car (driver)

◯ Car (passenger)

◯ Others (please state) _____

5 Are you a season ticket / multiple journey / smart-card holder?

○ Yes

○ No

6 How regularly do you use any transportation apps *(e.g., ScotRail, Trainline, First Bus App)*

○ Never

○ Rarely

○ Sometimes

○ Often

○ Always

7 What time do you normally commute?

○ Peak time

○ Off-peak time

8 Estimate the cost of your typical commuting journey **(per day)**

_____

PART B: EXPERIENCES ON SERVICE

Provider processes
How would you rate the following aspects of provider processes?

	Terrible	Poor	Average	Good	Excellent
	1	2	3	4	5
General information provision				4	
Routes coverage				4	
Service provision hours				4	
Prices of tickets				4	
Service frequency				4	
Complaint dealing				4	
Ticketing system				4	
The provision of information during the journey, especially in case of delay				4	
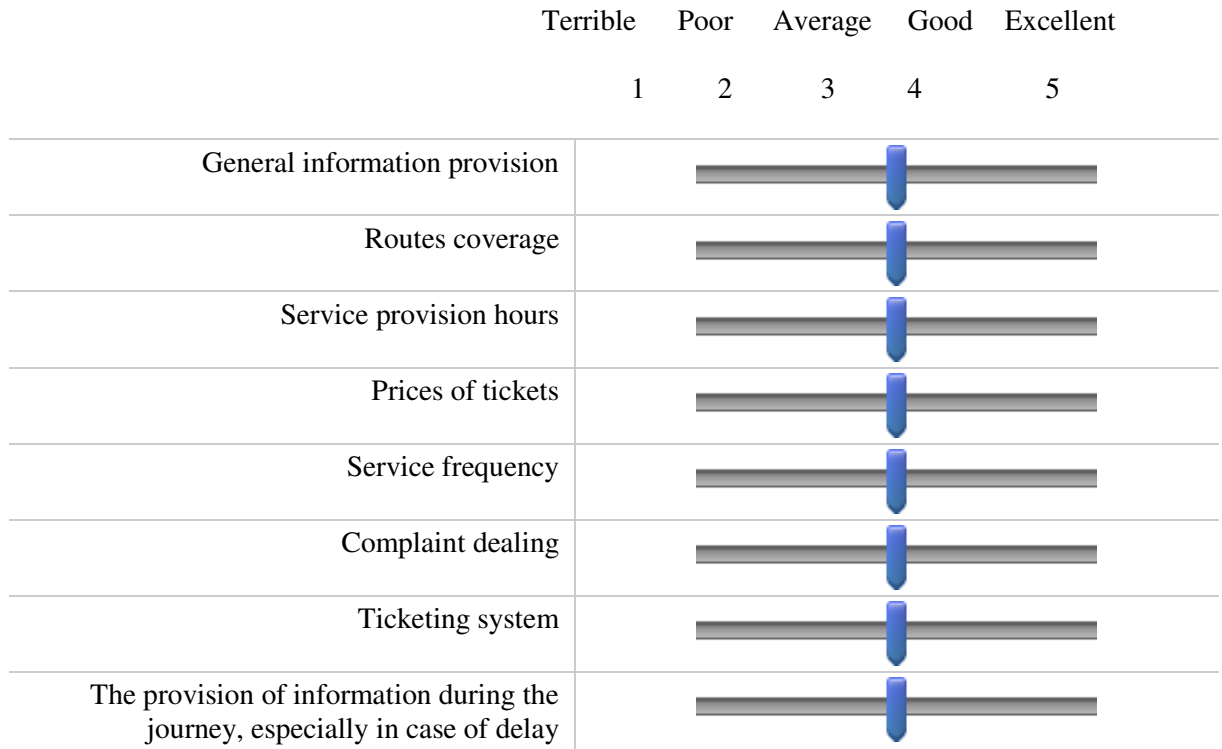
Contact personnel
How would you rate the employees who work with the transport provider?

	Terrible	Poor	Average	Good	Excellent
	1	2	3	4	5
Responsiveness of contact personnel			3		
Courteous contact personnel			3		
Helpful in solving problems			3		
Availability of contact personnel			3		
Knowledgeable contact personnel			3		
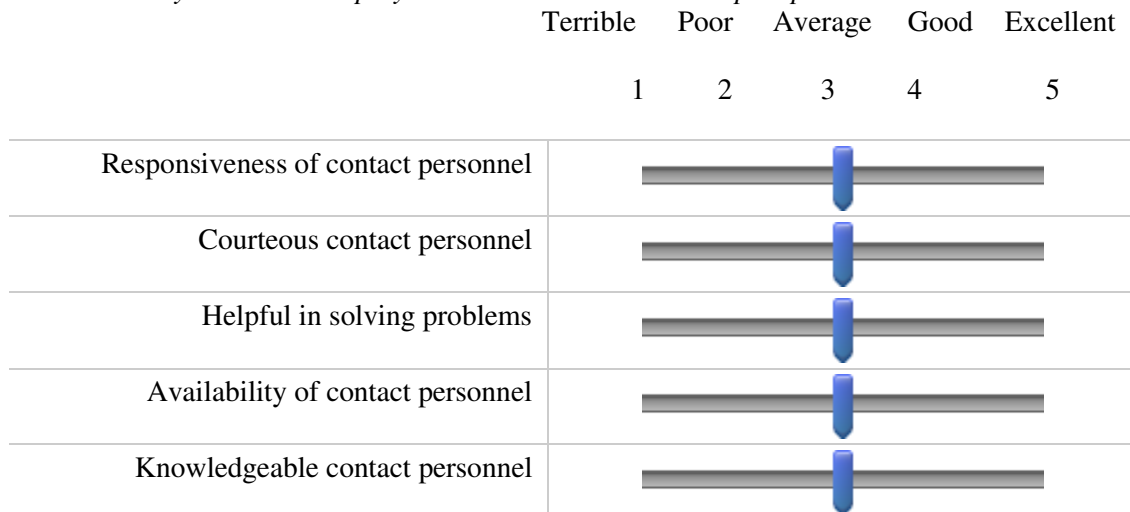
Vehicle

How would you rate the quality of the physical environment of the vehicle?

	Terrible	Poor	Average	Good	Excellent
	1	2	3	4	5

Vehicle interior appearance and maintenance			▮		
Vehicle exterior appearance			▮		
Adequate overall maintenance			▮		
Quality of seats			▮		
Temperature on-board			▮		
Noise' level on-board			▮		
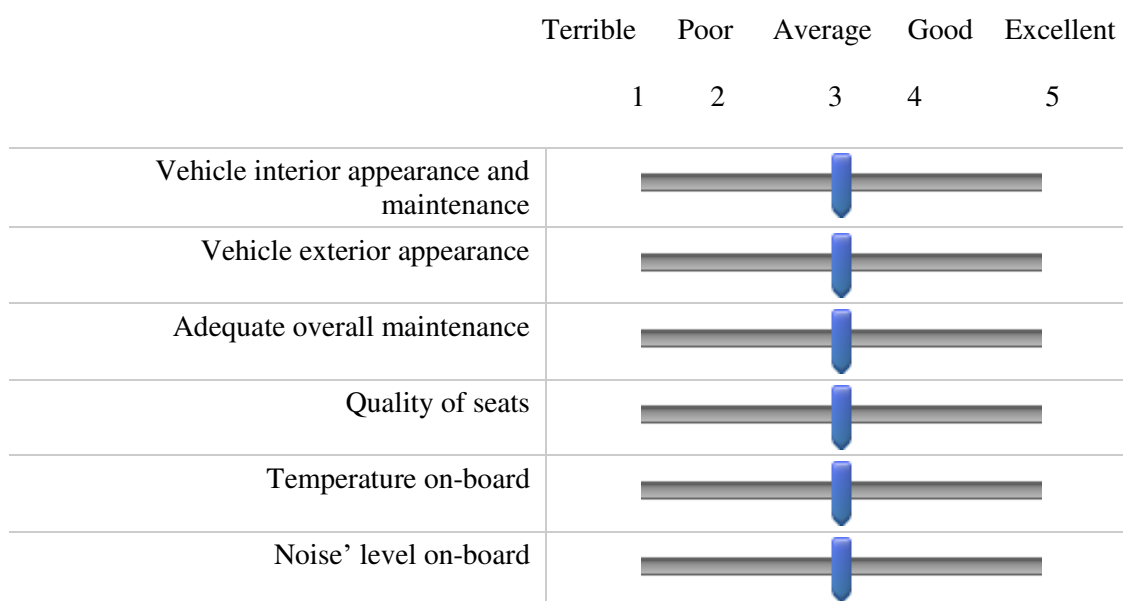
Departure points

How would you rate the following aspects of the departure point?

	Terrible	Poor	Average	Good	Excellent
	1	2	3	4	5

Cleanliness and maintenance			▮		
Appearance			▮		
Quality of facilities and services (e.g., toilets, shops and parking facilities)			▮		
Ambient conditions (e.g., temperature, ventilation, noise and odour)			▮		
Provision of information (e.g., signage, boards)			▮		
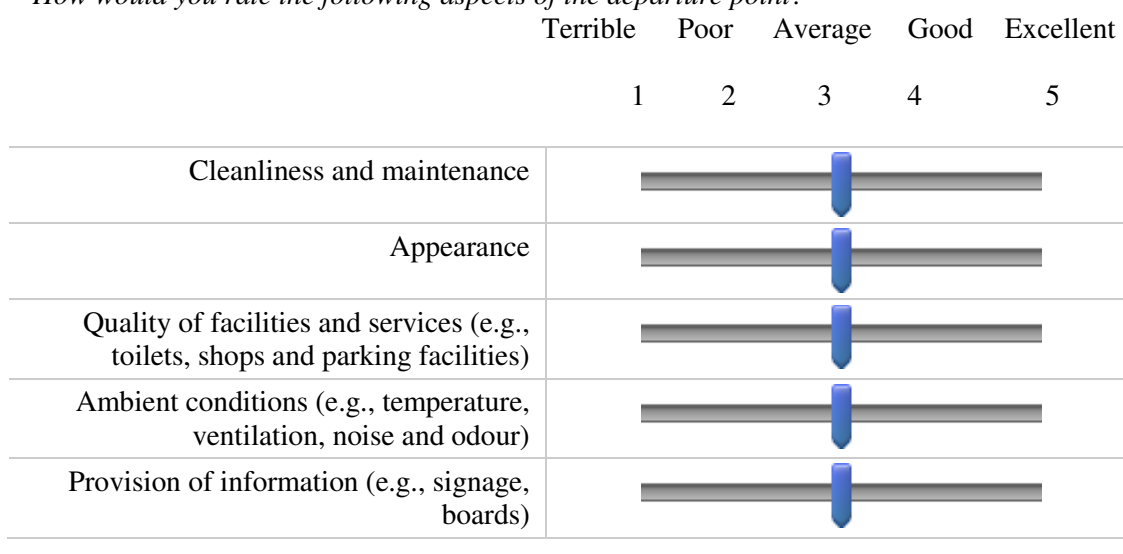
Customer roles
Please indicate your level of agreement about your own role as a customer?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	2	3	4	5
I am happy to perform some service roles that would be normally provided by the transport provider *(e.g., buying tickets from the machine)*			●		
I enjoy planning my own journey			●		
I am happy to take on some service roles *(e.g., getting my ticket from the machine)*			●		
I think I am responsible in this service process *(e.g., changing buses/trains)*			●		

In vehicle activities
Please indicate your level of agreement on the perception of your personal activities during the public transport journey?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	2	3	4	5
It is nice to be able to be productive on the way to or from work			●		
Travel time is generally wasted time			●		
My commute time is useful transition between home and work *(e.g., to wind-down, listening to music)*			●		
I spend my commute time productively *(e.g., working, reading)*			●		

Fellow passengers
Please indicate your level of agreement about how the fellow passengers normally behave?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	2	3	4	5
Fellow passengers behave in a pleasant manner			●		
Fellow passengers behave in a way that I am not expecting			●		
I enjoy being around the other passengers			●		
Fellow passengers conduct themselves in a manner that I do not find appropriate			●		
Fellow passengers behave in a way that I find unpleasant			●		
Fellow passengers behave in a way that I do not agree with			●		

External factors
Please indicate your experiences with the following external factors.

	Very rarely	Rarely	Sometimes	Often	Very often
	1	2	3	4	5
In general, how often do you experience delays in your commute?			●		
In general, how often is your commute affected by the weather?			●		

PART C: CUSTOMER SATISFACTION
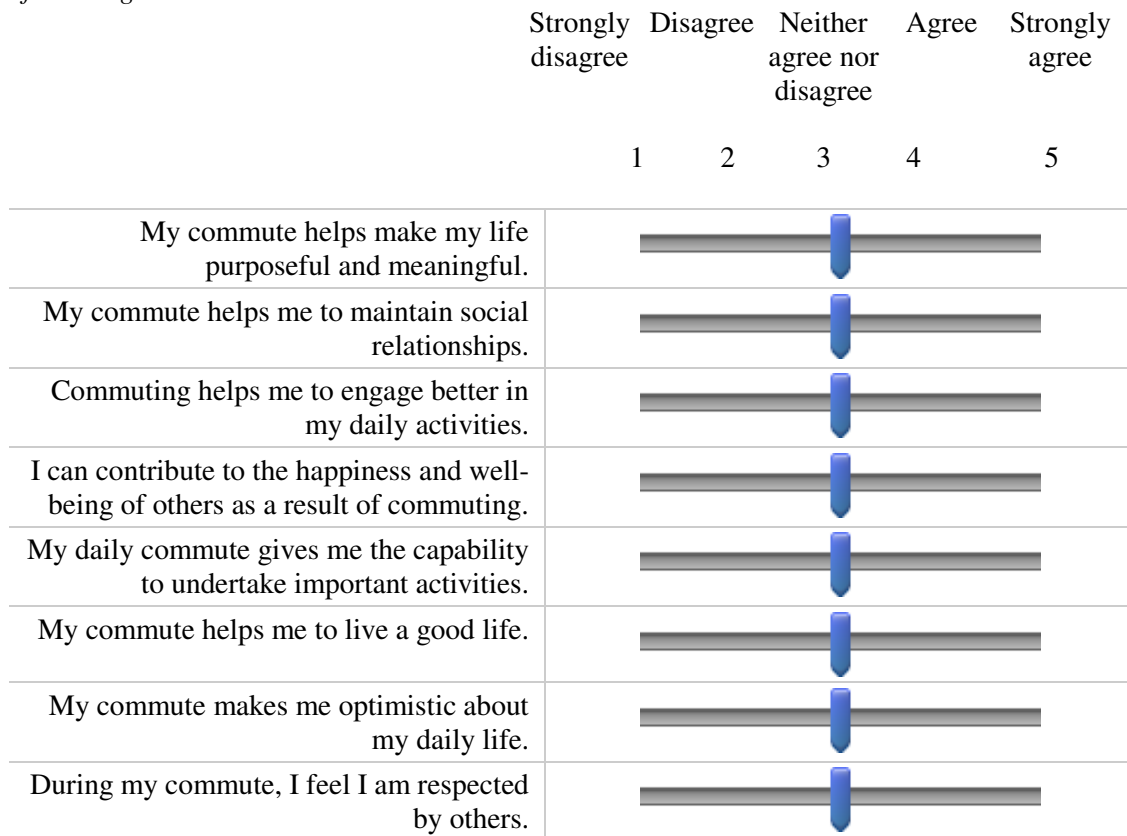*Please indicate your agreement on the following statements.*

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	2	3	4	5
I am satisfied with my decision to commute using this transport provider.					
My choice to commute with this transport provider is a wise one.					
I think I did the right thing when commuting with this transport provider.					
I feel that my experience with this transport provider is enjoyable.					

PART D: COMMUTING WELL-BEING

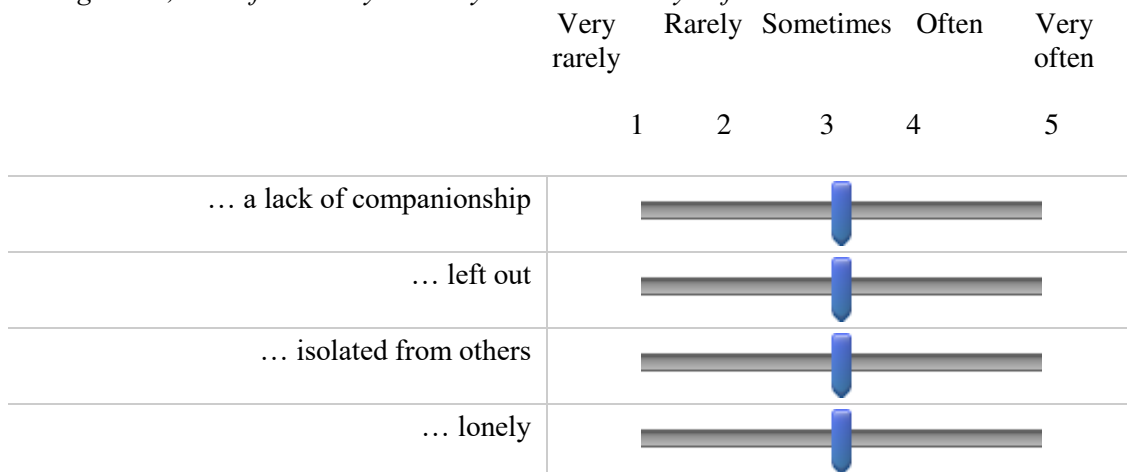--

1 *As a result of your daily commute, how often do you generally experience each of the following feelings?*

	Very rarely	Rarely	Sometimes	Often	Very often
	1	2	3	4	5
Positive					
Negative					
Good					
Bad					
Pleasant					
Unpleasant					
Happy					
Sad					
Afraid					
Joyful					
Angry					
Contented					

2 *Thinking of your general commuting journey, please indicate your agreement with the following statements.*

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	2	3	4	5
My commute helps make my life purposeful and meaningful.					
My commute helps me to maintain social relationships.					
Commuting helps me to engage better in my daily activities.					
I can contribute to the happiness and well-being of others as a result of commuting.					
My daily commute gives me the capability to undertake important activities.					
My commute helps me to live a good life.					
My commute makes me optimistic about my daily life.					
During my commute, I feel I am respected by others.					

3 *In general, how often does your daily commute make you feel …*

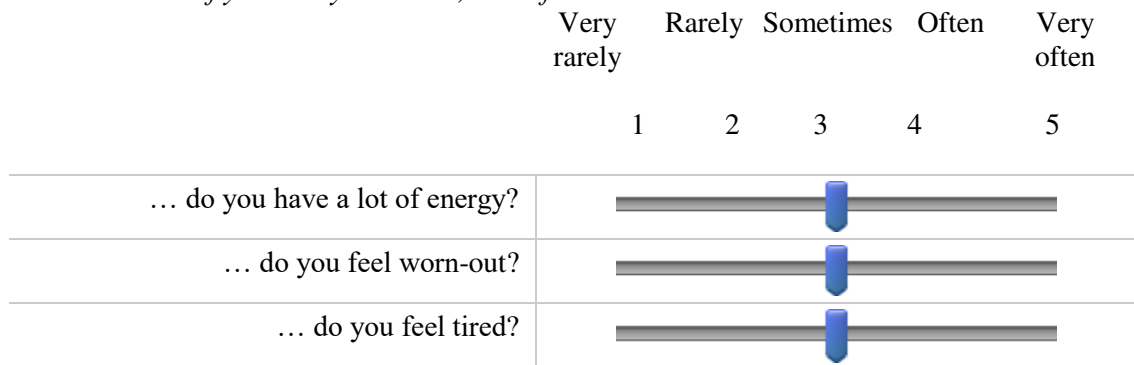|	Very rarely	Rarely	Sometimes	Often	Very often
	1	2	3	4	5
… a lack of companionship					
… left out					
… isolated from others					
… lonely					

4a *In general, my commuting journey makes me feel:*

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

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	1	2	3	4	5
Energetic					
Comfortable					
Relaxed					

4b *As a result of your daily commute, how often …*

	Very rarely	Rarely	Sometimes	Often	Very often
	1	2	3	4	5
… do you have a lot of energy?					
… do you feel worn-out?					
… do you feel tired?					
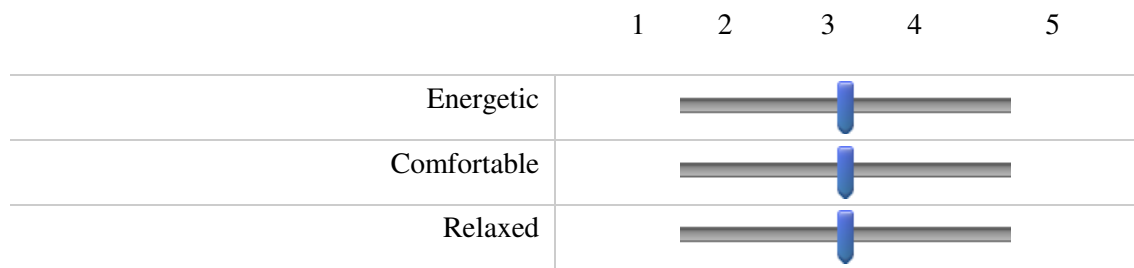
PART E: DEMOGRAPHIC INFORMATION
Please select your response in the questions below.

- -

1 Gender

○ Male ○ Female

2 Age (years)

○ 16–24 ○ 45–54

○ 25–34 ○ 55–64

○ 35–44 ○ 65 and above

3 Gross Personal Income (GBP)

◉ 5,000 or less ○ 30,001–40,000

○ 5,001–10,000 ○ 40,001–50,000

○ 10,001–20,000 ○ 50,001–60,000

○ 20,001–30,000 ○ 60,001 or above

APPENDIX 6. Q-Q PLOT

Provider Processes
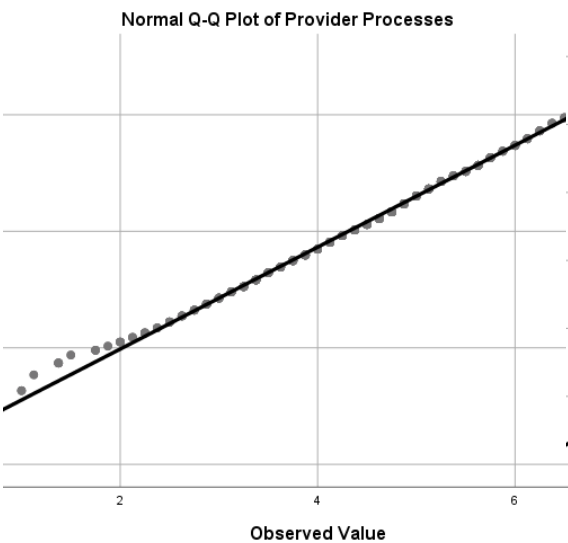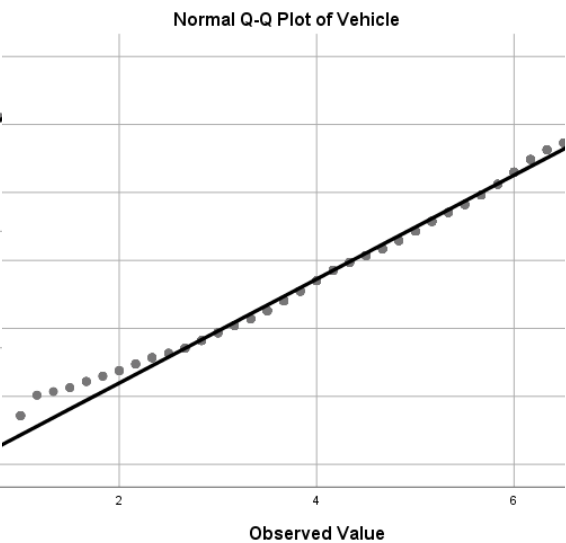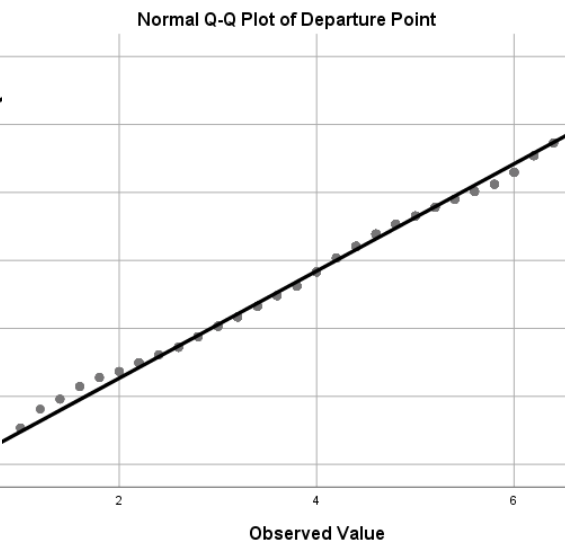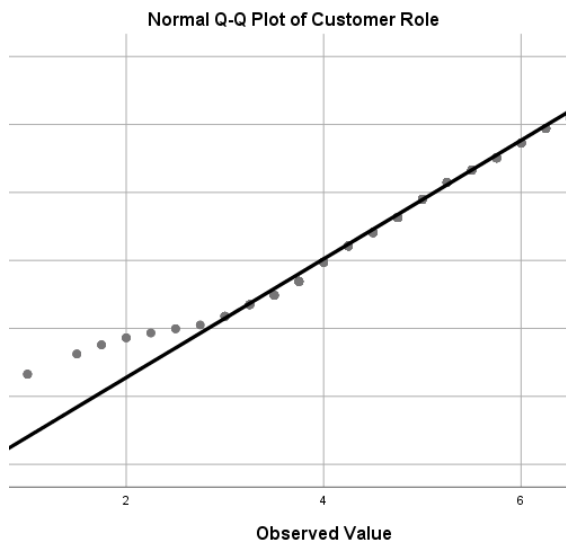
Normal Q-Q Plot of Provider Processes

Observed Value

Vehicles

Normal Q-Q Plot of Vehicle

Observed Value

Employees

Normal Q-Q Plot of Employees

Observed Value

Departure points

Normal Q-Q Plot of Departure Point

Observed Value

Customer roles

Normal Q-Q Plot of Customer Role

Observed Value

Fellow passengers

Normal Q-Q Plot of Fellow Passengers

Observed Value

In-vehicle activities

Normal Q-Q Plot of B6_InVehicleActivities

Observed Value

Customer satisfaction

Normal Q-Q Plot of Customer Satisfaction

Observed Value

Hedonic well-being

Normal Q-Q Plot of Hedonic Well-being

Social well-being

Normal Q-Q Plot of Social Well-being
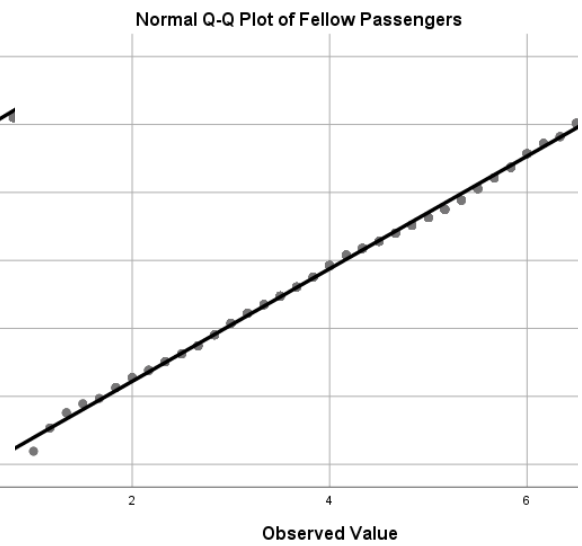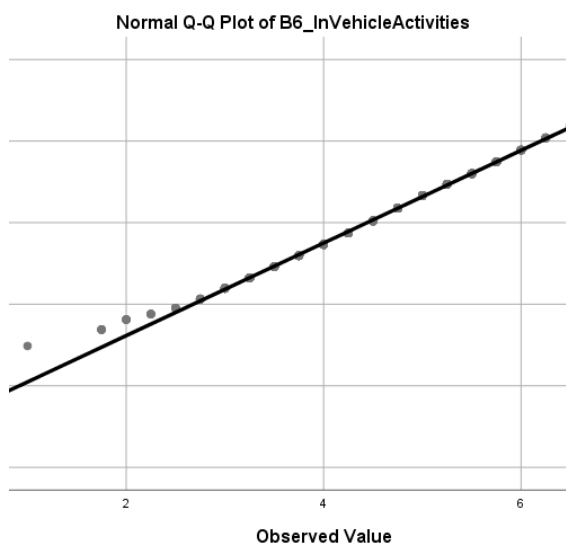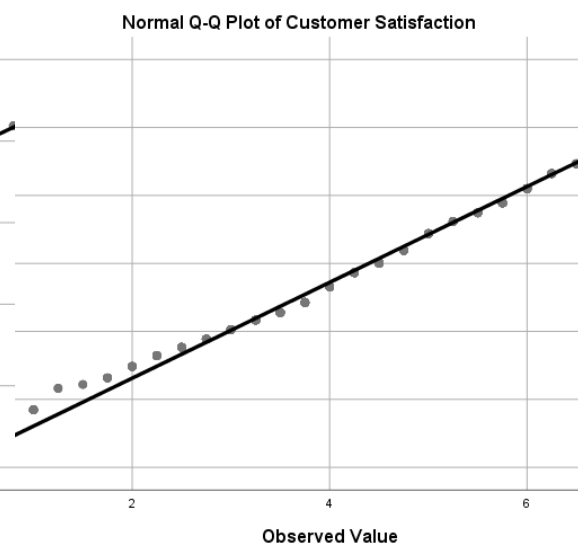
Eudaimonic well-being
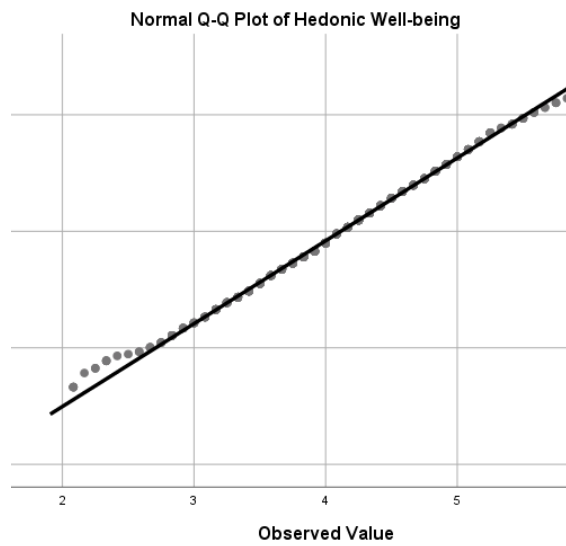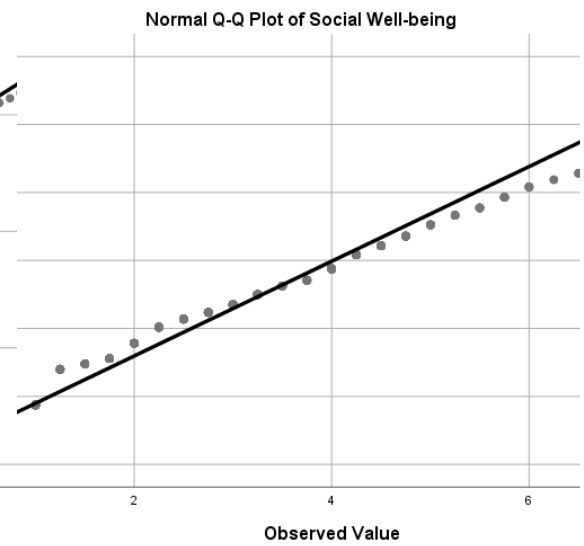
Normal Q-Q Plot of Eudaimonic Well-being

Physical well-being
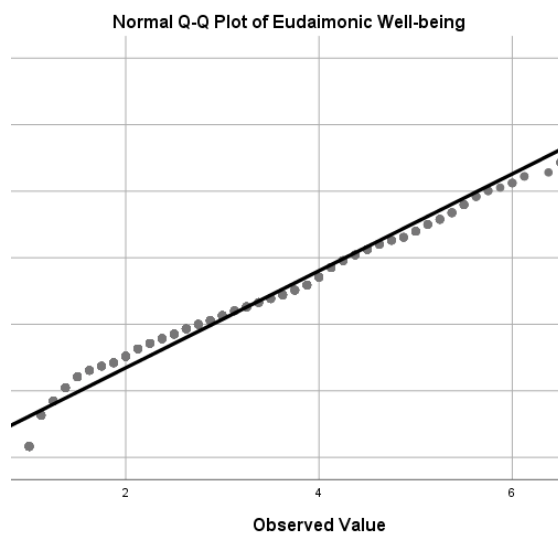
Normal Q-Q Plot of Physical Well-being
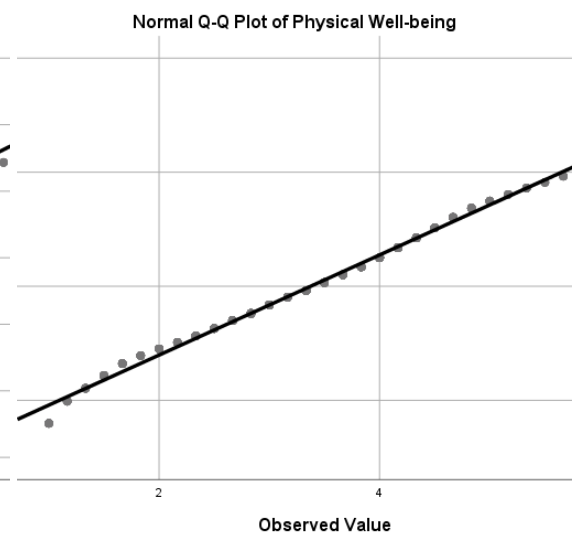
APPENDIX 7. PARTIAL ANALYSIS

Partial analysis - One touchpoint, one well-being outcome

Note.
BPOT= brand/partner-owned touchpoint; PP= provider processes; EM= employees; VC= vehicles; DP=departure points; COT= customer-owned touchpoint; CR= customer roles; IA=in-vehicle activities; fellow passengers (FP)= social touchpoint (SOT); CS= customer satisfaction; HWB= hedonic well-being; EWB= eudaimonic well-being; SWB= social well-being, PWB= physical well-being

Bold italic value = significant at p-value 0.05
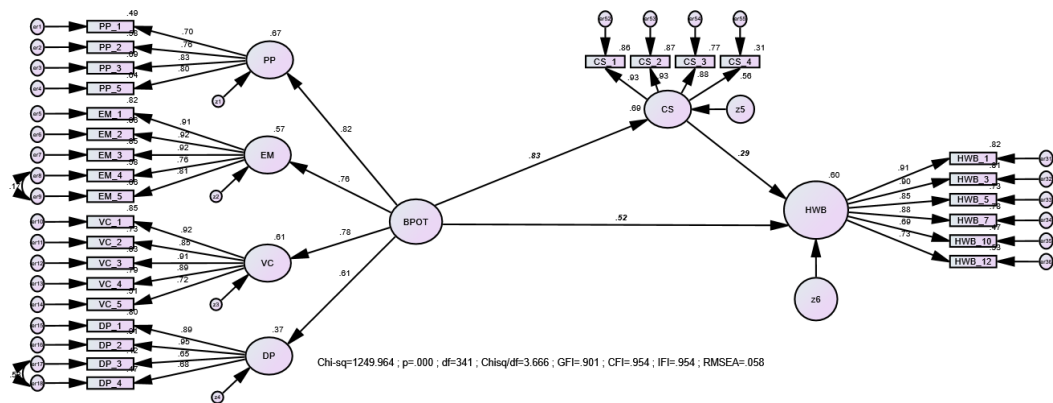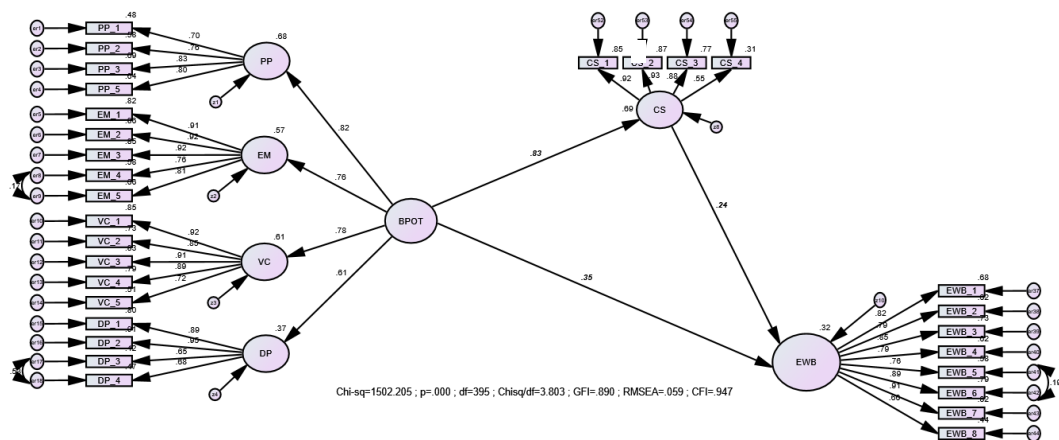
Fit indices:
Chisq/df : < 5.0
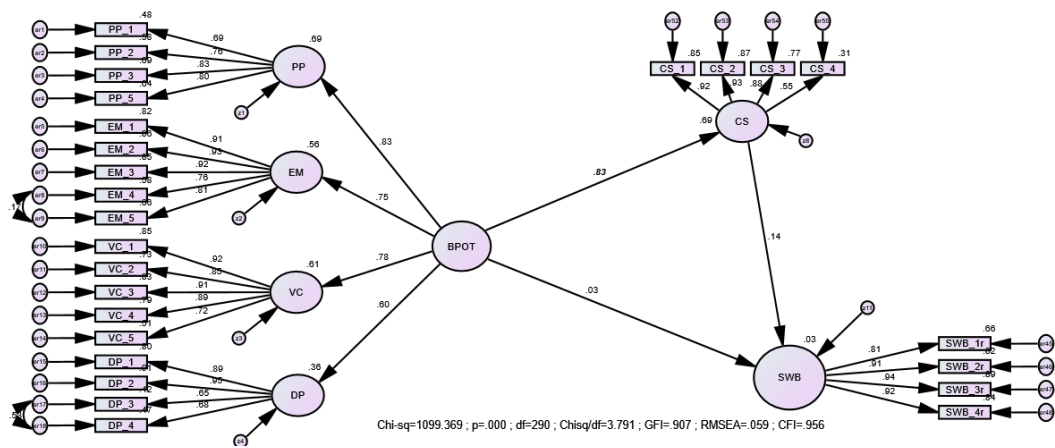RMSEA   : < .08
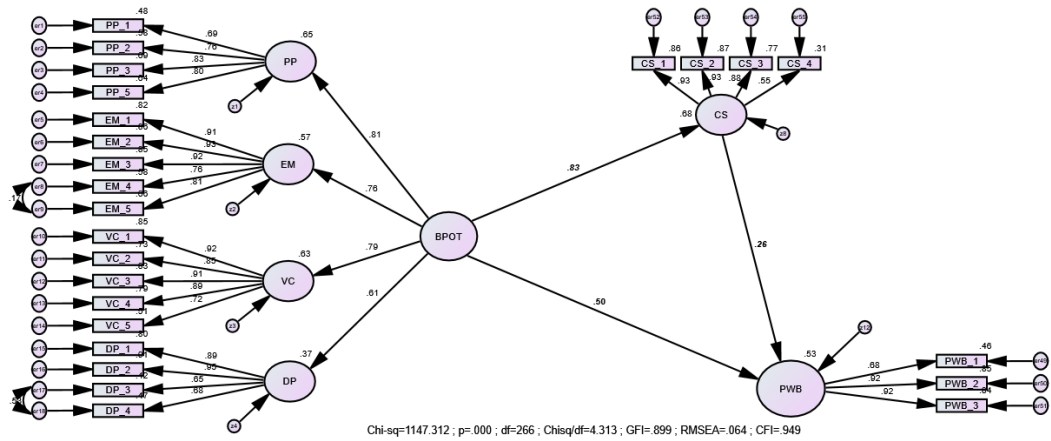GFI   : > .90
CFI   : > .90

1a) BPOT - HWB

Chi-sq=1249.964 ; p=.000 ; df=341 ; Chisq/df=3.666 ; GFI=.901 ; CFI=.954 ; IFI=.954 ; RMSEA=.058

1b) BPOT - EWB

Chi-sq=1502.205 ; p=.000 ; df=395 ; Chisq/df=3.803 ; GFI=.890 ; RMSEA=.059 ; CFI=.947

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1c) BPOT – SWB

Chi-sq=1099.369 ; p=.000 ; df=290 ; Chisq/df=3.791 ; GFI=.907 ; RMSEA=.059 ; CFI=.956

1d) BPOT - PWB

Chi-sq=1147.312 ; p=.000 ; df=266 ; Chisq/df=4.313 ; GFI=.899 ; RMSEA=.064 ; CFI=.949

2a) COT – HWB

Chi-sq=406.763 ; p=.000 ; df=114 ; Chisq/df=3.568 ; GFI=.944 ; RMSEA=.057 ; CFI=.968

2b) COT – EWB

Chi-sq=596.472 ; p=.000 ; df=146 ; Chisq/df=4.085 ; GFI=.925 ; RMSEA=.062 ; CFI=.956

2c) COT – SWB

Chi-sq=211.234 ; p=.000 ; df=85 ; Chisq/df=2.485 ; GFI=.966 ; RMSEA=.043 ; CFI=.984

2d) COT – PWB

Chi-sq=254.845 ; p=.000 ; df=72 ; Chisq/df=3.540 ; GFI=.957 ; RMSEA=.056 ; CFI=.972

3a) SOT – HWB

Chi-sq=460.069 ; p=.000 ; df=86 ; Chisq/df=5.350 ; GFI=.929 ; RMSEA=.074 ; CFI=.964

3b) SOT – EWB

Chi-sq=655.364 ; p=.000 ; df=114 ; Chisq/df=5.749 ; GFI=.913 ; RMSEA=.077 ; CFI=.952

3c) SOT – SWB

Chi-sq=\cmin ; p=\p ; df=\df ; Chisq/df=\cmindf ; GFI=\gfi ; RMSEA=\rmsea ; CFI=\cfi

3d) SOT – PWB

Chi-sq=320.553 ; p=.000 ; df=50 ; Chisq/df=6.411 ; GFI=.939 ; RMSEA=.082 ; CFI=.965

Partial analysis - one touchpoint, all well-being outcomes

> *Note.*
> BPOT= brand/partner-owned touchpoint; PP= provider processes; EM= employees; VC= vehicles; DP=departure points; COT= customer-owned touchpoint; CR= customer roles; IA=in-vehicle activities; fellow passengers (FP)= social touchpoint (SOT); CS= customer satisfaction; HWB= hedonic well-being; EWB= eudaimonic well-being; SWB= social well-being, PWB= physical well-being
>
> ***Bold italic*** value = significant at p-value 0.05
>
> Fit indices:
> Chisq/df : < 5.0
> RMSEA   : < .08
> GFI   : > .90
> CFI   : > .90

1a) BPOT – ALL

Chi-sq=2717.113 ; p=.000 ; df=846 ; Chisq/df=3.212 ; GFI=.860 ; RMSEA=.053 ; CFI=.940

1b) COT – ALL

Chi-sq=1630.742 ; p=.000 ; df=455 ; Chisq/df=3.584 ; GFI=.884 ; RMSEA=.057 ; CFI=.942

1c) SOT – ALL

Chi-sq=1872.409 ; p=.000 ; df=394 ; Chisq/df=4.752 ; GFI=.855 ; RMSEA=.069 ; CFI=.932

297
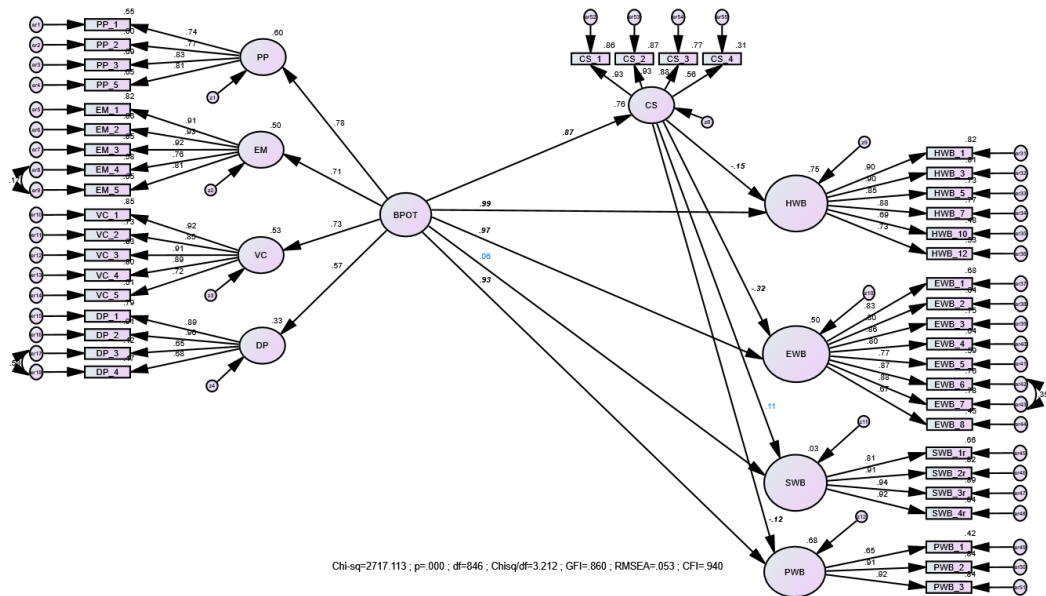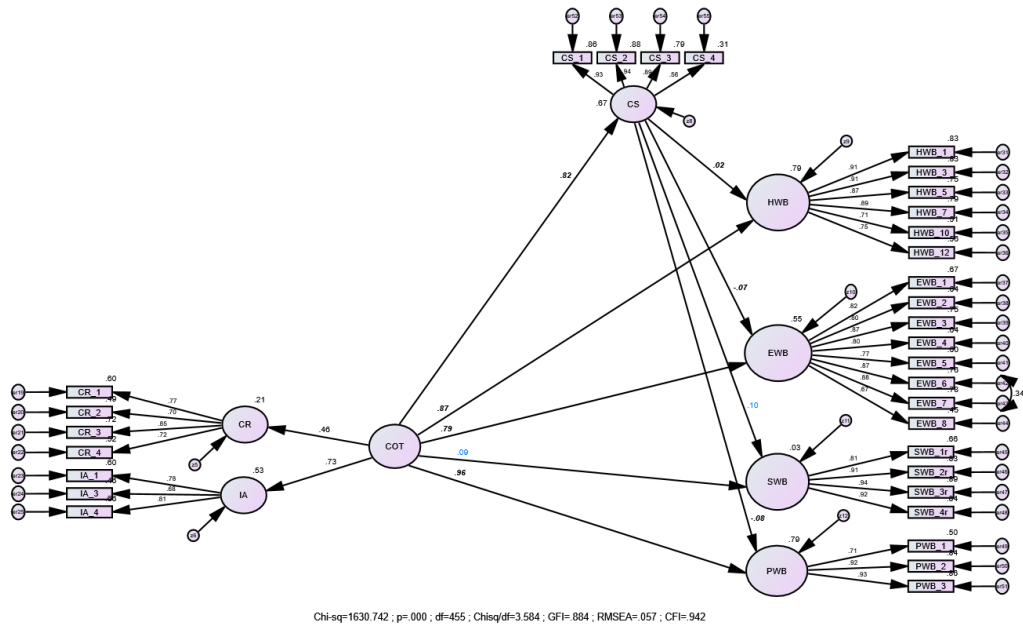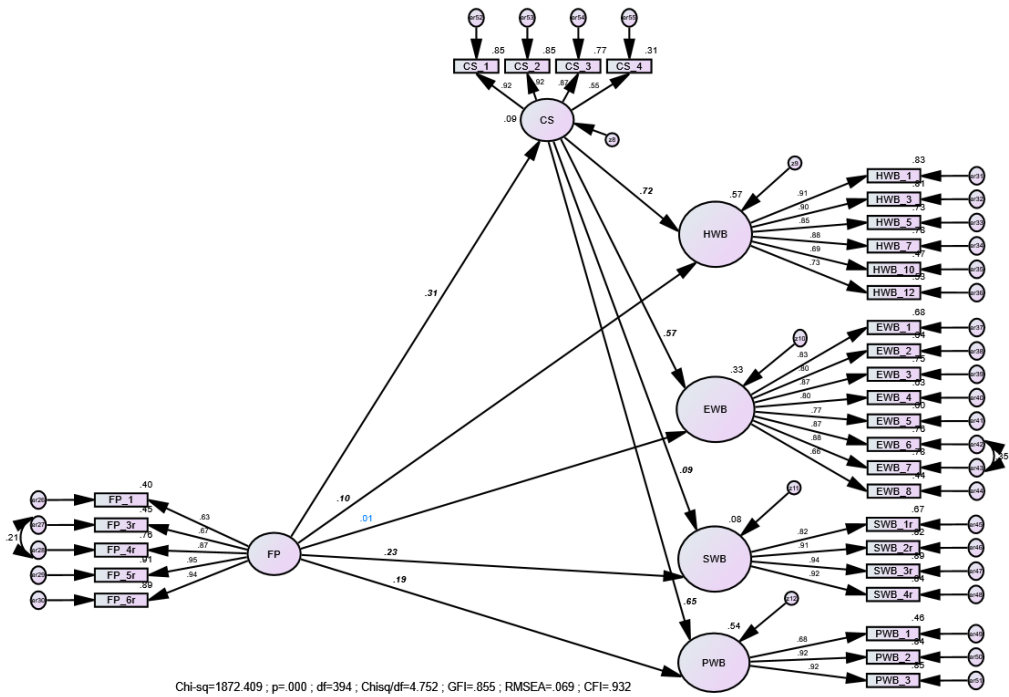
APPENDIX 8. HARMAN'S SINGLE FACTOR TEST

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.726	34.757	34.757	17.142	33.612	33.612
2	4.508	8.839	43.596			
3	3.552	6.964	50.560			
4	2.612	5.121	55.681			
5	2.132	4.181	59.862			
6	1.775	3.480	63.342			
7	1.580	3.097	66.439			
8	1.542	3.024	69.463			
9	1.381	2.708	72.171			
10	1.260	2.470	74.641			
11	.771	1.512	76.154			
12	.673	1.319	77.473			
13	.603	1.183	78.656			
14	.560	1.098	79.754			
15	.529	1.037	80.791			
16	.527	1.033	81.825			
17	.515	1.010	82.834			
18	.478	.937	83.771			
19	.464	.910	84.682			
20	.459	.900	85.582			
21	.433	.848	86.430			
22	.410	.804	87.234			
23	.399	.782	88.016			
24	.383	.751	88.767			
25	.369	.724	89.490			
26	.337	.661	90.151			
27	.336	.658	90.809			
28	.326	.639	91.449			
29	.309	.606	92.055			
30	.307	.601	92.656			
31	.283	.556	93.211			
32	.276	.541	93.752			
33	.259	.509	94.261			
34	.237	.466	94.727			
35	.230	.451	95.177			
36	.221	.433	95.610			
37	.219	.430	96.040			
38	.202	.397	96.437			
39	.186	.365	96.802			
40	.179	.351	97.153			
41	.169	.331	97.485			
42	.165	.324	97.809			
43	.156	.307	98.115			
44	.152	.298	98.414			
45	.136	.267	98.681			
46	.129	.253	98.933			
47	.124	.244	99.177			
48	.118	.232	99.409			
49	.105	.207	99.616			
50	.100	.196	99.812			
51	.096	.188	100.000			

Extraction Method: Principal Axis Factoring.