

# **Determinants of Passengers' Travel Experience – A Study in the Context of Indian Railways**

**A thesis submitted to the University of Hyderabad in partial  
fulfillment for the award of the degree of**

**DOCTOR OF PHILOSOPHY**

**in**

**MANAGEMENT**

**By**

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1. Service Industries Journal (Indexing: SCOPUS, SSCI, and ABDC (B))
2. International Journal of Hospitality and Tourism Administration (Indexing: SCOPUS, SSCI, and ABDC (B))

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1. 7th international conference on excellence in research and education (CERE) at IIM Indore (International)
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Further, the student has passed the following courses towards fulfilment of coursework requirement for Ph.D.:

Course Code	Name	Credits	Pass / Fail
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Supervisor

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## ACRONYMS AND ABBREVIATIONS

S. No	Acronym / Abbreviations	Full Form / Meaning
1	AGFI	Adjusted Goodness of Fit Indices
2	AMOS	Analysis of Moment Structures
3	AVEs	Average Variance Extracted
4	CE	Customer Experience
5	CEI	Customer Experience Index
6	CFA	Confirmatory Factor Analysis
7	CFI	Comparative Fit Index
8	CI	Consistency Index
9	EFA	Exploratory Factor Analysis
10	GFI	Goodness of fit indices
11	IR	Indian Railway
12	NFI	Normed Fit Index
13	PTE	Passengers' Travel Experience
14	PNFI	Parsimonious Normed Fit Index
15	RFI	Relative Fit Index
16	RMSEA	Root Mean Square Error of Approximation
17	SPSS	Statistical Package for Social Sciences
18	TLI	Tucker-Lewis Index



## SYMBOLS USED IN THE STUDY

%	Percentage
\$	Dollar
>	Greater than
<	Less than
$\geq$	greater than equal to
$\leq$	Less than equal to
H	Hypothesis
$R^2$	Root Mean Square
$\chi^2$	Chi-Square

## **Chapter 1**

### **INTRODUCTION**

This chapter discusses the relevance of studying the passengers' travel experience in the context of public transportation. More specifically, this chapter deals with the significance of the research topic, research gaps, research questions, and the objectives of the study.

#### **1. Customer experience**

Customer experience is “the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth” (Meyer & Schwager, 2007, p. 118; Oh, Fiore, & Jeoung, 2007; Otto & Ritchie, 1996; H.-C. Wu, Cheng, & Ai, 2017). These experiences originate from “a set of interactions between a customer and a product, a company, or part of its organization, which 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 of the different moments of contact or touch-points” (Gentile, Spiller, & Noci, 2007, p. 397; Otto & Ritchie, 1996). Summarizing the above definitions, Verhoef et al. (2009) has described “customer experience as a holistic phenomenon that involve the customer's cognitive and affective responses to the service provider. This experience is shaped not only by those factors that the service provider can control (e.g., service interface, service atmosphere, price)

but also by factors outside of the service provider's control (e.g., the influence of others, the purpose of service consumption)".

### **1.1.Evolution of customer experience**

Consumer behavior literature has not considered customer experience a separate construct. Instead marketing scholars have focused on service quality evaluations and satisfaction to understand the customer behavior. The first study to be published on customer experience in the international journal was authored by Holbrook and Hirschman (1982) "the experiential aspects of consumption: consumer fantasies, feelings, and fun". This study has highlighted the importance of experiential aspects during the service consumption. Specifically this study has highlighted role of symbolic, hedonic, and aesthetic nature of service consumption. Even before Holbrook and Hirschman (1982), an economist, Abott (1955) has stated "what people really desire are not products, but satisfying experiences.... People want products because they want the experience which they hope the products will render."

Later, Pine and Gilmore (1998) study on 'experience economy' has advanced the role of service experience in consumer literature. They have specified that services are mere goods. Therefore, just offering the service alone is not sufficient to gain the service differentiation as the service differentiation is benchmark of getting competitive advantage. They have argued that the economies were changing. The first phase of economy was named as 'product economy'. In this product economy, firms have produced materials and products. Later, along with products firms also offered services. Hence it was called as 'service economy'. Today, offering services has become generic to all the firms. Therefore, firms have to think beyond mere offering services (Palmer, 2010). This need has raised the new economy called as 'experience economy'. In the era of experience economy, firms are offering experiences along with services.

Customer experience is an emerging area of research in marketing literature. Various studies have found that customer experiences were the strong predictors of their behavioral intentions. For example, C.-F. Chen and Chen (2010) had tested the conventional model of service quality, satisfaction, perceived value, and behavioral intentions by replacing service quality with service experience. The results of the study revealed that the service experience has strongly influenced behavioral intentions through satisfaction and perceived value. Similar kind of study by Ali, Kim, Li, and Jeon (2016b), examined the relationship between service experience and customer delight. Their study results have shown that customers are delighted when they have extraordinary experiences offered by the service provider.

### **1.2. A shift from objectivity to subjectivity**

Customer experience is a psychological phenomenon. Otto and Ritchie (1996) have described experience as “subjective mental status felt by the customers during their consumption of services”. They argued that tourists are more concerned about their subjective experiences rather than technical or functional aspects at destinations. Various studies have discussed the subjective nature of experiences (Mannell & Iso-Ahola, 1987; Milman, Li, Wang, & Yu, 2012). Existential theory argues that the authenticity lies in the experiences of the tourists rather than the objects provided at the destinations (Wang, 1999). Tourists involve in the services not only provided by the destination managers but also the opportunities brought to them. For example: people visit theme parks to have experiences. The theme park management provides various themes to engage their customers. In this context, the authenticity of experience does not lie in the themes that they provide but in the way the customers have reacted to that themes and the level of their participation in those activities.

Experiences are memorable (Tung & Ritchie, 2011a). Memory is the primary source of the problem solving. For example, if a customer wants to buy a TV, he searches for the

information about the TV brands. In this case the first information that he recalls is the previous experiences of TV brands that are stored in his mind. If the stored memories with that product are very positive, then it is more likely that the customer buys the same brand. In contrast, if the stored memories are negative the customer may switch to another brand. (Tung & Ritchie, 2011b) have explored the relationship between customer experiences and their memories. They identified that customer experiences play a vital role in the formation of memory. J.-H. Kim (2010) remarked that, tourist's involvement strongly determines their autobiographic memory. Another study by Litman (2007) stated that, service experiences influence the customer loyalty through vivid memories.

### **1.3. Research gaps**

#### **1.3.1. Research gap 1**

Customer experience is still an emerging idea in the marketing literature. It is in the growth stage. In the first stage scholars have attempted to understand the experience construct by answering various questions, such as what is customer experience? How this experience can be defined? Various studies have defined the experience construct. The second stage is growth stage. In this stage, scholars are trying to measure or operationalize 'customer experience' in the various service settings. Good number of studies have measured experience in the various service contexts. For example, destination tourism context (C.-F. Chen & Chen, 2010; Litman, 2007; Otto & Ritchie, 1996), retail context (Grewal, Levy, & Kumar, 2009; Puccinelli et al., 2009; Verhoef et al., 2009), branding (Brakus, Schmitt, & Zarantonello, 2009; Rageh Ismail, Melewar, Lim, & Woodside, 2011; Schmitt, 1999), festival context (Girish & Chen, 2017; Y.-K. Lee, Lee, Lee, & Babin, 2008; Litman, 2007), theme parks (Ali, Kim, Li, & Jeon, 2018; Bigné, Andreu, & Gnoth, 2005; Kao, Huang, & Wu, 2008), and online context (Kong, 2011; Novak, Hoffman, & Yung, 2000; Rose, Hair, & Clark, 2011).

Even though a good number of studies are available in the literature that have measured service experience, most of them were related to tourism context (Neal, Sirgy, & Uysal, 1999; Yin & Poon, 2016). Even though they are mentioned as travel experiences, they have mostly discussed leisure activities rather than the core travel. In the tourism context, 60% of the tourists' time consumed by travel/transportation (Morgan & Xu, 2009).

Majority of the studies in the transportation literature have discussed about the vehicle maintenance aspects such as technical, engineering, signaling, and accidents. Very few models are available regarding the passengers' service consumption and their behavioral intentions. Among those few, service quality was rigorously discussed in the transportation literature. For example, Maruvada and Bellamkonda (2010) have tested the dimensionality of service quality in the railway travel context. Nathanail (2008) measured the relationship between service quality and satisfaction. Stradling, Carreno, Rye, and Noble (2007) have measured the quality of bus services. Eboli and Mazzulla (2012) have empirically examined the role of service quality dimensions on behavioral intentions.

Almost in the last two decades service quality has been center of the marketing literature, specifically in the transport literature, scholars have believed that service quality is a strong predictor of passenger's satisfaction and behavioral intentions. But, some of the marketing scholars have criticized the over emphasis of the service quality in the consumer behavioral literature (C.-F. Chen & Chen, 2010; Otto & Ritchie, 1996). They have argued that service quality is an objective measure. For example, service quality measures the services offered by the service firm. SERVQUAL considers the customers' rating on the services offered by the firm (Anantharathan Parasuraman, Zeithaml, & Berry, 1985). The SERVQUAL ignores the subjective responses of the customers (Otto & Ritchie, 1996).

Various studies related to consumer psychology have suggested the need for the scales in the marketing that measure the subjective responses of the customers that can strongly predict the customers' future behavioral intentions (Mannell & Iso-Ahola, 1987; Schmitt, Joško Brakus, & Zarantonello, 2015). This led to the emergence of customer experience. Customer experience is a psychological phenomenon (Larsen, 2007). Experiences are subjective in nature. Customer experience is defined as internal and subjective responses to the service interactions (Otto & Ritchie, 1996).

Similarly in the context of public transportation, scholars have over emphasized the concept of service quality. As discussed in the above paragraph, service quality is limited to considering the objective responses of the customers. There is a need to understand internal and subjective responses of the customers as they are highly reliable measures to understand the future behaviors of the passengers. Thus, as customer experiences are subjective in nature, it is imperative to understand the passengers' experiences in the context of public transportation.

In addition, service quality measures only the functional/technical aspects of the service consumption (Otto & Ritchie, 1996). For example, quality of the services, process, and delivery. Service quality does not measure the emotional aspects of the consumption (Verhoef et al., 2009). For example, customers' feelings, emotions, and moods during the service consumption. Various studies in the consumer behavior literature have identified that the emotions and feelings play vital role during the customers' service consumption (Bagozzi, Gopinath, & Nyer, 1999; Chris & Haw-Yi, 2011). For example, even though the quality of the service is good customer may rate it as below average if he is in bad mood. Moreover, in a country like India, sentiments play vital role in the service consumption. Customer experience includes emotions, feelings, sentiments, and moods (Holbrook & Hirschman, 1982). Verhoef et al. (2009) have defined customer experience as "a holistic

phenomenon that include cognitive elements (functional/technical) as well as affective elements (emotions, sentiments, moods)’’.

### **1.3.2. Research gap 2**

Customer experience is an emerging concept. So far marketing scholars have attempted to understand the concept of customer experience by defining and conceptualizing the construct (Palmer, 2010). The next stage involves empirically operationalizing the concept in t various service settings. Few studies have operationalized customer experience in a different context. For example, Oh et al. (2007) operationalized four elements of customer experience (education, entertainment, esthetics, and escapism) in the context of bed-and-breakfast industry. Kao et al. (2008) have measured experience with four components, viz., immersion, participation, surprise, and fun in the context of theme parks. Further, J.-H. Kim, Ritchie, and McCormick (2010), found seven factors of memorable tourism experiences. They are hedonism, novelty, local culture, refreshment, meaningfulness, involvement, and knowledge . Another study by Ali, Kim, Li, and Jeon (2016a) identified three factors that represent customer experience. They are physical environment, interaction with staff, and interaction with customers.

Based on the above information it is clear that various studies have empirically examined the components of service experience in the different service settings. But, what determines the customer experience is another level of research question that has to be answered (Verhoef et al., 2009).

In the public transportation literature, a wide range of studies have explored the service quality factors as the determinants of travel satisfaction and loyalty. For example, vehicle maintenance (Nathanail, 2008), cleanliness (Eboli & Mazzulla, 2012), terminal services (Nandan, 2010), ticketing services (de Oña, de Oña, Eboli, & Mazzulla, 2013), staff behavior



(Maruvada & Bellamkonda, 2010), etc. But service quality factors are limited to only the services that are offered by the firm. There are other factors that are beyond the service offerings and influence the overall travel experience of the passengers. For example, the behavior of the other passengers is not under service provision but still has an impact on the overall passengers' travel experience. Similarly, the passengers' purpose of the journey is not a service provision but still it influence the passenger's' overall travel experience (Verhoef et al., 2009).

In addition, customers' service consumption experience include three stages viz., pre-consumption, consumption (transaction), and post-consumption. But, service quality evaluates the customers' interactions only at the transaction stage (Arun Parasuraman, Zeithaml, & Berry, 1988). In the context of public transportation, there are various factors that passengers interact before and after their journey. For example, accessibility, parking services, etc., are some of the factors that passengers interact before and after their journeys.

Based on the above arguments it is evident that service quality factors alone are not adequate to understand the determinants of total passengers' travel experience. There is a need for a holistic scale that include all the passengers' interactions throughout their journey that include factors that are completely under the control of the service provider (vehicle maintenance, staff, etc.) and the factors that are not completely under the transport service provider (e.g. other passengers behavior). Therefore this study focused on the development of a scale to identify the various determinants of the passengers' travel experience.

### **1.3.3. Research gap 3**

Customer experience has emerged as one of the critical success factor for the firms. Hence academicians and practitioners are very much interested in understanding the antecedents and

outcomes of customer experience. Meyer and Schwager (2007, p. 118) defined customer Experience as “the internal and subjective response customers have to any direct or indirect contact with a company”. This definition reveals the causal paths between experience components and their determinants. According to the above definition, the ‘internal and subjective responses’ are the components of customer experience. The ‘direct and indirect contacts/interactions’ are the determinants of the customer experience components. Similarly, Gentile et al. (2007) asserted that the customer experience originates from customer interactions with an organization, its services/ products.

How to enhance customer experience is one of the primary problems of the transport managers. As the experience is the outcome of the passengers’ service interactions, transport managers can focus and improve the passengers’ interactions with service throughout their journey. Hence, there is a need to examine the effect of passengers’ service interactions on their overall travel experience. Bridging this gap can ensure the managers to understand what specific interactions of the passengers influence the overall passenger travel experience. Bridging this gap also helps the transport managers to identify their key focus areas to enhance passengers’ travel experiences.

In summary, there is a need to examine the effect of passengers’ service interactions on their overall travel experience. Bridging this gap helps managers to understand what specific interactions of the passengers influence the overall passenger travel experience. Bridging this gap also helps the transport managers to identify their key focus areas to enhance passengers’ travel experiences.

#### **1.3.4. Research gap 4**

Understanding the behavioral intentions of the customers is the critical success factor for a business. In the marketing literature, scholars have measured customer behavioral intentions

to determine the customers' intentions towards revisiting the service form (H.-C. Wu, Li, & Li, 2014), recommending the service to the others (X. Chen, Yu, Gentry, & Yu, 2017; Lai & Chen, 2011), and sharing or spreading their experiences through word of mouth behavior (Chevalier & Mayzlin, 2006). The revisiting behavior also refers to loyalty. Loyal customers are profitable to the company. It is less costly to retain an existing customer rather than attracting a new customer. Recommendation behavior is another important factor that plays a critical role in the success of a business. Today customers are more aware of the quality of the services as well as alternative services. The customers are interacting with company as well as various other customers on social media platforms (Chevalier & Mayzlin, 2006). They are sharing their experiences, rating the services, and recommending the brands.

This study has measured passengers' intention to accept the price/pay more. Indian railway is one of the largest public transportation organization in India. Indian railway is national railway system operated by ministry of railway, India. Therefore, compared to other travel modes, the ticket prices for train travel is less. The ROI on passengers' services in Indian railway is very less. India railway offers passenger services and freight services. The profits incurred on freight services are shared to cover the losses incurred on passengers' services. Today, the railway ministry is trying to increase the ticket prices to make the passenger services profitable. What makes the railway passengers to accept the higher prices is an interesting question before the railway department. Therefore, this study has proposed that the passengers' cognitive and emotional experiences positively influence their intention to accept the price.

In summary, what are the antecedents of passengers' intention to accept a higher price? There is a need to examine the relationship between passengers' travel experience and their intentions to accept the price. More specifically, there is a need to examine whether

passengers' decision making process (intention to pay more) is mainly guided by their cognitive responses or emotional responses in the public transportation.

#### **1.4. Research questions of the study**

Based on the theoretical arguments discussed in the previous paragraphs, this research has formulated three major research questions.

1. What are the determinants of the passengers' travel experience in the context of public transportation?
2. Do the factors that are not completely under the control of service provider affect the passengers' travel experience?
3. Is the passengers' decision making process (intention to pay more) mainly guided by their cognitive responses or emotional responses in the public transportation.

#### **1.5. Objectives of the study**

The objectives for this study were drawn based on the theoretical gaps and the research questions that are discussed in the above paragraphs. The major objectives of this study are;

1. To identify the key determinants of passengers' travel experience in public transportation, with specific reference to Indian railway.
2. To examine the effect of each of the identified determinant on passengers cognitive and emotional responses.
3. To investigate whether the passengers' travel behavior decision making process is mainly guided by their cognitive responses or emotional responses in public transportation.

## 1.6. Public transportation

Public transportation is the form of travel that enables group of people to travel together their destinations (Heath & Gifford, 2002). The examples of the public transportation are buses, trains, cabs, airlines, etc. public transportation plays a critical role in the development of a society. Public transportation connects the people from different places. Moreover, Public Transportation (PT) increases the accessibility to various destinations. PT also improves the access to education, employment and entertainment (Heath & Gifford, 2002). Moreover, PT is safer and healthier. Public transportation also plays a major role in country's economic growth. It creates jobs.

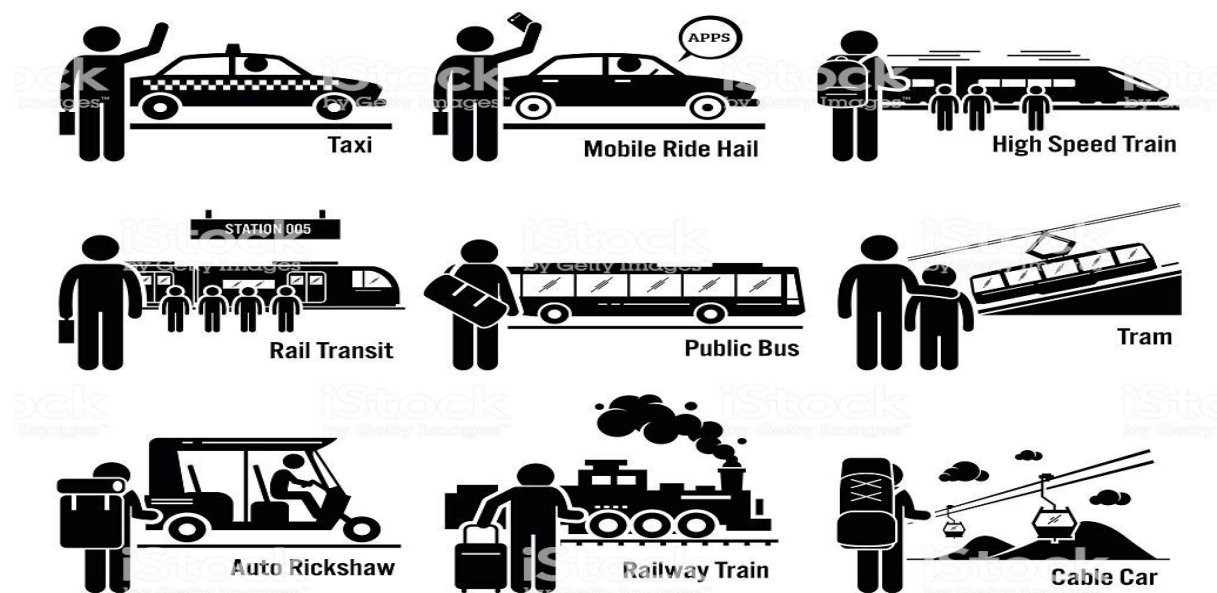
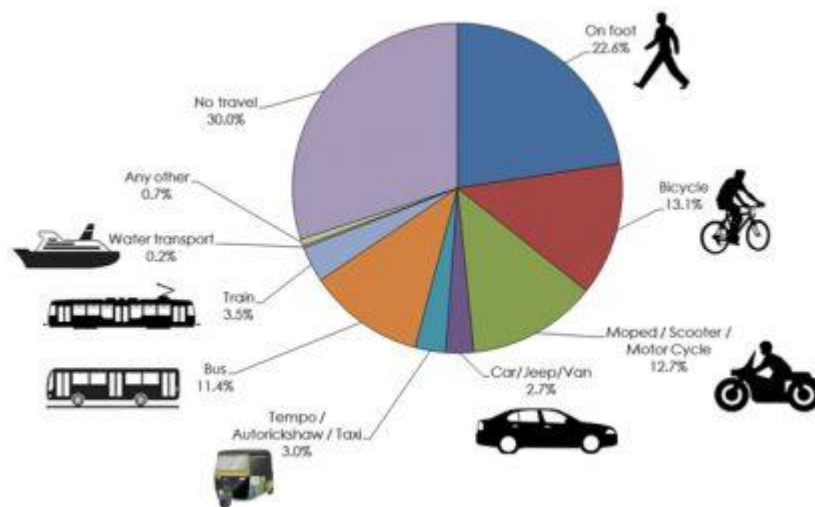


Image 1.6. Types of public transportation

The emphasis placed on Public transportation is high in the present scenario. All the countries in the world are focusing on enhancing public transit services. They are encouraging their citizens to use the PT services. The use of PT is high in the Asian countries specifically in India.

### 1.6.1. Public transpiration in India

Public transportation is the largest transportation mode in India. Even though the sales of private vehicle are high, the users of public transportation is still remains highest in India. Bus transportation is the largest public transport mode followed by railway transport in India. There are multiple motivations why people are opting for public transportation in India.



Source: How India Travels' – ANI Technologies/Ola Cabs – January 2016

Figure 1.6.1. Travel to work by modes of transportation in India

#### 1.6.1.1.Indian Railway

Indian railway is India's national railway system. Indian railway is operated by the Ministry of Railway. Indian Railway is the fourth largest railway systems in the world. Indian Railway runs approximately 20,000 passenger trains daily across India. A total of 7,349 stations are covered regularly. Around, 8.26 billion passengers travelled in trains of Indian Railway in 2017-18

The first train was started in the year 1837. However, the first passengers' train was started in the year 1853. Today, the Indian railway is the second largest company in the world based on

the number of employees. It is providing two kinds of services viz., freight services and passenger services. For the year 2017–18, Indian Railway is projected to gain revenue of ₹1.874 trillion (US\$26 billion), consisting of ₹1.175 trillion (US\$16 billion) in freight revenue and ₹501.25 billion (US\$7.0 billion) in passenger revenue, with an operating ratio of 96.0 percent (Puri & Verma, 2017).

#### **1.6.1.2. Classification of trains**

There are various types of trains such as Rajadhani, Shatabdi, Toronto, etc. however, passenger trains are mainly classified into three categories viz., super-fast trains, express trains, and passenger trains.

1. **Passenger trains:** They are mainly designed for passengers who travel between the cities. The ticket cost for these trains is minimal compared to the other trains. These type of trains include intercity trains and local trains.
2. **Express trains:** express trains are the next level to the passenger trains. They are also designed to connect the cities. The speed of the train is a little fast as compared to the passenger trains.
3. **Superfast trains:** superfast trains are designed to connect the major cities such as capital cities of the states. They assure the speed travel. Eg. Rajadhani, Shatabdi, etc.
4. **Luxury trains:** these trains are mainly designed for tourism purpose. The high-class services are provided in these trains. Eg. Maharaja express, Golden Chariot, Royal Rajasthan, etc.
5. **Metro rail:** these trains connect the different parts of the city. The main purpose is to reduce the traffic in the cities. Eg. Delhi Metro, Mumbai metro, etc.
6. **Suburban rail:** They are also called mini rails. They connect the different parts of the city as well as the nearest places to the cities.

**7. Trams:** The trams are also called street cars. They are one of the oldest forms of city transportation.

**8. Bullet trains:** These are the modern high-speed trains. They are designed to reduce the travel time between stations.

### 1.6.1.3. Travel class

Each train consists of some coaches that are again classified in the various classes based on the services offered.

**1<sup>st</sup> AC:** It is the most expensive and luxurious class of the Indian railway. The best services are provided in this class. The fares are almost equal to the airfares. A full AC train consists a total of 8 boxes, and half AC train comprises three boxes of 1<sup>st</sup> AC class.



Image 1.6.1.3.1. 1<sup>st</sup> AC class

**2<sup>nd</sup> AC:** It is also called as two-tier AC. The berths are designed in two tiers based on six berths. Four berths are across the width of the box, and two are lengthwise. Each box can carry 48 passengers. The fare will be lesser than the first class AC.





Image 1.6.1.3.2. 2<sup>nd</sup> AC class

**3<sup>rd</sup> AC:** This class consists of three berths across the width, and two are lengthwise. Each box includes a total of 64 berths.



Image 1.6.1.3.3. 3rd AC class

**Sleeper:** Sleeper class is the highly popular division in the Indian railway. Each train consists of ten or more than ten coaches. The seating design is similar to the 3<sup>rd</sup> AC class without air conditioning. Three berths across the width and two are lengthwise. Each coach consists of 72 berths.

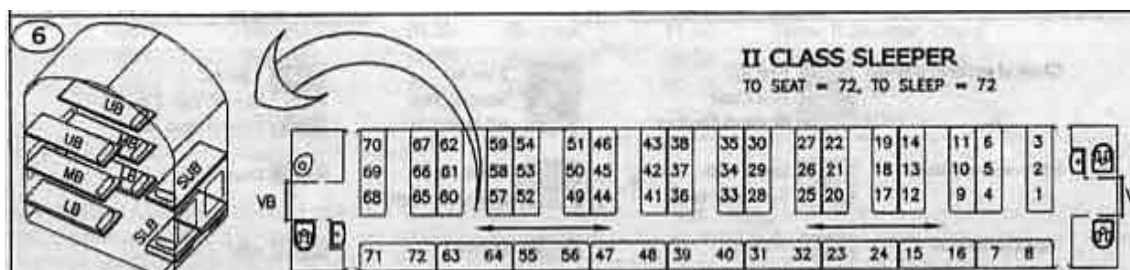


Image 1.6.1.3.4. Sleeper class

**Chair:** This class coaches consist of chairs instead of berths. These coaches are designed for day travel passengers. Some of these chair coaches are air-conditioned.



Image 1.6.1.3.5. AC car/chair class

**General:** This class also called an unreserved class. The seats are not guaranteed. This class is the lowest class in the Indian railway.



Image 1.6.1.3.6. Unreserved class

## **Chapter 2**

### **LITERATURE REVIEW**

The objective of this chapter is to provide a comprehensive literature review on customer experience. This chapter discusses the concept of 'customer experience' and its definitions given by various scholars. Further, the chapter also includes the discussion of the literature on customer emotions, customer satisfaction, and customer behavioural intentions. A conceptual model of customer experience with 16 causal paths has been presented towards the end of this chapter. A total of 16 hypotheses were proposed based on the literature support.

#### **2.1. Customer experience**

##### **2.1.1. Back ground**

Customer experience is an emerging concept in the marketing literature. The pioneering work by Holbrook and Hirschman (1982) "the experiential aspects of consumption: consumer fantasies, feelings, and fun" was the first paper to discuss the concept of customer experience which got published in an international journal. The authors contradicted the traditional information processing system of customer service consumption. Their findings have revealed that service consumption included emotions, feelings, and daydreams. The traditional information processing system has ignored the affective components of the service consumption and emphasized only on cognitive components. They have concluded that service consumption includes cognitive aspects as well as emotional aspects. Even before, Holbrook and Hirschman (1982), an economist Abott (1955) has stated "what people desire are not products, but satisfying experiences.... People want products because they want the

experience which they hope the products will render." For example, a customer buys an Air conditioner to have a relaxed and pleasant experience around him.

Another important study that has added value to the evolution of the customer experience was done by Pine and Gilmore (1998) 'welcome to the experience economy'. They stated that the company or a product gets a competitive advantage when it is different from that of its competitors. Thus, product or service differentiation is the core element of product survival in the market. They also stated that the economies have been changing. In the beginning, the marketers have delivered the goods/material to fulfil the needs of the customers. Therefore, this period was called as goods economy. The marketers have relied on the quality of the goods to acquire the differentiation, in turn, competitive advantage. Later, delivering the quality goods has become common among all the competitors. Therefore, marketers have started providing services along with the products to show the differentiation. This stage of the economy was called as a service economy. In this stage, services were complemented to the core products. Later, the services have become common in the market as all the competitors have started offering a similar type of services. This phenomenon has led to another economy called as relationship economy. In this economy, firms have focused on building the relationship with customers by taking feedbacks, maintaining customer's databases, and customizing the offers to the individuals. Later, marketers have realized that the relationship economy has overemphasized on the customer database systems. The companies have bombarded the customers with the information they have rather than understanding the customers and their consumption experiences. Therefore, this scenario has led to another phase of the economy that is termed as experience economy.

In the experience economy service providers are creating experiences rather than merely offering products or services (Berry, Wall, & Carbone, 2006; Carbone & Haeckel, 1994). Experience economy is different from other economies. So far, the companies have relied on

their resources rather than understanding the needs of the customers. For example, in the goods/material economy, firms have pushed the products that they were capable of manufacturing. Similarly, in the service economy, the service providers focused on the services that they are competent to offer. In other words, the services are mere products. In the relationship economy, firms have focused more on the customer data that was available to them rather than understanding the customers. But, in the experience economy customer is the centre of the economy as the experience are personal and subjective matter (Tynan & McKechnie, 2009). They are strictly related to the individual personality.

Source: Pine and Gilmore (1998)

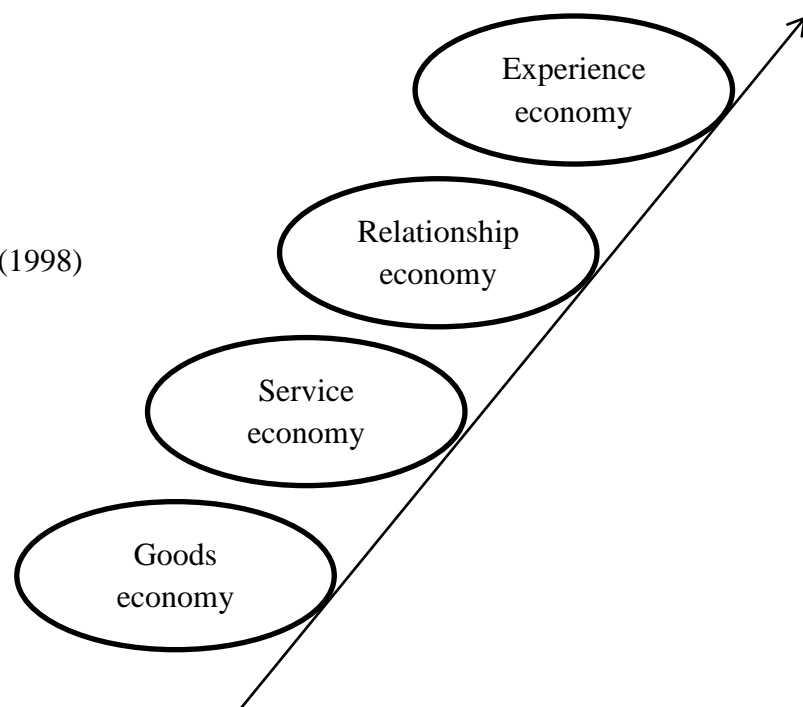


Figure 2.1.1. The evolution of the experience economy

Pine and Gilmore (1998) have explained the change in economies with a birthday cake example. In the goods economy, a mother bought the material such as flour, essence, etc. to prepare a birthday cake for the party. In the service economy, the cake was made and delivered by the bakers. Therefore, a mother bought the ready-made birthday cake for the

party. Later, in the experience economy, the entire party is organized by the service provider. The cake is a small part of it. It's more of creating a great experience rather than mere offering of the services.

### **2.1.2. Customer experience definitions**

In order to have a holistic and comprehensive perspective of customer experience concept, various definitions of customer experience given by scholars are presented below:

*“Customer experience is a steady flow of fantasies, feelings, and fun.”*

Holbrook and Hirschman (1982)

*“Customer experiences are a takeaway impression from people's encounters with products, services, and businesses – a perception produced when humans consolidate sensory information.”*

Carbone and Haeckel (1994)

*Customer experience is “the subjective mental state felt by the customer during the interaction with the service.”*

Otto and Ritchie (1996)

*“Experiences are a distinct economic offering, as different from services as services are from goods. An experience occurs when a company intentionally uses services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event”.*

Pine and Gilmore (1998)

*“Experiences are the result of encountering, undergoing or living through situations. They have triggered stimulations to the senses, the heart, and the mind. Experiences also connect the company and the brand to the customer's lifestyle and place individual customer actions*

*and the purchase occasion in a broader social context. In sum, experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values”.*

Schimtt (1999)

*“Experience is an emergent phenomenon. It is the outcome of participation in a set of activities within a social context”.*

Gupta and Vajic (2000)

*"A total customer experience is a consistent representation and flawless execution, across distribution channels and interaction points, of the emotional connection and relationship you want your customers to have with your brand."*

Seybold (2001)

*"Experience is specific knowledge that has been acquired by an agent during past problem-solving. Experience is therefore always situated in a certain, very specific problem-solving context. Therefore, experiences are stored knowledge".*

Bergmann (2002)

*"By 'total experience' we mean the feelings customers take away from their interaction with a firm's goods, services, and 'atmospheric' stimuli."*

Haeckel, Carbone, and Berry (2003)

*"Total customer experience emphasizes the importance of all contacts that a consumer has with an organization and the consumer's holistic experience."*

Harris, Harris, and Baron (2003)

*Customer experience acts as "an engaging act of co-creation between a provider and a consumer wherein the consumer perceives value in the encounter and in the subsequent memory of that encounter."*

Poulsson and Kale (2004)

*"A brand is the sum of the customer's experiences with the product of a company [...] An effective customer experience programme analyses rich customer feedback to determine not just what customers say, but also what they do".*

Hogan, Almquist, and Glynn (2005)

*"A customer experience is an interaction between an organization and a customer. It is a blend of an organization's physical performance, the senses stimulated and emotions evoked, each intuitively measured against customer expectations across all moments of contact".*

Shaw (2004)

*"Total customer experience is a positive, engaging, enduring, and socially fulfilling physical and emotional customer experience across all major levels of one's consumption chain and one that is brought about by a distinct market offering that calls for active interaction between consumers and providers."*

A., Ram, and Michael (2006)

*Customer experience acts "as the user's interpretation of his or her total interaction with the brand."*

Ghose (2009)

*"Customer experience is the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase,*



*use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth".*

Meyer and Schwager (2007)

*"The customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which 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 of the different moments of contact or touch-points."*

Gentile et al. (2007)

*"The customer experience is a mental journey that leaves the customer with memories of having performed something special, having learned something or just having fun."*

Sundbo and Hagedorn-Rasmussen (2008)

*"Customer experience is holistic and involve(ing) the customer's cognitive, affective, emotional, social and physical responses to the retailer. This experience is created not only by those factors that the retailer can control (e.g., service interface, retail atmosphere, assortment, price) but also by factors outside of the retailer's control (e.g., the influence of others, the purpose of shopping)"*

Verhoef et al. (2009)

*“A customer experience is defined as the customer’s direct and indirect experience of the service process, the organization, 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 behavioral responses and leave the customer with memories about the experience”.*

Walter, Edvardsson, and Öström (2010)

## **2.2. Characteristics of customer experience**

### **2.2.1. Subjective nature of customer experience**

Experiences are subjective in nature. Otto and Ritchie (1996) have defined customer experience as "the subjective mental state felt by the customer during the interaction with the service." Experiences are not the same to all the customers. Unfortunately, previous studies have considered experiences as mere services (Neal et al., 1999; Neal, Uysal, & Sirgy, 2007). They have more emphasized on improving service quality (Fick & Brent Ritchie, 1991). They have focused on the functional aspects of the service consumption to satisfy the customers. Later, marketing scholars have realized the importance of understanding the subjective experiences of customers. Therefore, in the consumer behavior literature, the focus of the research has shifted from objectivity (services offered) to subjectivity (experiences). This shift is more seen in the tourism literature.

#### **2.2.1.1. Theory of authenticity**

Authenticity plays a critical role in the tourism industry. Customer evaluates the authenticity of the product or the services offered at the destinations. A wide range of studies discussed the importance and determinants of the tourists' authenticity. In the early leisure literature, the

scholars have stated that the authenticity of tourist experience lies in the objects or services offered at the destinations (Cohen, 1988). This notion was believed to be true for three decades. Later, Wang (1999) has argued that the authenticity of the tourist's experiences does not lie in the objects offered by the service provider rather in tourists himself. He called it 'existential authenticity.' The tourism authenticity lies in the experiences of the tourists but not in the objects or services offered at the destinations.

The authenticity lies in the level of participation of the tourists rather than the event brought to him. For example, a theme park is providing the service of skydiving. Here the authenticity lies in the participation of the tourists rather than mere offering the service. Similarly, Daniel (1996) has experimented with a group of tourists. They have given different roles to the participants to perform in a game. Later, they have identified that the participants have jumped into other characters that they like and created their own experiences. The findings of the experiment revealed that the tourist's consumption includes not only the services offered by the provider but also the opportunities brought to them.

Various studies have evidenced the shift of tourism focus from objects offered at the destination to subjective experiences of tourist. Otto and Ritchie (1996) are some of the early scholars to add this argument to the leisure literature. They argued that the tourists' satisfaction does not completely depend on the functional or technical aspects available at the destination. What tourists expect are subjective experiences. They also argued that the destination managers had understood experiences as services. They have differentiated the experiences from services. They have stated that: 1) services are offerings that are delivered by a company. Experiences are not offerings. Experiences are feelings or stimuli originated from the interaction with the service. 2) Experiences are internal and subjective responses. Services/products are external factors offered by a company. 3) Experience is a broad concept

that considers not only the objects/services provided to the tourists but also opportunities brought to them.

Otto and Ritchie (1996) have attempted to identify the dimensions of tourists' subjective experiences. They have collected data from three kinds of service settings viz., hotels, airlines, and tours and attractions. Their empirical analysis revealed that the service experience is a multi-dimension concept. They have identified four dimensions of service experience viz., hedonics, peace of mind, involvement, and recognition. Hedonics refers to the thrilling, exciting, challenging, etc., experiences. For example, hedonic experiences in a theme park relate to unique experiences, exciting events, and challenging rides. Hedonic experiences play a critical role in tourism. A wide range of studies have found that hedonic experiences strongly influence the revisit intentions of the tourists (H.-C. Wu et al., 2017).

Peace of mind refers to the feeling of safety and security. Safety and security are the essential functions that a service provider should take care (Hall, Timothy, & Duval, 2012). Tourists' enjoy the experiences when they have peace of mind. Tourists' feel relaxed when they think that the service provider will take care of needs. For example, a visitor to the theme park feels relaxed when his security is taken care. Specifically, when a customer takes a ride, he can enjoy the ride only when feels that no wrong can happen. Involvement refers to the level of participation in the activity or process (J.-H. Kim, Ritchie, & McCormick, 2010). For example, visitors participate in the various activities at theme parks. The level of participation in the activities will determine the level experience. Thus, service providers have to provide an opportunity to the participants to create their own experiences by involving themselves in the various activities at the destinations. Finally, the recognition refers to the level of respect or importance perceived by the customer (Gopalan & Narayan, 2010). Customers expect the staff to react appropriately to solve the problems. The way the

staff reacts to the individual's problem can influence one's level of feeling recognized by the company or staff.

### **2.2.2. Memorable nature of the customer experience**

Experiences are memorable (Tung & Ritchie, 2011a). Customer memory is the first source of their problem-solving. Customers rely on their previous memories to take the decisions (J.-H. Kim, Ritchie, & Tung, 2010). How is this memory formed? An individual's memory forms based on his/her experience. For example, when a customer visits a hotel to have dinner, his dining experience will be stored in his memory. Later, when he would like to attend a hotel for dinner, the stored hotel dining experiences in his mind are the first information source that would come to his mind. If the previous experiences are positive, then they are more likely to revisit the same hotel.

In contrast, if the stored memories are negative the customer switches to another new hotel. Therefore, J.-H. Kim (2010) stated that extraordinary experiences are easy to recollect as they are strongly imprinted in human memory.

#### **2.2.2.1. Script theory**

According to script theory, individuals repeated experiences store in their minds as scripts. This stored information directs their thoughts and their behavior when they encounter a similar problem (Litman, 2007). For example, when a customer visits the restaurant for dinner whatever the experiences he gets at the restaurant will be stored in his memory. Next time when he visits the same restaurant, the stored memories of the previous dining experiences will direct the behavior (rules and regulations of the restaurant viz., self-service, not wasting food, token system, etc.) of the customer in that restaurant.

Based on the script theory, memorable experiences play a vital role in the customers' decision making. Thus, Tung and Ritchie (2011a) have explored the essence of memorable experiences in tourism service consumption. They have identified four critical elements of memorable experiences viz., affect, expectations, consequentiality, and recollection. The *affect* refers to the emotional experiences of a customer. They also identified that positive emotions had motivated the tourists to explore a different kind of experiences.

Experiences occur not only at the stage of service consumption but also the stage of pre-consumption (Mattila & Wirtz, 2000). In the pre-consumption stage, customers make *expectations* about the service, they plan for the consumption, and they involve in the process. The third dimension *Consequentiality* refers to the consequences of service consumption. For example, in the package tourism tourists meet people and interact with them. These interactions can enhance their social relationships.

Moreover, they can also continue social relationships even after the trip. Tourists also learn new things and their knowledge gets enhanced. Finally, recollection refers to the efforts made by the tourists to recollect the experiences that they had in the trip. They also stated that unique and novel experiences are more likely to be stored in the memories of the tourists (Granja et al., 2005).

Realizing the importance of memorable experiences, J.-H. Kim, Ritchie, and McCormick (2010) have developed a scale to measure the dimensions of memorable tourism experience. Their study has identified eight dimensions viz., hedonism, novelty, local culture, refreshment, meaningfulness, involvement, and knowledge. Hedonism refers to the experiences that are related to excitement, challenging, and pleasure (Hosany & Gilbert, 2010). Novelty refers to newness of the experiences or originality of the experiences. Local culture relates to the lifestyles of the local people, the hospitality and the behavior of the local

people. Refreshment is related to the feeling of escapism from daily routines and a feel of new energy. Meaningfulness is related to re-invention of one's own life. Involvement indicates the level of participation in tourism activities and the process. Finally, knowledge suggests the enhancement of information history of the specific destination.

Further, J.-H. Kim (2010) has empirically examined the memorable nature of the experiences by using the above discussed seven memorable experiences as independent variables and memory as the dependent variable. The study has measured tourist's memory with two dimensions viz., recollection and vivid memory. Their study findings indicated that tourists' involvement has a strong relationship with their memory. Also, local culture and refreshment have strongly influenced the tourist's ability of recollection of the experiences.

### **2.2.3. Holistic nature of customer experience**

Several studies have examined customer experience from a holistic perspective. For example in the retailing context, Customer experience is defined as "a holistic concept that involves the customer's cognitive, affective, emotional, social and physical responses to the retailer. This experience is created not only by those factors that the retailer can control (e.g., service interface, retail atmosphere, assortment, price) but also by factors outside of the retailer's control" (Verhoef et al., 2009). In the consumer behavior literature, the majority of the studies have discussed service quality and satisfaction to understand the behaviors of the customers (Oh, 1999; Olorunniwo, Hsu, & Udo, 2006). But, some of the studies have identified that even though the customer was satisfied with the services, they are not interested in revisiting the company (Jones & Sasser, 1995). This finding has motivated the scholars to rethink the concept of satisfaction in predicting consumer behavior.

### **2.2.3.1. Cognitive responses vs. affective responses**

Satisfaction was defined as the cognitive measure (Oliver, 1980). Therefore, satisfaction scales have measured the cognitive responses of the customers' service consumption. This has ignored the affective responses of the service consumption. A wide range of studies in the consumer behavior literature have suggested the importance of understanding the customers' emotions during the service consumption (Bagozzi et al., 1999; Richins, 1997). Customer emotions play a critical role in their service consumption. For example, pleasant music in the retail store can create a positive mood for customers. Welcoming with a 'HELLO' can create a positive feeling to the customers of the hotel.

Based on the above arguments it is significant to note that customers' service consumption includes cognitive elements and emotional elements (Verhoef et al., 2009). But, previous studies have majorly discussed cognitive elements through satisfaction scale. But, recently scholars have shifted their focus from satisfaction to customer experience because customer experience is a holistic construct. It includes cognitive responses and emotional responses (Palmer, 2010). Moreover, customers' experience is a subjective phenomenon. Therefore, it includes all the responses viz., cognitive, emotional, spiritual, relational, and behavioral.

### **2.2.3.2. Total customer journey**

Customer journey includes various stages viz., pre-consumption, consumption, and post-consumption (Lemon & Verhoef, 2016). Every interaction of the customer with the service, brand, and company generate experience. Verhoef et al. (2009) asserted that "experience is created not only by those factors that the retailer can control (e.g., service interface, retail atmosphere, assortment, price) but also by factors outside of the retailer's control (social environments)". Meyer and Schwager (2007) have defined customer experience as "the



internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth".

In the previous marketing literature, scholars have focused only on the consumption stage which is also called a transition phase. But, later they have found the importance of understanding the total journey of customer service consumption(Lemon & Verhoef, 2016). In the pre-consumption stage, the process of information search can generate some experiences for the customers. For example, if a customer wants to go for a tour, he first searches for the information about 'where to go? Here he can search for the info through offline or online.

Once, the customer finds the information; he will start dreaming about the place he is about to visit. In the second stage, consumption/transaction, customers interact with the service and the service provider. As discussed in the previous tourist example, in the consumption stage tourist visits the place where he wanted to. In this stage, a tourist gets interacted with the service and the destination objects. Finally, post-consumption phase refers to the experiences that occur after the consumption of the product(Homburg, Jozić, & Kuehn, 2015). For example, tourists share their tourism experiences and recommend to others.

#### **2.2.4. The value lies in the experiences**

Customer value creation is the key success factor of any business (Bolton, Kannan, & Bramlett, 2000). Customer value can be described as the gap between a customer's sacrifices and their benefit (Thompson, 2006). In the beginning, marketers have believed that the value lies in the product. Later, this idea was shifted to services. Today in the experience economy



(1998)Pine and Gilmore (1998)Pine and Gilmore (1998)Pine and Gilmore (1998)four elements of the experience economy suggested by Pine and Gilmore (1998). The four elements are education, entertainment, aesthetics, and escapism. They suggested that the successful delivery of four elements of experiences will provide a competitive advantage to the tourism destinations. C.-F. Chen and Chen (2010) have examined the

Table 2.3.1. Customer experience in different service settings

Customer experience	<b>General Marketing</b> (Gentile et al., 2007; Holbrook & Hirschman, 1982; Leventhal, Mascarenhas, Kesavan, & Bernacchi, 2006; Meyer & Schwager, 2007; Palmer, 2010)
	<b>Hospitality &amp; Tourism experience</b> (C.-F. Chen & Chen, 2010; J.-H. Kim, Ritchie, & McCormick, 2010; Oh et al., 2007; Otto & Ritchie, 1996; Pine & Gilmore, 1998; Tung & Ritchie, 2011a)
	<b>Retail store experience</b> (Berry, Carbone, & Haeckel, 2002; Grewal et al., 2009; Puccinelli et al., 2009; Verhoef et al., 2009)
	<b>Brand experience</b> (Brakus et al., 2009; Ha & Perks, 2005; Schimtt, 1999)
	<b>Online experience</b> (Bridges & Florsheim, 2008; Novak et al., 2000; Rose, Clark, Samouel, & Hair, 2012)

As the core business of tourism is creating experiences, destination managers have widely investigated the factors that determine the tourists' experiences. Oh et al. (2007) have

measured four elements of the experience economy suggested by Pine and Gilmore (1998). The four elements are education, entertainment, aesthetics, and escapism. They suggested that the successful delivery of four elements of experiences will provide a competitive advantage to the tourism destinations. C.-F. Chen and Chen (2010) have examined the relationship between experiential factors and behavioral intentions. They also investigated the mediating role of satisfaction and perceived value. Their study results have found that experience quality positively influenced the tourists' behavioral intentions through perceived value and satisfaction. Further, Litman (2007) have examined the student's experiences at the festival. They have found that extraordinary experiences were more likely to be recollected by the students.

Further, Lai and Chen (2011) have examined the experiences of cruises tourists. Their results have revealed that all the experience dimensions have a positive impact on tourists' attitudes. Similarly, Khan and Rahman (2017) have explored the dimensions of hotel guest experience. They have identified five dimensions viz., hotel location, hotel ambiance, staff professionalism, hotel website, and other guest interactions — another study by J.-H. Kim (2014) have identified the destination attributes that determine the tourist's experiences. They are infrastructure, hospitality, local culture, special events, service quality, destination MGT, physiography, place attachment, and superstructure.

### **2.3.2. Theme park experiences**

Theme parks are one of the entertainment destinations comes under the leisure and hospitality sector. Theme park business is growing immensely in Asian countries. Especially in India, the theme park industry is growing faster. Changing lifestyles of the people and growing middle-class incomes are the potential factors that boost the growth of theme parks in India. As the theme park industry is at a growth phase, there is a cut-throat competition among the

players. As the experience is the core business of the theme parks, forms started creating extraordinary experiences to improve the customers' loyalty.

Several studies have explored the experiential factors in the theme parks industry. Ali et al. (2018) identified three factors of theme park experience viz., interaction with physical environments, interaction with an employee, and interaction with another customer. Their results have found that visitor's experience has positively affected the customer delight. Bigné et al. (2005) has examined the conceptual model of visitors' emotions, satisfaction, and behavioral intentions. Their findings revealed that customer emotions influence loyalty through satisfaction.

### **2.3.3. Retail experience**

Understanding the customer experience has become the critical success factor for the retail service providers (Grewal et al., 2009). Previously shopping was treated as a need. Customers visit the stores to buy their necessities and leave. But today, Shopping has become an entertainment activity (Bäckström & Johansson, 2006). Today customers are experiencing the basic functions viz., availability of the products and the quality of the services along with entertainments (Puccinelli et al., 2009). Therefore, today retailers are designing their shopping complex with a variety of games, activities, and food courts that can leave the customers with a great shopping experience. The retailers have realized the importance of transforming their shopping malls into theme parks.

Moreover, the customers have multiple channels to do shopping viz., online and offline. As the online shopping is growing at jet speed, the brick and mortar retailers are focusing on how to retain their customers? Therefore, some of the retailers are providing multi-channel experiences to the customers, and some of the retailers are creating theme park experiences at their shopping malls (de Farias, Aguiar, & Melo, 2014).

Several studies have investigated the role of customer experience in the retail context. Verhoef et al. (2009) have theorized the customer experience as cognitive, affective, social, and physical responses to the service interactions. They also explored several determinants of the customer experience. They are social environments, service interface, retail atmosphere, assortment, price, customer experiences in alternative channels, and retail brand. Grewal et al. (2009) have proposed a conceptual model of customer experience in the retail context. In this model, they have identified macro and micro factors that influence retail experience. Micro factors include promotion, price, merchandise, supply chain, and location. Macro factors include service environments that not completely not under the control of the form .

Another study by Bagdare and Jain (2013) has explored the emotional experiences of shopping expenses. They have identified variables like happiness, excitement, satisfaction, relaxation, delight, engagement, and refreshing are as the elements of emotional experiences. Khan and Rahman (2016) have identified several dimensions of retail brand experience. They are retail brand influence, point of sales assistance, recommendations by salesperson, customer billing, mass media impression, emotional event experience, and brand stories and connections.

#### **2.3.4. Brand experience**

Branding plays a vital role in marketing promotions. A brand is a name, symbol, or sign (Keller & Lehmann, 2006). How do customers' experience the brand is the fundamental question that has to be understood by the managers? Several studies have defined brand experience in the marketing literature. Schimtt (1999) noted that "Experiences are the result of encountering, undergoing or living through situations. They have triggered stimulations to the senses, the heart, and the mind. Experiences also connect the company and the brand to the customer's lifestyle and place individual customer actions and the purchase occasion in a

broader social context. In sum, experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values”.

Brakus et al. (2009) have developed a scale to measure brand experience. Their findings have identified five dimensions of brand experience viz., sense, feel, think, act, and relate. Another study by, Khan and Rahman (2017) has measured customers' hotel brand experience. Their results have found five dimensions of customers' hotel brand experience viz., hotel location, hotel stay and ambiance, staff competence, hotel website, and social media experience, and the guest to guest experience. Their study also examined the relationship between hotel brand experience dimensions and their effect on customer behavioral intentions. Their findings have revealed that all the dimensions of the customers' hotel brand experiences have positively influenced their behavioral intentions.

### **2.3.5. Online shopping experience**

Social media has become the centre for marketing activities. Companies are considering it an advantage to market their products online. Similarly, customers are showing more interest in online platforms for their shopping. Several factors such as ease of information search, convenient purchasing, and ease of payment and return policies are attracting the customers to shift their buying platforms from offline to online (G.-G. Lee & Lin, 2005).

Today online platforms are facilitating services that are beyond buying and selling. They have become an interactive platform between company and customer, and the customer and the customer (Elwalda, Lü, & Ali, 2016). Companies are proposing their services or products online. They are engaging their customers in their service offering. Moreover, companies are providing an opportunity to co-create the services through online engagements (Mollen & Wilson, 2010).

Currently, Electronic word of mouth is the buzzword in the marketing context. Facebook, twitter, etc. have become the social media platforms that facilitate the interaction between customers. Customers share their experiences and give reviews and ratings about the services or the product. Several studies have examined the role of these interactions in social media (Cheung, Chan, & Limayem, 2005; Hoffman & Novak, 2009; Kong, 2011). They found that the e-worms are having a significant impact on customers' decision making.

Realizing the importance of online environments, firms started understanding the customer experiences in the online settings. Novak et al. (2000) did one of the early studies to examine the determinants and outcome of online experience empirically. Rose et al. (2011) have conceptualized online experience as two dimensions viz., cognitive state and affective state. Cognitive state refers to the flow of experiences, and affective state refers to emotional experiences. In their further study (Rose et al., 2012), they have empirically investigated the antecedents and outcomes of the online shopping experience. The antecedents are skill, telepresence, challenge, interactivity, connectedness, customization, control, ease of use, perceived benefit, and aesthetics. The outcomes of online shopping experience are online shopping satisfaction, trust, and behavioral intentions. Extending this model, Martin, Mortimer, and Andrews (2015) have empirically examined antecedents and outcomes of online shopping experience by adding two more variables viz., shopping frequency and perceived risk.

#### **2.4. Experience in public transportation context**

Public transportation is the form of travel that enables a group of people to travel together with their destinations (Heath & Gifford, 2002). The examples of public transportation are buses, trains, cabs, airlines, etc. Even though a wide range of studies explored the travel experiences of the customer, they are typically tourism related. They include hedonics,



excitements, and thrilling experiences. But, public transportation is a non-experience centric context.

#### **2.4.1. Service quality in public transportation**

Previous studies in public transportation have widely studied the service quality perceptions of the passengers. For example, Park, Robertson, and Wu (2004) examined the gap between passengers' expectations and perceptions to measure the service quality in the context of airline services. Eboli and Mazzulla (2008) have conducted a experiment to identify the service quality aspects of public transportation. They have proposed a service quality index that can help the service provider to evaluate their services. Nathanail (2008) investigated the indicators of service quality perceptions in the railways. Their study findings identified several indicators viz., cleanliness, passengers' safety, passengers' comfort, servicing, and passenger's information. Maruvada and Bellamkonda (2010) have developed 'RAILQUAL' scale in the Indian context. Using the fuzzy logic, they have validated the five dimensions of the service quality in the railway's context. All the five dimensions, such as reliability, responsiveness, empathy, tangibility, and assurance, were found to be significant in the railway context. Lai and Chen (2011) have empirically examined the behavioral intentions of public transport passengers. Their study findings have suggested that service quality has a positive effect on the passenger's behavioral intentions. This study also addressed the role of passengers' involvement in shaping their behavioral intentions.

Further, Eboli and Mazzulla (2011) have proposed a methodology to evaluate the service quality in public transportation. They have measured two aspects viz., the perceptions of the passengers and the performance of the service providers. Another study by Eboli and Mazzulla (2012) explored the relationship between service quality attributes and overall

satisfaction of the passengers. Their study results revealed that all the service quality attributes have a positive effect on passengers overall satisfaction.

#### **2.4.2. Passengers' travel experience components**

Recent studies in the consumer behavior literature have shifted their focus from evaluating the service perceptions to understanding customer experiences. This shift is also evident in public transportation literature. For example, Le Bel (2005) did the first study that had explored the travel experience in comparison with service quality in the context of the airline industry. This study had attempted to synchronize both the concepts of service quality and customer experience. This study has revealed that airline service consumption includes emotions and hedonic elements. Olsson, Friman, Pareigis, and Edvardsson (2012) have contended that understanding passengers' experience has become one of the key success factors for transport industry. Therefore, they measured passengers' experiences with the 'satisfaction with travel scale' as there are no scales available to measure travel experiences in public transportation. Their findings revealed that the passengers' travel experience is a multi-dimensional construct with two components viz., cognitive component and affective component. Carreira, Patrício, Jorge, Magee, and Hommes (2013) have conducted a qualitative study by taking personal interviews with 49 bus passengers. Their findings have revealed that the customer experience touch points go beyond the service provision. Few touch points are not directly under the control of the transport service provider. They have also explored the experiential factors such as vehicle maintenance, cleanliness, accessibility, waiting time, ticket price, off-board services, and onboard entertainments. Ali, Kim, and Ryu (2016) have examined the relationship between airport physical atmosphere and passengers' emotions. They have found that airport physical environment has a positive effect on passengers' emotions.

Table 2.4.2. Customer experience dimensions

Study	Dimensions
(Holbrook & Hirschman, 1982)	Fantasies , feelings, and day dreams
(Otto & Ritchie, 1996)	Hedonics, peace of mind, involvement, and recognition”
(Pine & Gilmore, 1998)	“Entertainment, Educational, esthetics, and escapism
Mcintosh and Siggs (2005)	unique character, personalized, homely, high-quality, and value-added
(Gentile et al., 2007)	Sensorial, emotional, cognitive, pragmatic, lifestyle, and relational
Kao et al. (2008)	Immersion, participation, surprise, and fun
(Brakus et al., 2009)	Sense, feel, think, act, and relate
(Verhoef et al., 2009)	Cognitive, emotional, and behavioural
(J.-H. Kim, Ritchie, & McCormick, 2010)	Hedonism, novelty, local culture, refreshment, meaningfulness, involvement, and knowledge
(Rose et al., 2012)	Cognitive state and affective state
Ali, Kim, et al. (2016b)	Physical environment, interaction with staff, and interaction with customers

Based on the above theoretical arguments, this study has defined passenger travel experience as the cognitive and affective response to passenger’s interactions with service, product, or brand. This experience is created not only by those factors that the transport provider can control (e.g., vehicle maintenance, ticket booking service, price, staff) but also by factors outside of the transport provider's control (e.g., another passenger behavior, the purpose of journey). The cognitive responses were measured with a satisfaction scale(Oliver, 1980). And the affective responses were measured with emotions scale(Bagozzi et al., 1999).

#### **2.4.2.1. Affective responses (Emotions)**

Emotions refer to “the set of emotional responses elicited specifically during consumption experiences”(Westbrook & Oliver, 1991). Bagozzi et al. (1999) define emotions as “mental states of readiness that arise from cognitive appraisals of events or one's thoughts." Emotions play a key role in the customers' service consumption. Various studies have explored a different set of emotion in the customer experience context. They are primarily classified

them as positive emotion and negative emotions(Richins, 1997). Positive emotions include happiness, joy, relaxing, exciting, good, delightful, engaging, etc. Negative emotions include sad, unhappy, tension, irritation, anger, etc. These emotions generate from interaction with service, product or company(Jani & Han, 2013). For example, passenger feels anger when a flight gets delayed. This anger leads to negative outcomes such as losing trust in the brand and switching to other brands.

Various studies have emphasized the importance of customer emotions in service consumption. Menon and Dubé (2000)have examined the employees' perceptions and responses to the customers' emotions in retail stores. Van Dolen, De Ruyter, and Lemmink (2004) have explored the role of employees' performance and customer emotions on relationship satisfaction. These results have revealed that customer emotions should be taken care to improve relationship satisfaction. Ali and Amin (2014)have empirically examined the impact of physical environment on customer emotions and satisfaction. Their results have shown that physical environments positively stimulate customer emotions.

In public transportation, understanding passengers' emotions are very critical. The previous studies in the transportation literature have widely discussed the cognitive experiences of the passengers. The role of passengers' emotions in public transportation was less discussed. Few studies have attempted to explore the passengers' emotions. Le Bel (2005) has explored the passengers' emotions in the airline industry. The study findings revealed that passengers' emotions play a critical role in the evaluation of the overall service quality.

Similarly, another study by Olsson et al. (2012) have measured emotional responses of the passengers with stressed-calm, hurried-relaxed, fed up-engaged, and bored-enthusiastic. Also, Carreira, Patrício, Jorge, and Magee (2014) have empirically measured the passengers' emotions in bus transportation. They have measured both the positive and negative emotions

and their impact on loyalty. Their finding revealed that passengers' emotions have an impact on passengers' loyalty.

#### **2.4.2.2. Cognitive responses**

Customer satisfaction refers to “an overall evaluation based on the customer's total purchase and consumption experience with a good or service over time” (E. W. Anderson, Fornell, & Mazvancheryl, 2004). Tse and Wilton (1988) defined satisfaction as “the consumer’s response to the evaluation of the perceived discrepancy between prior expectations (or some norm of performance) and the actual performance of the product as perceived after its consumption.” Customer satisfaction is considered as cognitive scale as it involves the rational judgments and opinions of the services (Oliver, 1980). In the consumer behavior literature customer satisfaction has been treated as an overall evaluation of the services based on their expectations and the performance of the service.

Customer satisfaction is one of the strong determinants of customer behavioural intentions. A wide range of studies in the marketing literature have examined the role of satisfaction in service consumption. (Churchill Jr & Surprenant, 1982) found that service interactions determine customer satisfaction. In the consumer behavior literature, various studies have examined the relationship between service quality and satisfaction. Ranaweera and Prabhu (2003) have examined the combined effect of satisfaction and trust on customer behavioral intentions and word of mouth. Their findings have revealed that satisfaction has a direct effect on behavioral outcomes. Taylor showed that customer satisfaction moderated the relationship between service quality and behavioral intentions. The role of customer satisfaction as the mediator between service quality and loyalty was also examined.

In public transportation literature, various studies have examined the passengers' satisfaction and its determinants and outcomes. (Gkritza, Niemeier, & Mannering, 2006) examined the air

service quality factors such as service tangibles and empathy on passengers' satisfaction. Nandan (2010) has explored the determinants of passenger's satisfaction in the context of Indian railways. Their study has found several factors viz., refreshments, and behavior with passengers, security, basic facilities, and information systems. Eboli and Mazzulla (2007) have examined the relationship between global customer satisfaction and service quality aspects. (Givoni & Rietveld, 2007) investigated the access to the station and its influence on the overall travel journey. Their findings have revealed that access to the station has a positive effect on passengers' satisfaction. Moreover, the facilities at the station also influenced the passengers' journey satisfaction.

### **2.4.3. Determinants of passengers' travel experience**

In the transportation literature, several studies have explored the determinants of passenger travel experiences — for example, accessibility (El-Geneidy & Levinson, 2006), off-board services (Carteni & Henke, 2017; Nandan, 2010), on-board services (Hovora, 2001), parking services (Beirão & Sarsfield Cabral, 2007), cleanliness (Nathanail, 2008), staff behaviour (Wallin Andreassen, 1995), platform services (Habib, Kattan, & Islam, 2011), comfort (Eboli & Mazzulla, 2012), safety & security (Habib et al., 2011), vehicle maintenance (Maruvada & Bellamkonda, 2010), waiting time and punctuality (Patrício, Fisk, & e Cunha, 2008).

#### **2.4.3.1. Social environments**

Most of the service activities occur in the presence of multiple customers. The presence of the other customers is inevitable in most of the service consumption settings. The presence of the other customer can influence the focal customer's service experience (Argo, Dahl, & Manchanda, 2005). For example, when a customer stands near to us, we feel anxiety.

Similarly, when a customer smokes beside us, we feel angry. Various studies in the marketing literature have explored the role of social environments in the service settings. The behavior of the other customer influences the overall satisfaction of the customers (C. H.-J. Wu, 2007). The dressing style of the other customers impacts the image of the service brand (Choi & Mattila, 2016). He, Chen, and Alden (2012) have asserted that mere the eye contact of the other customers stimulates the moods of the focal customer. Similarly, Argo et al. (2005) have contended that mere presence of the other customer influenced the participation behavior of the focal customer. In another study, Hyun and Han (2015) have identified that the physical appearance of other customers positively affected the customer's' social value.

In the public transportation group of passengers travel together. The presence of the other passengers is inevitable in public transportation. For example, passengers resting their legs or hands on the others' seats or some of the passengers speaking loudly and disturbing the other passengers. Social interactions need not happen directly such as a real interaction between two passengers (Grove & Fisk, 1997). Mere social clues such as physical appearance, dressing style, and behavior of the other passenger influence the focal passenger's travel experience. In the Indian railways, approximately 70-80 passengers travel together in each coach. In their journey, they come across various types of passengers and different types behaviors. Passengers share their seats, food, and many other things that give them emotional experiences of that journey. Therefore based on the above arguments, this study has proposed the following hypotheses;

H1a: social environments positively influence passengers' emotions.

H1b: social environments positively influence passengers' satisfaction.

#### **2.4.3.2. Vehicle maintenance**

Vehicle maintenance is one of the core services of the transport provider. Various studies have examined the role of vehicle maintenance and its impact on a passenger's' satisfaction (Eboli & Mazzulla, 2012; Wallin Andreassen, 1995). Vehicle maintenance refers to look and condition of the vehicle that includes vehicle interior design, vibration, sounds, and temperature. Aesthetics of the vehicle plays a critical role in travel satisfaction. Colour of the vehicle, interior design stimulates the emotions of the passengers (Abou-Zeid, Witter, Bierlaire, Kaufmann, & Ben-Akiva, 2012). The condition of the vehicle is another important factor in public transportation (Nathanail, 2008). For example, vehicle vibrations during the travel may cause discomfort to the passengers.

Service is intangible. But service provider can enhance the services through physical aspects. In public transportation, a vehicle is a tangible thing. Therefore, interior designs and aesthetics can influence the passengers to evaluate services positively and have satisfactory experience (Stradling et al., 2007). In the Indian railways, vehicle design includes, seating, windows, fans, lights, etc. the proper maintenance of these things can enhance the positive travel experience.

In contrast, the failure of these services may create negative travel experiences. Therefore, based on the theoretical arguments, this study has framed hypotheses as;

H2a: Vehicle maintenance positively influences passengers' emotions.

H2b: Vehicle maintenance positively influences passengers' satisfaction.

#### **2.4.3.3. Safety & Comfort**

Travel is an act of moving from one place to another place. In this process safety is an essential factor. Passengers' safety and security during a trip include personal and luggage



security, no fear of accidents, road or rail track maintenance, and weather conditions. Passengers are more concerned about their safety as well as the security of their luggage (Neal et al., 2007). Thus, transport companies are making sure to provide maximum security to their passengers. For example, the Indian railways hire RPF (railway police force) to ensure passengers safety throughout their journey. The security checks are maintained at railway stations. The police do patrolling during the night journeys to ensure happy travel. The previous transportation literature has revealed that the passengers' safety has a positive impact on their satisfaction (Ringle, Sarstedt, & Zimmermann, 2011). Passengers' safety and security issues are more related to their emotions.

Also, passengers' comfort is one of the core components of the travel. Passengers' overall comfort of the journey includes seat/berth comfort, adequate space in the vehicle, and crowding. Various studies in the transportation literature have found that passengers' comfort has a positive effect on passengers' satisfaction (Sönmez & Graefe, 1998). For example, the adequate space in the vehicle ensures the passengers' comfort. The size of the seat/berth also an important factor to ensure the travel comfort (Carreira et al., 2013). Another important aspect of comfort is the crowd. If the crowd is high in the vehicle, the passengers' may feel discomfort, and it leads to negative emotions. Therefore, based on the above arguments this study has framed the following hypotheses.

H3a: Safety & Comfort positively influence passengers' emotions.

H3b: Safety & Comfort positively influence passengers' satisfaction.

#### **2.4.3.4. Supporting services**

Supporting services refers to the services which are not directly related to service provider but helps the overall travel experience of the passengers (e.g., Catering, porter, and medical).

Transportation services also include various other factors that are not directly related to the service provider. For example, porter services are not the core service of the transport provider, but it will add value to the travel experience. Similarly, catering is not the core service of transportation. These supporting services enhance the overall journey of the passengers (Ali, Kim, & Ryu, 2016). The absence of this thing will have a negative impact on the travel experience. For example, the availability of first aid may not directly add value to the overall journey. But, in case of an accident, the absence of the first aid services strongly creates negative emotions in the passengers.

A wide range of studies have emphasized the role of supporting services in public transportation (Nandan, 2010). Unlike any other service setting, public transportation consists a high number of supporting services. These services influence passengers travel satisfaction. Similarly, in the Indian railways, various services are offered by the third parties — for example, parking services at railway stations. These services enable the passengers to park their vehicles at stations. Similarly, porter services, catering services, and medical services are made available to the railway passengers to have a hassle free travel experience. Based on the theoretical discussions this study has formulated the following hypotheses.

H4a: Supporting services positively influences passengers' emotions.

H4b: Supporting services positively influences passengers' satisfaction.

#### **2.4.3.5. Travel information**

Travel information refers to the information that related to vehicle timings, travel rules, and ticketed booking or cancelation, available through various channels such as online, digital boards at the station or on-board travel, telephone, and print media. Travel information enhances the overall passengers' travel experience. Availability of travel information plays a

critical role during the trip as well as before the trip (Xiang & Gretzel, 2010). For example passengers seek to know the vehicle route information. Similarly, information regarding ticket fares and vehicle timings will enhance the overall experience of the passenger(Nathanail, 2008).

Table 2.4.3. Potential determinants of passengers' travel experience

<b>Factors</b>	<b>Authors</b>
Off-board services	
On-board services	
Ticket services	(Abou-Zeid & Ben-Akiva, 2011; Abou-Zeid
Vehicle maintenance	et al., 2012; Beirão & Sarsfield Cabral,
Cleanliness	2007; Bergstad et al., 2011; Carreira et al.,
Rest room services	2014; Carreira et al., 2013; Cartenì &
Waiting time	Henke, 2017; Choo, Collantes, &
Comfort	Mokhtarian, 2005; Cirillo, Eboli, &
Safety	Mazzulla, 2011; de Oña et al., 2013; Eboli
Security	& Mazzulla, 2008, 2011, 2012, 2015; Habib
Price	et al., 2011; Heath & Gifford, 2002;
Accessibility	Hensher, Stopher, & Bullock, 2003;
Service interface	Ittamalla & Srinivas Kumar, 2018;
Social environments	Khadaroo & Seetanah, 2008; Maruvada &
Staff professionalism	Bellamkonda, 2010; Nandan, 2010;
On-board entertainments	Nathanail, 2008; Olsson et al., 2012;
Terminal services	Stradling et al., 2007; Tsaur, Chang, & Yen,
Platform services	2002; Wallin Andreassen, 1995)
Food	
Parking services	
Clock room services	
Travel website	
First aid services	

Transport companies make travel information available through social media, display boards at stations, or print media. Indian railways display the travel information through various modes such as websites (IRCTC) to book or cancel the tickets, mobile phones to carry the paperless tickets, social media and print media to post the latest updates. Similarly, digital boards at railway stations display the information of the train routes. The staff makes announcements at railway stations to inform the train timings and platform numbers. Display boards at stations as well in the trains inform the customers about dos and don'ts during the travel.

Passengers expect the information about their journey. This information helps the passengers to have a smooth and comfortable journey(Nathanail, 2008). Previous studies have revealed that the availability of travel information positively influences travel satisfaction(Eboli & Mazzulla, 2012). For example, the information about the availability of the train route will help the passengers' to make a proper travel plan. Similarly, the information about train arrival or departure will help the passenger to catch a train. Therefore, the availability of the travel information plays a critical role in the passengers' travel experience. Based on this discussion the current study has formulated the following hypotheses.

H5a: Travel information positively influences passengers' emotions.

H5b: Travel information positively influences passengers' satisfaction.

#### **2.4.3.6. Accessibility**

Accessibility refers to easy access to & from the vehicle during all moments of the journey including walking access when entering and exiting the vehicle(Carreira et al., 2014). Accessibility is one of the important factors in public transportation. Easy access to the

vehicle will reduce the time and pain of the passengers(Wallin Andreassen, 1995). To improve the easy accessibility transport managers have been taking measures to improve the stations and stop points. However, accessibility is not entirely under the control of the service provider because it depends on the passengers' place of departure and arrival. For example, for one passenger the distance from the railway station to his destination is near, and for another passenger, the distance may be far.

Previous studies in the transportation literature have explored the role of accessibility in the overall travel satisfaction. Givoni and Rietveld (2007) have found that accessibility of the vehicle influence the loyalty of the passengers. Carreira et al. (2013) have found that the vehicle accessibility has enhanced the passengers' overall journey experience. Moreover, passengers' selection of transportation mode depends on their easy accessibility of the vehicle(Neutens, Witlox, & Demaeyer, 2007). In Indian railways accessibility of train plays a key role. In this context, accessibility refers to the availability of stops as well as easy access to platforms. For example, Secundrabad railway station consists of 11 platforms. The accessibility of platform no 1 is easy compared to platform no 7. Therefore, transport companies should make sure to provide easy access to the vehicles to enhance the passengers' overall satisfactory experience. Based on the above theoretical arguments this study has formulated the following hypotheses.

H6a: Accessibility positively influences passengers' emotions.

H6b: Accessibility positively influences passengers' satisfaction.

#### **2.4.3.7. Off-board services**

Off-board services refer to the services offered before and after a trip that include, restroom services, platform services, terminal services, and ticket booking services. Off-board services

play a critical role in the passenger's' travel experience. Terminal services are essential as they influence the travel satisfaction(Nandan, 2010; Prasad & Shekhar, 2010). Various studies have examined the impact of terminal/station services on travel satisfaction. Their findings revealed that the facilities at stations positively affect the passengers' satisfaction. Stolz (2011) identified that the delay in the checking at the station had created negative experiences to the passengers. Brusco, Jacobs, Bongiorno, Lyons, and Tang (1995) results have revealed that the passengers were dissatisfied with the staff mishandling their baggage.

In the public transportation, off-board facilities play a critical role. Specifically, in the Indian Railways, the facilities at the station are very important for the long journey passengers. Nandan (2010) has specifically examined the determinants of passengers' satisfaction with the terminal services. He has identified that the facilities at the station such as restrooms, hotels, and food courts have significantly influenced the overall service quality. Basic facilities such as fans, water, chairs, and lighting were also found to be linked to overall satisfaction. Another important off-board service is the ticket booking service. Ticket booking services are delivered in two ways viz., online and offline. Online ticketing services are delivered through websites. Offline ticketing services are delivered at ticket counters in the station. Ease of ticket booking is one of the strong determinants of travel satisfaction in public transportation(Nathanail, 2008). Indian railways deliver ticket booking service in two ways. Online ticket booking services are delivered through the IRCTC website and other apps. Offline services are delivered at railways stations through ticket counters.

Previous studies in public transportation have suggested that the ease of ticket booking influence the selection of the transport brand(Eboli & Mazzulla, 2012). Ticket line queues at the station have a significant impact on customer emotions(Carreira et al., 2014). For example, if the ticket queue is long, passengers may get dissatisfied with the service. In other words, off-board services such as platform services and ticket booking services influence the

overall passengers' travel experience. Therefore, based on the above arguments this study has formulated the following hypotheses.

H7a: Off-board services positively influence passengers' emotions.

H7b: Off-board services positively influence passengers' satisfaction.

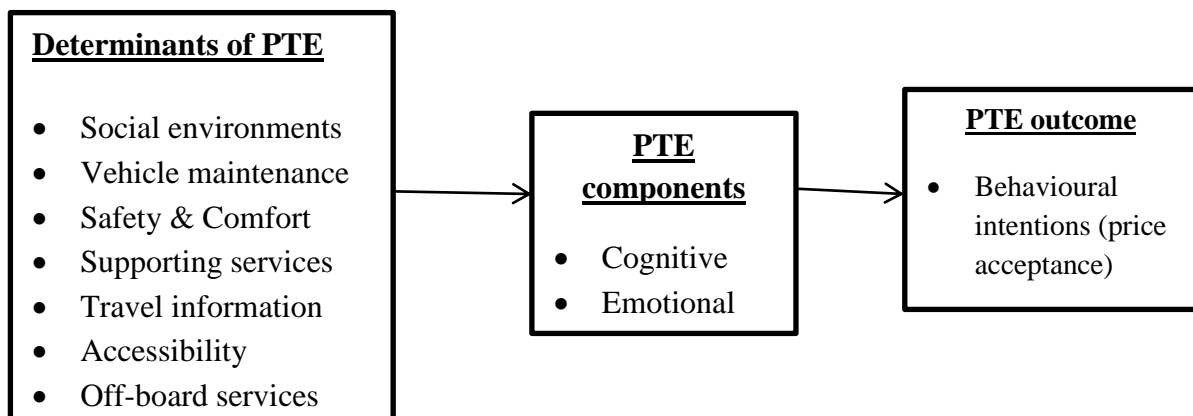


Figure 2.4.3. Conceptual model of the study

## 2.5. Behavioral intentions

Passenger's behavioral intentions are the indicators of the actual buying behavior (Sönmez & Graefe, 1998). In the consumer behavior literature scholars have defined customer behavioral intentions with three components viz., revisit behaviour, recommendation behaviour, and intention to pay more/price acceptance. Firstly, the revisit behavior indicates the customer's intention to repurchase the product or service (Liu, Li, & Kim, 2017). Customer loyalty is a critical success factor for the companies. Customer revisits the company if their experiences with the company are positive (Sangpikul, 2018). Loyal customer increases the profit of the company. A company has to spend more on attracting a new customer than retaining the old customer (Oppermann, 1997). Various studies have discussed the determinants of the customer revisit intentions. In the public transportation industry, service quality and

satisfaction were found to be the strong determinants of the passengers' revisit intentions (A. K. Kim & Brown, 2012).

The second component of the passengers' behavioral intentions is the recommendation. In the marketing literature, recommendations play a vital role in the customers' decision-making process (Sangpikul, 2018). In a macro perspective, customer recommendations are part of word-of-mouth (WoM) behaviour (Laczniak, DeCarlo, & Ramaswami, 2001). In countries like India, WoM behaviors are very important in service consumption. The family is the centre of the Indian culture. Indians give higher priorities to their families as well as their peers. Therefore, their decisions are mostly influenced by their families, relatives, or by peer suggestions/recommendations. A wide range of studies are available in the marketing literature that speak about the customers' recommendation behaviors. When the customers have a great experience, they not only revisit the company, they recommend the product/service to others (Oppermann, 1999). In the context of travel, people collectively plan to visit the destinations. Passengers recommend the brand to others when they have a positive experience throughout their journey (Lehto, Kim, & Morrison, 2006). The third component of the behavioural intentions is price acceptance/ intention to pay more. This study has measured passengers' intention to accept the price. Indian railways is one of the largest public transportation in India. Indian railways is national railway system operated by ministry of railways, India. Therefore, comparing to other travel modes, the ticket prices for train travel is less. The ROI on passengers' services in Indian railway is very less. India railways offers passenger services and freight services. The profits incurred on freight services are shared to cover the losses incurred on passengers' services. Today, the railway ministry is trying to increase the ticket prices to make the passenger services profitable. What makes the railway passengers to accept the higher prices is an interesting question before the railway department. Therefore, this study has proposed that the passengers' cognitive and emotional



experiences positively influence their intention to accept the price. Hence, the following hypotheses are formulated;

H8a: Passengers' emotions positively influence their behavioral intentions

H8b: Passengers' satisfaction positively influence their behavioral intentions

## **Chapter 3**

### **METHODOLOGY**

This chapter discusses the methodology followed to achieve the objectives of the study. Firstly, this chapter introduces the study setting (public transportation, specifically Indian Railways passenger services) in which the research has been carried out. Further, the study discusses the methodology that includes the research design, target population, sample size, and inclusion & exclusion criteria for the selection of the sample.

#### **3.1. Study setting**

##### **3.1.1. Public transportation**

In a broad sense, this study was carried out in the public transportation industry. Because, very few studies have explored the determinants and outcomes of passengers travel experiences (Carreira et al., 2013). Even though, a wide range of studies are available on 'travel experience,' they have mostly covered leisure and tourism aspects. Leisure travel includes hedonics, excitements, and thrilling experiences (J.-H. Kim, Ritchie, & McCormick, 2010; Otto & Ritchie, 1996; H.-C. Wu et al., 2014). Therefore, this extends the literature on passengers' travel experience in public transportation.

Public transportation is the largest mode of transport in India (Singh, 2005). Even though the growing middle-class income is supporting private vehicles, the huge population of India is the essential factor for the growth of public transportation in India (Pradhan & Bagchi, 2013). According to the 2011 census, 21% of the households have two-wheelers, and only 4.2% of the households are having four wheelers (Pradhan & Bagchi, 2013). Various modes of public transportation are used by the passengers in India viz., bus, train, cab, ship, etc. Among these, Indian railway share a significant proportion of India's public transportation industry.

### **3.2.Methodology**

The extensive review of the literature has provided strong evidence for the research objectives that were proposed in the introduction section. The primary objectives of this study are:

4. To identify the key determinants of passengers' travel experience in public transportation, with specific reference to Indian railways.
5. To examine the effect of each determinant on passengers cognitive and emotional responses.
6. To investigate whether the passengers' travel behavior decision-making process is mainly guided by their cognitive responses or emotional responses in public transportation.

To achieve the first objective, i.e. to identify the key determinants of passengers' travel experience in public transportation, this study has followed a systematic scale development process. The recommendations of (Churchill Jr, 1979; DeVellis, 2016) have been taken into consideration in the process of scale development. Also, the recent studies on the scale development (Brakus et al., 2009; Brocato, Voorhees, & Baker, 2012) were referred for the various methodologies followed in the construction of the scales.

The scale development process consists of various steps with different studies, samples, methodologies, and analysis techniques.

Table 3.2. Scale development process

Study 1: construct definition & Item generation	<p>Literature review of 'travel experience' and public transportation. Qualitative study, personal interview' with Management students (N= 45)</p> <p>Total 11 themes identified</p> <p>total generated items = 68</p>	
Study 2: item purification	<p>Step 1: Face and Content validity</p> <ul style="list-style-type: none"> <li>• Panel 1: Marketing professors &amp; industry experts (n=4)</li> <li>• Panel 2: Research scholars (n=8)</li> <li>• Number of Items retained = 53</li> </ul> <p>Step 2: Survey (student sample)</p> <ul style="list-style-type: none"> <li>• Item-to-total correlation method items remained =31</li> <li>• Exploratory Factor Analysis items remained =24</li> </ul>	Survey study (n=425)
Study 3: initial validation	<ul style="list-style-type: none"> <li>• Confirmatory Factor Analysis</li> <li>• Model Fit</li> <li>• Dimensionality</li> <li>• Factor Loadings</li> <li>• Reliability</li> <li>• Validity</li> <li>• Convergent Validity</li> <li>• Discriminant Validity</li> <li>• Scale Norms</li> </ul>	Survey study (n=342) items remained = 22
Study 4: Final validation	<ul style="list-style-type: none"> <li>• Confirmatory Factor Analysis</li> <li>• Structural Equation Modelling</li> <li>• Model Fit</li> <li>• Dimensionality</li> <li>• Factor Loadings</li> <li>• Measurement Invariance</li> <li>• Reliability</li> <li>• Validity</li> <li>• Convergent Validity</li> <li>• Discriminant Validity</li> <li>• Nomological Validity</li> <li>• Scale Norms</li> </ul>	Online survey (n=363)

### **3.2.1. Study 1. Item generation**

The purpose of study 1 is to generate the items. Before generating the items, the study had to identify the potential factors that represent the study variable. In this study, the purpose of the scale development is to identify the determinants of passengers' travel experience. To identify the potential determinants of passengers' travel experience, this study has followed two steps viz., review of literature and the conduct of a qualitative study to identify the determinants of passenger travel experience.

#### **3.2.1.1. Review of literature**

Various studies on the scale development have suggested conducting a thorough literature review to identify the potential factors that represent the variables of the study under focus (Brakus et al., 2009; Brocato et al., 2012). This study has conducted a systematic review of the literature to identify the potential determinants of the passengers' travel experience. The study has utilized various data hubs viz, Google scholar, EBSCO host, J gate, and Science Direct. The study has considered only the journals that are listed in reputed indexes such as SCOPUS, SSCI, and ABDC list of journals. The study has used few key terms to search viz., travel experience, passenger satisfaction, transit quality, and passenger experience. Further, the study has conducted content analysis manually. The results of the content analysis, potential factors that determine the passengers' travel experience, can be seen in the literature review section.

#### **3.2.1.2. Qualitative study**

Various studies on the scale development have suggested conducting a qualitative study to generate items (Churchill Jr, 1979; Dabholkar, Thorpe, & Rentz, 1996). The qualitative study aids the researchers to understand the experiences of the respondents in-depth (Worthington

& Whittaker, 2006). Therefore, the respondents were personally met to collect the information. A total of 45 students were selected from the School of Management Studies, University of Hyderabad.

Table 3.2.1.2. Research design for the item generation

<b>Research design</b>	Explorative
<b>Sample design</b>	
Target Sample	Student data sample
Sampling method	Non-probability sampling
Sampling technique	Convenience
Sample size	45
<b>Questionnaire design</b>	Semi-structured questionnaire
Data collection method	Personal interview
Data analysis	MS Excel
<b>Inclusion criteria</b>	<ul style="list-style-type: none"> <li>• Should have traveled at least once in the last 5months.</li> <li>• Should have traveled at least 200 km or 3hours of the journey</li> <li>• Should have traveled through reservation ticket.</li> </ul>

The inclusion criteria of selection of students was, 1) they should have traveled at least once in the last 5months, 2) Should have traveled at least 200 km or 3hours of the journey, and 3) Should have traveled through reservation ticket. The data was collected from the 45 students by asking, three questions viz., 1) Recollect your recent travel experiences with Indian railways (they can be extremely positive or negative), 2) What made you recollect? 3) Note down any five key determinants of those experience (each in one sentence). Further, the study has conducted content analysis manually with the collected qualitative responses.

### **3.2.2. Study 2. Item purification**

The major purpose of the study 2 was item purification. As suggested in the previous scale development studies (Churchill Jr, 1979; DeVellis, 2016), this study has conducted item purification in the two steps viz., face and content validity through panel judgment (J.-H. Kim, Ritchie, & McCormick, 2010) and item reduction through item-to-item total correlations (Brocato et al., 2012) and exploratory factor analysis (Brakus et al., 2009) using survey data.

#### **3.2.2.1. Step 1. Face and content validity**

To test the face and content validity of the scale, this study has organized two panels viz., Panel 1 and panel 2.

Table 3.2.2.1. Distribution of the panel sample

Panel	Industry	Academics	Total sample
Panel 1 (Marketing professors & industry expert)	01	03	04
Panel 2 (Research scholars)		08	08

##### **3.2.2.1.1. Panel 1**

Panel 1 consisted of three marketing professors and one industry expert from Indian railways. The panel was selected based on their domain of the research. As the topic of the study ‘customer experience’ belongs to the marketing domain, the marketing professors were selected. All the professors have been informed the purpose of the study.

##### **3.2.2.1.2. Panel 2**

Panel 2 consists of eight research scholars. All the scholars belonged to the marketing domain. All the scholars were informed about the purpose of the study.

### 3.2.2.2. Step 2. Item reduction

The purpose of the ‘item reduction’ was to reduce the unnecessary items. This study has reduced the items based on the two statistical methods viz., item-to-item correlation (Brocato et al., 2012) and exploratory factor analysis (Brakus et al., 2009). To conduct these two statistical analyses, this study has collected survey data from the Indian railway passengers.

Table 3.2.2.2. The research design for the item reduction

<b>Sample design</b>	
Population	All the passengers of Indian railways
Target population	South Central Railways
Sample	Student data
Sampling method	Non-probability sampling
Sampling technique	Convenience
Sample size	Total questionnaires distributed: 500 Found useful: 425
<b>Questionnaire design</b>	
Data collection method	Survey method with a Structured questionnaire
Data analysis	MS Excel & IBM SPSS 20.0
<b>Inclusion criteria</b>	<ul style="list-style-type: none"><li>• Should have traveled at least once in the last 5 months.</li><li>• Should have traveled at least 200 km or 3 hours of the journey.</li><li>• Should have traveled through reservation ticket.</li></ul>

In the previous scale development literature most of the studies have used student sample at the preliminary stages (Khan & Rahman, 2017; J.-H. Kim, Ritchie, & McCormick, 2010). The reason behind the selection of student sample could be the homogeneity nature of the data. Therefore, this study has used the student sample for this study to refine the items. The



data was collected from the five colleges that are located in Andhra Pradesh and Telangana. A total of 500 samples were collected from five colleges.

Table 3.2.2.2.1. Distribution of the sample (study 2)

No. of colleges	Sample
College 1	100
College 2	100
College 3	100
College 4	100
College 5	100
Total	500

Even though 500 questionnaires were distributed, a total of 425 found to be useful for the analysis. Further, to reduce the unnecessary items, the study has conducted item-to-item correlation analysis and exploratory factor analysis.

### 3.2.2.3. Study 3. Initial validation

The purpose of the study 3 was to validate the scale. Therefore, this study has conducted confirmatory factor analysis (Khan & Rahman, 2017). For this study, a survey data, different from study 2, was used. The population for this study was the Indian railway passengers. The target population was the selected four zones of Indian railways viz., Eastern Railway zone, Western Railway zone, Northern Railway zone, and Southern Railway zone. The reason behind the selection of these zones was to cover all the four pars viz., east, west, north, and south of the Indian railways.

Table 3.2.2.3. Research design for the initial validation (study 3)

Research design	Descriptive
<b>Sample design</b>	
Population	All the passengers of Indian railways
Target population	Selected 4 zones of Indian railways

Sample	Student data sample
Sampling method	Non-probability sampling
Sampling technique	Convenience
Sample size	Total questionnaires distributed: 400 Found useful: 342
<b>Questionnaire design</b>	7 point Likert-scale
Data collection method	Survey method with the Structured questionnaire
Data analysis	MS Excel & IBM SPSS 20.0
<b>Inclusion criteria</b>	<ul style="list-style-type: none"> <li>• Should have traveled at least once in the last 5months.</li> <li>• Should have traveled at least 200 km or 3hours of the journey</li> <li>• Should have traveled through reservation ticket.</li> </ul>

As suggested by the previous scale development studies, this research has used student sample for the initial validation of the scale. A total of four colleges, each one from a zone, were selected based on the convenience. A total of 400 hundred questionnaires were distributed, and 342 were used for analysis. The respondents were selected based on the three criteria viz., should have traveled at least once in the last 5months, should have traveled at least 200 km or 3hours of the journey, and should have traveled through reservation ticket.

Table.3.2.2.3.1. Zonal wise distribution of the sample (study 3)

<b>Railway Zones</b>	<b>Sample</b>
Eastern Railway zone	100
Western Railway zone	100
Northern Railway zone	100
Southern Railway zone	100
Total	400

#### **3.2.2.4. Study 4. Final validation**

Study 4 has three major purposes. They are; 1) to validate the measurement properties of the scale with non-student (real-time passengers) data, 2) To test the measurement invariance, and 2) To examine the predictive/ nomological validity of the scale.

This study has used the non-student sample to test the external validity of the scale (Khan & Rahman, 2017). The target population for this study was the Indian railway's passengers. In order to cover pan India responses, this study has used an online survey method to collect the data. A total of 803 questionnaires links were sent through email ids of the respondents and 363 responses found to be useful for the study. At the beginning of the questionnaire, an inclusion criterion was mentioned such as

- Should have traveled at least once in the last 3months.
- Should have traveled at least 300 km/5hours of the journey
- Should have traveled through reservation ticket

To test the dimensionality of the items, confirmatory factor analysis was conducted. In this step, the study has checked the reliability and validity of the scale (DeVellis, 2016). Further, this study has conducted the measurement invariance test to check whether the scale is equally meaningful to the different groups (J.-H. Kim, Ritchie, & McCormick, 2010). This study has tested two types of measurement invariance viz., configural invariance and metric invariance. Finally, the study has proposed hypotheses to test the predictive validity of the scale. The study has proposed a conceptual model. The proposed model was tested using structural equation model.

Table 3.2.2.4. Research design for the final validation

Research design	Descriptive
<b>Sample design</b>	
Target population	All the passengers of Indian railways
Sampling method	Non-probability sampling
Sampling technique	Online survey
Sample size	Total questionnaires sent: 803 Received: 401 Found useful: 363
<b>Questionnaire design</b>	7 point Likert-scale
Data collection method	Survey method with a Structured questionnaire
Data analysis	MS Excel & IBM SPSS 20.0
<b>Inclusion criteria</b>	<ul style="list-style-type: none"> <li>• Should have traveled at least once in the last 3months.</li> <li>• Should have traveled at least 300 km/5hours of the journey</li> <li>• Should have traveled through reservation ticket.</li> </ul>

### 3.2.2.5. Summary

This study has followed a systematic scale development process suggested by (Churchill Jr, 1979). The scale development was conducted in the four steps viz., 1) item generation, 2) item purification, 3) initial validation, and 4) final validation. Each step has a different methodology, research design, sample, data, and analysis techniques. Majorly, this study was carried in public transportation setting, with special reference to Indian railways. For the first three studies, item generation, item purification, and initial validation, student sample was used. For the final validation, non-student sample was used.

## **Chapter 4**

### **DATA ANALYSIS AND RESULTS**

Based on the arguments discussed in the literature review section, it is noted that passengers' travel experience (PTE) plays a significant role in the context of public transportation. Specifically, measuring the passengers' evaluations of their travel experience can help the transport managers to understand the passenger's interactions at every stage of their journey which in turn helps in making policies to improve the PTE. As already mentioned in the previous chapters the major purposes of the study are 1) To identify the determinants of passengers' travel experience, 2) To examine the influence of each PTE antecedent on travel experience components (cognitive and emotional responses), and 3) To investigate whether the passengers' travel behavior (decision-making process) is mainly guided by their cognitive responses or emotional responses in public transportation.

#### **4.1 Scale development process**

To achieve the first objective, the study has followed a systematic and structural scale development procedure. This study has followed the recommendations of various scale development studies (DeVellis, 2016; Worthington & Whittaker, 2006). Finally, the study has also referred some of the recent works in the consumer behavior domain on scale developments (Brocato et al., 2012; J.-H. Kim, Ritchie, & McCormick, 2010).

To develop a structured scale, the study has followed the mixed method approach including qualitative and quantitative techniques. The qualitative study includes open-ended and personal interviews with the respondents, and quantitative methods include survey data and empirical examinations. Based on the suggestions of Worthington and Whittaker (2006), this study has followed several steps to develop determinants of passengers' travel experience.

#### 4.1.1. Study 1: Construct definition and item generation

Even though various studies in transportation literature have discussed factors that influence travel experience they are not comprehensive and holistic studies that include the entire journey of passengers. For example, there is a wide range of studies on service quality factors (Eboli & Mazzulla, 2012; Nathanail, 2008). But, these scales covered only the factors that are under the control of the transport provider or service provision viz., vehicle maintenance, off-board services, and ticketing services.

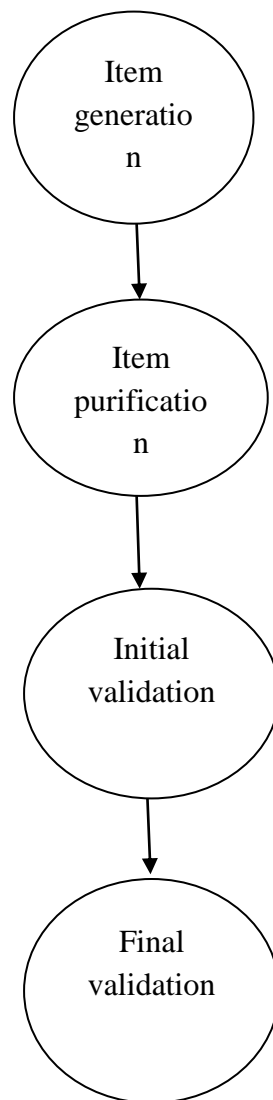


Figure 4.1.1. Scale development process

There are very few studies which have discussed the factors that go beyond transportation providers control (transportation providers may not have 100% control over the services) such as social interactions with co-passengers, waiting time, and accessibility to/from the vehicle. Therefore this study has found the gap to develop a comprehensive scale that includes the entire journey of the passengers travel experiences.

#### 4.1.1.1. Qualitative study

In the first step of the scale development process, the study has conducted a qualitative study to explore the various factors that influence the passengers' travel experience. Personal interviews were conducted with 45 management students to identify the travel experience factors. The study was held in School of Management Studies, University of Hyderabad. A convenience sampling method was used to approach the respondents. At the beginning of the data collection, the students were asked the following questions:

- 1) Recollect your recent travel experiences with Indian railways (they can be extremely positive or negative),
- 2) What made you recollect?
- 3) Note down any five key determinants of those experience (each in one sentence)

Table 4.1.1.1. Content analysis results

<b>Id</b>	<b>Determinant 1</b>	<b>Determinant 2</b>	<b>Determinant 3</b>	<b>Determinant 4</b>	<b>Determinant 5</b>
Id1	Cleanliness	Security	Waiting Time	Price	Food
Id2	Waiting Time	Cleanliness Of Platforms	Quality If Food	Seating	Toilets
Id3	Price	Station Services	Safety	Food	Cleanliness
Id4	Seating Arrangement	Security	Price	Other Passenger Platform	Ticket Booking
Id5	Information	Price	Vehicle Maintenance	Maintenance	Parking Services
Id6	Seating Arrangement	Widows	Crowd	Other Passenger	Food
Id7	Station Facilities	Security	Travel Information	Security Police	Cleanliness
Id8	Parking Facility	Luggage Space	Cleanliness		Food

Id9	Vehicle Sounds	Waiting Rooms	Parking Charges	Medical Service	Food
Id10	Accessibility	Price	Temperature	Cleanliness	
Id11	Information	Price	Ticket Booking	Food	Security
Id12	Smell	Chairs At Station	Platforms	Accessibility	Food
Id13	Vehicle Sounds	Seating	Toilets Smell Seating	Water	Medical
Id14	Food Co-Passenger	Ticket Booking	Arrangement	Cleanliness	Toilets
Id15	Behavior	Luggage Space	Waiting Time	Windows	Cleanliness
Id16	Quality Food	Parking Space	Price	Ticket Booking	
Id17	Food Seating	Widows	Crowd	Waiting Time	No Information Parking
Id18	Arrangement	Security	Price Vehicle Maintenance	Ticket Booking	Services
Id19	Restrooms	Price		Temperature	Food Parking
Id20	Information	Accessibility	Price	Security Police	Services
Id21	Ticket Booking	Seating	Food Items Vehicle Maintenance	Safety	Information
Id22	Passengers	Luggage Space	Information	Punctuality	
Id23	Time Management	Safety	Cleanliness	Price	
Id24	Atmosphere	Seats		Security Police	Porter Services Parking Services
Id25	Food	Ticket Booking	Punctuality	Tc Services	
Id26	Staff	Station Services	Parking Charges Seating Arrangement	Food	Accessibility
Id27	Information	Ticket Booking	Safety	Crowd	Staff
Id28	Price Seating	Accessibility		Parking Service	Porter Services Parking Services
Id29	Arrangement	Station Services	Temperature Seating Arrangement	Information Vehicle Maintenance	
Id30	Crowd	Security	Accessibility	Food	Staff
Id31	Ticket Booking	Price	Station Services	Crowd	Temperature
Id32	Accessibility Seating	Platforms			Staff Vehicle Maintenance
Id33	Arrangement	Security	Waiting Time	Smell	
Id34	Vehicle Sounds	Crowd	Cleanliness	Staff	Catering
Id35	Station Facilities	Ticket Booking	Safety Vehicle Maintenance	Porter Services	Information
Id36	Passengers	Luggage Space	Seating Arrangement Vehicle Maintenance	Cleanliness	
Id37	Information	Ticket Booking		Smell	Staff
Id38	Restrooms	Seats		Temperature	Food
Id39	Atmosphere	Price	Cleanliness	Security Police	Porter Services Parking Services
Id40	Information	Accessibility	Quality If Food	Security Police	
Id41	Food	Seating	Crowd	Waiting Time	No Information
Id42	Vehicle Sounds Seating	Platforms	Parking Charges	Medical Service	Food
Id43	Arrangement	Station Services	Parking Charges	Food	Accessibility
Id44	Price	Seating	Food Items	Safety	Information
Id45	Cleanliness	Washrooms	Crowd	Catering	Security



All the 45 students have answered the open-ended questions. Later, their responses were noted down in an excel sheet. A content analysis was conducted manually to analyze the responses of the participants(Hsieh & Shannon, 2005). Total 37 determinants were identified. Later, these 37 various determinants of experiences were grouped to 11 themes based on the support of literature review(J.-H. Kim, 2014). For example; seat size, luggage space, and the crowd in the train are grouped into passengers' comfort theme. Similarly, platforms' maintenance, seating arrangement at stations and restroom facilities were grouped into off-board services. The eleven themes were -vehicle maintenance, Information, safety and security, social interactions, ticketing services, off-board services, accessibility, supporting services, Waiting time, staff skills, and comfort.

#### **4.1.1.2. Construct definitions**

All the eleven themes were defined using the qualitative information gathered from the field and literature review of travel experience. Based on the 11 themes definitions 68 items were generated. All the items were generated with the support of previous literature that discussed in the literature review section and qualitative statements collected from the field study.

Table 4.1.1.2. Definitions of the 11 constructs derived from a qualitative study

<b>Construct</b>	<b>Definition</b>
Vehicle maintenance	Refer to look and condition of the vehicle that includes vehicle interior design, vibration, sounds, and temperature.
Information	Information related to vehicle timings, travel rules, and available through various channels such as online, digital boards at the station or on-board travel, telephone, and print media.
Safety & security	Passengers' safety and security during the trip that includes personal and luggage security, no fear of accidents, road or rail track maintenance, and weather conditions.
Social interactions	Direct or indirect interaction with other passengers or staff during the trip

Ticketing services	The services related to ease of ticket booking and cancelation
Off-board services	The services offered before and after a trip that includes, parking, restroom, and benches to sit.
Accessibility	Easy access to and from the vehicle during all moments of the trip including walking access when entering and exiting.
Supporting services	The services which are not directly related to service provider but supports the overall travel experience of the passengers (e.g., Catering, porter, and medical)
Waiting time	Punctuality and frequency of vehicles.
Staff skills	Staff performance, responsiveness, and empathy during the travel
Comfort	Passengers' overall comfort of the journey that includes seat/berth comfort, adequate space in the vehicle, and crowding.

#### **4.1.2. Study 2: Item purification**

The item purification was ensured in two levels. In the first level, face and content validity were tested. And in the second level, item-to-total correlations, Exploratory Factor Analysis (EFA) were conducted.

##### **4.1.2.1. Step 1: Face and content validity**

The face and content validities are basic validity tests for any construct development. The face and content validities are checked to make sure whether the items are representing the constructs or not (Worthington & Whittaker, 2006). For example, a surveyor wants to ask a question on passengers' comfort. Then, he frames a question "is there an adequate leg space in the vehicle?" In this context, the face and content validity test whether the question is adequately representing the construct of passengers' comfort. The face and content validities are commonly judged with a group of experts in a similar domain of the study (Worthington & Whittaker, 2006).

#### **4.1.2.1.1. Panel 1**

The study selected two panels to judge the face and content validity of the items. Panel 1 comprised of 3 marketing professors and one industry expert. All the experts were explained about the purpose of the survey. They were provided the 11 construct definitions and were asked to rate the items based on their degree of construct representation. All the items were rated on the 5 points Likert scale format in which 1 represents strongly disagree and 5 represents strongly agree. The panel further helped the study to refine the definitions of the constructs as well as items. Based on the experts' agreement (two thirds), 14 items were deleted, and three items were added. In the end, a total of 57 items has remained for further analysis.

#### **4.1.2.1.2. Panel 2**

The refined 57 items along with the refined 11 constructs were given to another group of experts (panel 2) to review and refine the items. Panel 2 consists of 8 research scholars of the marketing domain. The participants were asked to rate the degree to which the items represent their constructs. Likert 5 point scale format was used to rate the items -1 represents strongly disagree and 5 represents strongly agree. Based on the two by third experts' agreement four items were deleted. Finally, a total of 53 items were retained for further analysis.

#### **4.1.2.2. Step 2: Item Reduction**

Parsimony of the scale is one of the important psychometric characteristics of the scale (DeVellis, 2016), which means a scale should be able to measure the construct with the best set of items. Thus following the recommendations of Worthington and Whittaker (2006), this

study has used two types of statistical analyses. 1) Item-to-total correlation 2) Exploratory Factor Analysis (EFA).

#### **4.1.2.2.1. Data collection**

To refine the scale items, a survey was conducted with college students. In the initial stages of scale purification, most of the studies on scale development have considered students data (Khan & Rahman, 2017; J.-H. Kim, Ritchie, & McCormick, 2010). The survey has been conducted in geographic area under the South Central Railways zone. This study has collected data from 425 college students from Andhra Pradesh and Telangana states. Total 500 questionnaires were distributed to the college students.

At the beginning of the questionnaire, the inclusion criteria were mentioned to avoid unnecessary data. For example, 1) The respondent should have travelled at least once in the last 5 months, 2) Should have travelled at least 200 km or 3 hours of the journey, and 3) Should have travelled through reservation ticket. The convenience sampling method was used to meet the respondents. Total 425 responses were found to be valid and used for further analyses. After the completion of the data collection, the responses were purified using Excel and Statistical Packages for Social Sciences (SPSS) tools.

#### **4.1.2.2.2. Respondents' profile**

A total of 425 students sample was used for the study. Out of which, 57% are male respondents and 43% are female respondents. Most of the respondents have travelled more than 3 times (42.8%) in the last five months from the date of the survey. In addition, majority of the respondents have travelled in sleeper class (26.8%) followed by 3AC (25.2%). The summary of the respondent's profile is shown in Table 4.1.2.2.2.

Table 4.1.2.2.2. Respondents profile for study 2

		Frequency	Percent
Age	19	59	13.9
	20	46	10.8
	21	38	8.9
	22	47	11.1
	23	47	11.1
	24	66	15.5
	25	35	8.2
	26	22	5.2
	27	14	3.3
	28	20	4.7
	29	19	4.5
	30	12	2.8
	Total	425	100
Gender	Female	180	42.4
	Male	245	57.6
	Total	425	100
Education	Under graduation	233	54.8
	Post-graduation	192	45.2
	Total	425	100
Travel frequency (in last five months)	1 time	82	19.3
	2 times	161	37.9
	3 or more times	182	42.8
	Total	425	100
Travel class	Sleeper	114	26.8
	3rd AC	107	25.2
	2nd AC	78	18.4
	1st AC	53	12.5
	Chair	73	17.2
	Total	425	100

#### 4.1.2.2.3. Item-to-total correlation

Item-to-total correlation is a method that tests the correlation between each item and the total scale score (Hinkin, Tracey, & Enz, 1997). A reliable scale consists of all the items that are well correlated with the total score of the scale. Therefore, item-to-total correlation method was used to eliminate the items that were not well correlated with the total score of the scale. Hence, an item was deleted if it hadn't correlated well with the rest of the scale overall. Therefore, following the instructions of Khan and Rahman (2017) and other scale development studies (Brocato et al., 2012; J.-H. Kim, Ritchie, & McCormick, 2010), all the

items which were having item-to-total correlation  $<.4$  were deleted. The item-to-total correlation is a very useful method that removes all the unnecessary items before they are grouped into meaningful latent factors through EFA. At the end of the item-to-total correlation, a total of 31 items remained.

Table 4.1.2.2.3. Item-to-total correlation results

	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	0.419	0.413	0.864
Item 2	0.408	0.411	0.86
Item 3	0.431	0.415	0.862
Item 4	0.44	0.462	0.859
Item 5	0.526	0.457	0.856
Item 6	0.464	0.432	0.858
Item 7	0.496	0.445	0.857
Item 8	0.491	0.436	0.857
Item 9	0.438	0.401	0.859
Item 10	0.444	0.469	0.859
Item 11	0.463	0.485	0.858
Item 12	0.389	0.419	0.861
Item 13	0.437	0.541	0.859
Item 14	0.443	0.532	0.859
Item 15	0.419	0.403	0.861
Item 16	0.404	0.443	0.86
Item 17	0.427	0.492	0.862
Item 18	0.446	0.568	0.861
Item 19	0.461	0.606	0.858
Item 20	0.515	0.486	0.856
Item 21	0.571	0.532	0.854
Item 22	0.528	0.483	0.856
Item 23	0.526	0.457	0.856
Item 24	0.463	0.485	0.858
Item 25	0.474	0.442	0.868
Item 26	0.427	0.531	0.858
Item 27	0.437	0.502	0.863
Item 28	0.441	0.425	0.864
Item 29	0.515	0.486	0.855
Item 30	0.453	0.475	0.857
Item 31	0.516	0.447	0.855

#### 4.1.2.2.4. Exploratory Factor Analysis

EFA is a very important step in the scale development procedure. The purpose of EFA is to reduce and summarise the items into meaning full factors(Costello & Osborne, 2005). Based on the correlation analysis, all the items which are highly correlated will group. And these groups are called as factors. There are two approaches for conducting EFA – 1) Principal Component Analysis (PCA) and 2) Common factor analysis. The difference between them is mostly based on the communalities. PCA considers total variance that includes unique and common variances. Common factor analysis considers only common variance(Costello & Osborne, 2005).

The present study used PCA to identify the underlying structure of the data. Before extracting the factors from the data, there are few assumptions that have to be fulfilled. Firstly, the conduct of Kaiser-Meyer-Olkin Measure of Sampling Adequacy tests to ensure the quality and adequacy of the data set. The result of the test revealed that 0.855 value is meritorious to run the factor analysis. Secondly, Bartlett's Test of Sphericity examines the null hypothesis that 'correlations are not possible between the set of items.' The result has rejected the null hypothesis, which means correlation matrices are possible.

Table. 4.1.2.2.4. KMO and Bartlett's Test results

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.855
Bartlett's Test of Sphericity	Approx. Chi-Square	3526.591
	Df	276
	Sig.	0

#### 4.1.2.2.4.1. Communalities

Communalities are said to be the variance explained in an item by the factors extracted. In other words, it is a common variance or the variance shared with all other items. Initially, PCA considers communality as 1 (includes common and unique variance). According to the previous studies, the communality value should be  $>.50$  (Hair, 2010). Which means item's explained variance should be more than unexplained variance. All the 31 items have got communality of  $>.50$ . Find the item communalities in Table 4.1.2.2.4.1.

Table 4.1.2.2.4.1. Communalities

Communalities		
	Initial	Extraction
Access to/from the vehicle	1	0.749
Ease of entry/exit to/from the vehicle	1	0.676
Temperature in the vehicle	1	0.627
Cleanliness in the vehicle	1	0.681
Vibration and noise levels of a vehicle during travel	1	0.663
The physical appearance of the other passengers	1	0.698
The behavior of the other passengers	1	0.674
Empathy of staff	1	0.671
Hotel/catering services	1	0.658
First aid services	1	0.663
Porter (Kuli) services	1	0.732
Seating availability in the station	1	0.578
Ticket purchasing facility	1	0.551
Waiting/restroom facility at the station	1	0.667
Cleanliness of platforms	1	0.693
Parking services at the station	1	0.569
Seat/berth comfort	1	0.601
Crowd in the train	1	0.581
Personal security	1	0.59
Luggage Safety	1	0.687
Adequate space in the vehicle	1	0.689



Information about vehicle timings	1	0.711
Information about vehicle route	1	0.701
Information about ticket fare	1	0.667
Extraction Method: Principal Component Analysis.		

#### 4.1.2.2.4.2. Factor Extraction

To extract the factors, PCA with Varimax (variance maximum) rotation was conducted. Varimax rotation is a commonly used method in scale development procedure (Brakus et al., 2009). Based on the results, items that have cross loaded (above 0.20) on different factors were removed (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This procedure removed 7 items. Finally, 7 factors were extracted with 24 items. Only the factors that have eigenvalue  $<1$  are considered as factors (Costello & Osborne, 2005). All the seven factors have explained 65.72% of the variance.

Figure 4.1.2.2.4.2. Eigenvalues in screen plot

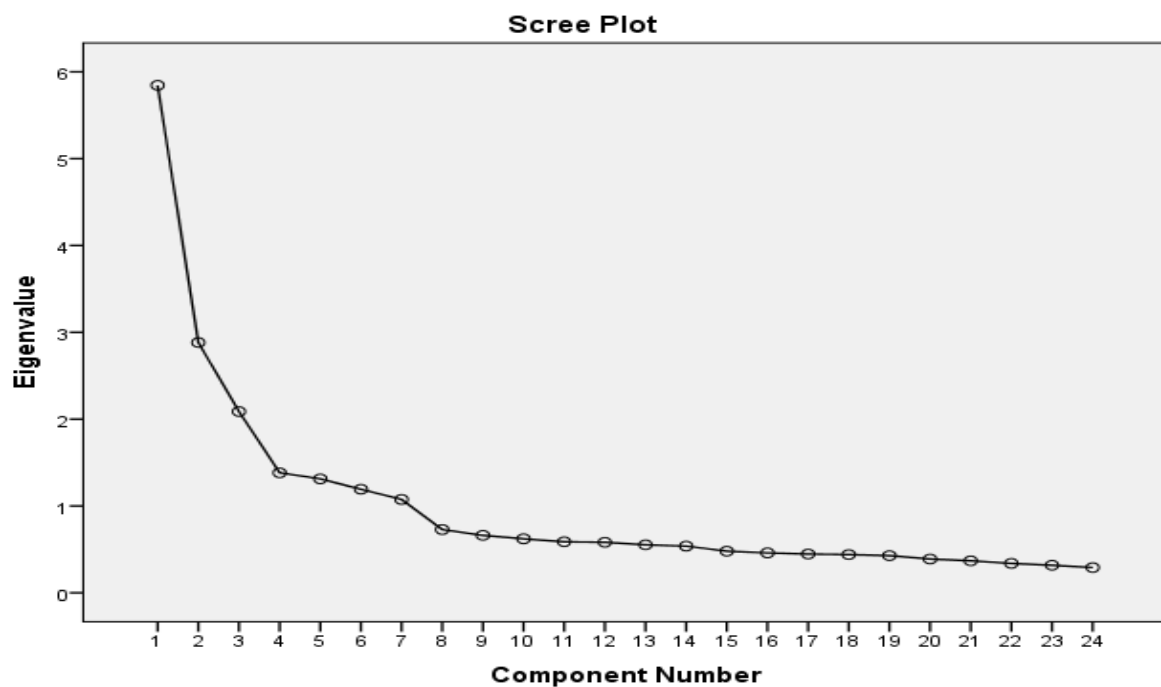


Table 4.1.2.2.4.2.1. Total Variance Explained

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.845	24.353	24.353	5.845	24.353	24.353	3.146	13.107	13.107
2	2.882	12.008	36.361	2.882	12.008	36.361	3.004	12.518	25.625
3	2.087	8.695	45.057	2.087	8.695	45.057	2.095	8.728	34.353
4	1.382	5.758	50.814	1.382	5.758	50.814	2.036	8.485	42.838
5	1.312	5.467	56.282	1.312	5.467	56.282	2.033	8.469	51.308
6	1.192	4.968	61.249	1.192	4.968	61.249	1.971	8.211	59.519
7	1.075	4.479	65.728	1.075	4.479	65.728	1.49	6.21	65.728

Finally, PCA with varimax rotation has provided seven components with 24 items. All the 7 factors were named based on the previous literature viz., ‘safety & comfort’ with five items and 13.10% variance, ‘off-board services’ with five items and 12.51% variance, ‘travel information’ with three items and 8.72% variance, ‘supporting services’ with three items and 8.48% variance, ‘social environments’ with three items and 8.46% variance, ‘vehicle maintenance’ with three items and 8.21% variance, and ‘accessibility’ with two items and 6.21% variance. When deleting each item, the reliability value (Cronbach’s alpha) was checked to test whether the deletion of the item significantly reduces scale reliability (Khan & Rahman, 2017).

Table 4.1.2.2.4.2.2. Rotated Component Matrix

Rotated Component Matrix							
	Component						
	1	2	3	4	5	6	7
Luggage Safety	0.795						
Adequate space in the vehicle	0.784						
Seat/berth comfort	0.755						
Crowding	0.734						
Personal security	0.725						
Cleanliness of platforms		0.801					
Rest room facility at station		0.786					
Seating availability in the station		0.734					
Ticket purchase facility		0.726					
Information counters at station		0.695					
Information about Vehicle root			0.806				
Announcements at station (vehicle timings)			0.773				
Ticket price information			0.737				
Porter (Kuli) services				0.808			
Hotel/catering services				0.759			
Parking services at station				0.739			
Physical appearance of the other passengers					0.782		
Empathy of staff					0.764		
Behaviour of the other passengers					0.757		
Cleanliness in the vehicle						0.78	
Temperature in the vehicle						0.764	
Vibration and noise levels of vehicle during travel						0.736	
Access to/from vehicle							0.846
Ease of entry/exit to/from vehicle							0.754

Note: 1=safety & comfort, 2= off-board services, 3= travel information, 4= supporting services, 5= social environments, 6= vehicle maintenance, 7= accessibility.

**Summary of study 2:** The main purpose of study 2 was to purify the scale by eliminating the unnecessary items. In the first step, the study has tested the face and content validity of the scale by the two panels of the subject experts. The two panels have checked the sentence formation of the items as well as the definitions of the 11 constructs. At the end of this step 53 have been retained for further analysis. In the second step, the study has utilized survey data to refine the scale by conducting item-to-item correlation and EFA. Item-to-item

correlation matrices have retained 31 items by eliminating unnecessary items that correlate <.40 with all other items. PCA with varimax rotation extracted 7-factor structure with 24 items and with 65.72% variance explained.

#### **4.1.3. Study 3: Initial validation**

The purpose of the study 3 was to test the dimensionality of the items. More specifically, this study ensures the reliability and validity of the scale.

##### **4.1.3.1. Confirmatory Factor Analysis (CFA)**

To confirm the factor structure extracted from EFA, the study has conducted confirmatory factor analysis (CFA). EFA extracts the factors based on the correlations available in the data sets (Hinkin et al., 1997). It least bothers about the prior conceptual background of the constructs. Hence, there is a need to re-confirm the factors through CFA. In CFA items are not freely allowed to group with any other factor. With a prior conceptual knowledge, the items are restricted to fall under factor to which they belong.

##### **4.1.3.1.1. Research design**

As previous scale developments studies have suggested (Brocato et al., 2012; Khan & Rahman, 2016), this study has collected data from a different set of sample to conduct CFA. Moreover, to test the generalizability of the scale, this survey was held in the four zones of Indian railways that represents the four corners of India viz., Eastern Railway zone, Western Railway zone, Northern Railway zone, and Southern Railway zone.

This study has collected the data from college students across the four railway zones. The inclusion criteria were: 1) the respondent should have traveled at least once in the last 5 months, 2) should have traveled at least 200 km or 3 hours of the journey, and 3) should

have traveled through reservation ticket. The convenience sampling method was used to approach the respondents. Total 400 questionnaires (with 24 items) were distributed to Under Graduation and Post-Graduation students. All the items were rated on Likert 7 point scale format in which 7 indicated strongly agree and 1 indicated strongly disagree.

#### 4.1.3.1.2. Respondents' profile

A total of 342 students sample was used for the study. Out of which, 54% are male respondents and 46% are female respondents. Also, 52.9% respondents are UG students and 42.1% respondents are PG students. Most of the respondents have travelled once in last three months (35%) followed by twice in last three months (33%) and 3 times (31%) in the last three months. In addition, majority of the respondents have travelled in express trains (52%) followed by passenger trains (30%). The summary of the respondent's profile is shown in Table 4.1.3.1.2.

Table 4.1.3.1.2. Respondents' profile

		Frequency	Percentage
<b>Gender</b>	Female	157	45.9
	Male	185	54.1
	Total	342	100
<b>Age</b>	19	42	12.3
	20	40	11.7
	21	42	12.3
	22	44	12.9
	23	44	12.9
	24	43	12.6
	25	30	8.8
	26	14	4.1
	27	17	5
	28	14	4.1
	29	7	2
	30	2	0.6
	31	3	0.9
<b>Education</b>	UG	181	52.9
	PG	161	47.1

<b>Travel Frequency</b>	once in three months	120	35.1
	twice in three months	116	33.9
	3 or more	106	31
<b>Train type</b>	Super-fast	68	19.7
	Express	171	50.2
	Passenger	102	30.1
	Total	342	100

#### 4.1.3.1.3. Measurement model

The seven-factor structure was tested using CFA. This examination resulted in the removal of two more items. Based on the suggestions of earlier studies (J. C. Anderson & Gerbing, 1988) the uni-dimensionality of the dimensions was tested by examining the reliability and the validity of the measurement items. Firstly, the model fit indices for the measurement model suggested that the seven-factor model is a great fit. All the fit indices were above the threshold criteria. The model fit values are presented in the Table 4.1.3.1.3.

Table 4.1.3.1.3.1. Measurement Model fit indices

Measure	Actual values	Threshold values	Source
CMIN/ DF	1.782	<3.0	Podsakoff et al. (2003)
CFI	0.958	> 0.95 great	
TLI	0.949	> 0.95 great	
IFI	0.959	> 0.95 great	
NFI	0.911	> 0.90 good	
GFI	0.917	> 0.90 good	
RMSEA	0.048	<0.05 good	
PCLOSE	0.653	> 0.05 good	

Further , convergent validity was tested. Convergent validity tests the uniformity of the items. That means how well the items of a dimension converge together? This validity was tested using factor loadings and AVE values (J.-H. Kim, 2010). Standardized factor loadings of all the items were >.60. This shows the good internal consistency among the items as well

as good convergent validity (Harrison, Popovic, Kraal, & Kleinschmidt, 2012). Additionally, the squared multiple correlations (SMC) ( $R^2$ ) are checked to confirm the convergent validity and the internal consistency of the items, and they found to be good.

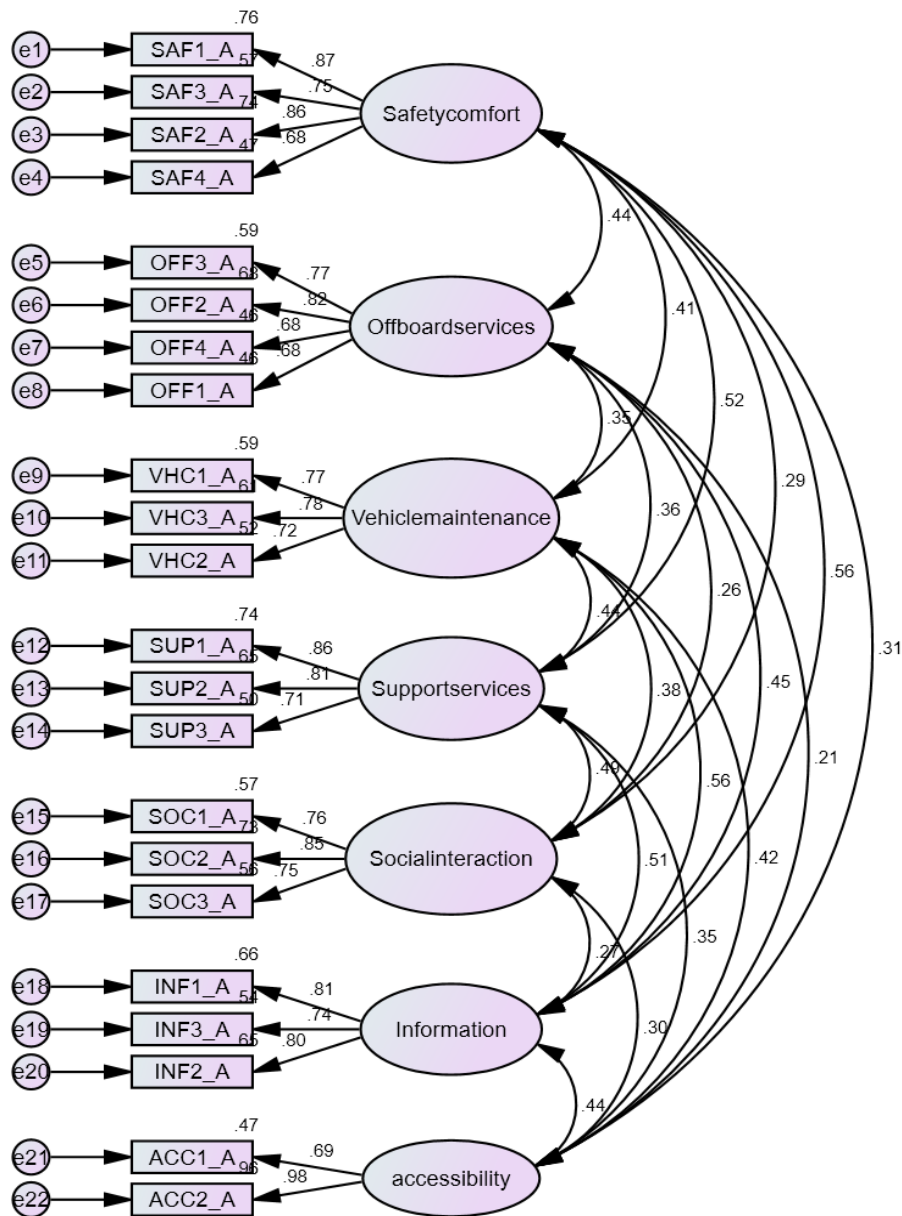


Figure 4.1.3.1.3. Measurement model

Table 4.1.3.1.3.2. Measurement model (CFA standardized loadings)

Measures	Estimate	Cronbach's alpha	SMC
<b>Security&amp; comfort</b>		.86	
Personal security	0.872		0.76
Luggage Safety	0.752		0.565
Seat/berth comfort	0.858		0.736
Crowding	0.682		0.465
<b>Off-board services</b>		.82	
Cleanliness of platforms	0.767		0.588
Seating availability in the station	0.822		0.676
Rest room facility at the station	0.676		0.456
Ticket line queues	0.675		0.456
<b>Vehicle maintenance:</b>		.80	
Cleanliness in the vehicle	0.769		0.591
Temperature in the vehicle	0.781		0.609
Vibration and noise levels of vehicle during travel	0.722		0.521
<b>Supporting services</b>		.83	
Parking services	0.862		0.743
Hotel/catering services	0.808		0.653
Porter (Kuli) services	0.71		0.504
<b>Social environments</b>		.82	
Physical appearance of the other passengers	0.758		0.574
Empathy of staff	0.854		0.729
The behaviour of the other passengers	0.75		0.563
<b>Travel Information</b>		.82	
Information about Vehicle root	0.812		0.659
Announcements at the station (vehicle timings)	0.736		0.541
Ticket price information	0.805		0.659
<b>Accessibility</b>		.80	
Access to/from the vehicle	0.686		0.47
Ease of entry/exit to/from the vehicle	0.981		0.962

AVE values were estimated to test the convergent and discriminant validity of the dimensions. AVE value tests whether the average variance explained by the items of a single dimension is above its unexplained variance? Which means, if the AVE is higher (>.50) than



the unexplained variance (which is also called as error variance), the convergence among the items of that dimension is good (Fornell & Larcker, 1981). AVE value also tests the discriminant validity of the dimensions. The items that belong to one dimension should converge together.

Similarly, the items should diverge with the items of another dimension. This discriminant validity was tested using AVE value. AVE value should exceed the squared correlation value of each pair of factors (Fornell & Larcker, 1981). The table below shows AVE is exceeding the correlations among factors.

Table 4.1.3.1.3.3. Constructs inter correlations

Constructs	CR	AVE	MSV	1	2	3	4	5	6	7
<b>1. Travel information</b>	0.83	0.62	0.31	<b>0.79</b>						
<b>2. Safety &amp; comfort</b>	0.87	0.63	0.31	0.56	<b>0.79</b>					
<b>3. Off-board services</b>	0.83	0.54	0.20	0.45	0.44	<b>0.74</b>				
<b>4. Vehicle maintenance</b>	0.80	0.57	0.31	0.56	0.41	0.35	<b>0.76</b>			
<b>5. Supporting services</b>	0.84	0.63	0.27	0.51	0.52	0.36	0.44	<b>0.80</b>		
<b>6. Social interactions</b>	0.83	0.62	0.24	0.27	0.29	0.26	0.38	0.49	<b>0.79</b>	
<b>7. Accessibility</b>	0.83	0.72	0.19	0.44	0.31	0.21	0.42	0.35	0.30	<b>0.85</b>

Finally, the reliability of the items was tested using composite reliability (CR) scores and Cronbach's alpha scores. Reliability tests the consistency of the items. Firstly, scores of the composite reliability (CR) ranged from .80 to .87 supported the internal consistency of the items (Podsakoff et al., 2003). Further, Cronbach's alpha scores of each dimension ranged from .80 to .86 revealed an excellent internal consistency among the multiple items of each factor (Harrison et al., 2012). Therefore, the above results have confirmed the reliability and the validity of the scale items.

#### 4.1.4. Study 4: Final validation

The major purposes of the study 4 were:

- a) To validate the measurement properties of the scale with non-student (real-time passengers) data
- b) To test the measurement invariance
- c) To examine the predictive/ Nomological validity of the scale

#### **4.1.4.1. Research design**

The study has followed a well-defined procedure for the development of scale, collection and analysis of data. The target sample for this study was all the passengers of Indian railways. Therefore, the data was collected through the online survey. The survey link was sent through emails to the respondents. The inclusion criteria were, 1) should have traveled at least once in the last 3months, 2) should have traveled at least 300 km/5hours of the journey, and 3) Should have traveled through reservation ticket. Total 803 emails were sent. Out of which 401 were returned, and 363 were found to be useful “for the analysis. The response rate was 45%. The 22 items were measured on 7 points Likert scale format, where 1= strongly disagree and 7= strongly agree”.

#### **4.1.4.2. Respondents’ profile**

A total of 363 online respondents sample was used for this study. Out of which, 56.5% are male and 42.5% are female. Approximately, 70% of the respondents’ age was above 31 years. 65% of sample are graduates and above. 37% respondents were employees followed by 28.4% were business men. 70% of the respondents’ monthly income was above 15000 Indian rupees. 68% of the respondents do not own a car. 30% of the respondents have travelled at least 2 times in the last three months. 48% of the respondents belong to south India followed by 33% north part of India. 70% of the respondents have travelled more than 500km.

Table 4.1.4.2. Respondents profile (Indian railway's passengers)

		Frequency	Percent
<b>Gender</b>	Male	205	56.5
	Female	158	43.5
	Total	363	100
<b>Age</b>	18 to 30	111	30.6
	31 to 45	144	39.7
	46 to 60	60	16.5
	above 60	48	13.2
	Total	363	100
<b>Education</b>	Plus two	89	24.5
	Degree	163	44.9
	PG and above	111	30.6
	Total	363	100
<b>Occupation</b>	Student	98	27
	Employee	137	37.7
	Business	103	28.4
	Others	25	6.9
	Total	363	100
<b>Income in Indian rupees</b>	Less than 15000	79	21.8
	15000 to 29000	108	29.8
	30000 to 45000	114	31.4
	Above 45000	62	17.1
	Total	363	100
<b>Do you own a car?</b>	yes	117	32.2
	no	246	67.8
	Total	363	100
<b>Travel frequency in the last 3 months</b>	1	94	25.9
	2	112	30.9
	3	83	22.9
	4 or above	74	20.4
	Total	363	100
<b>Part of India belongs to?</b>	South India	173	47.7
	North India	121	33.3
	North East	45	12.4
	Other	24	6.6
	Total	363	100
<b>Distance in kilometers</b>	300 to 500	95	26.2
	501 to 700	117	32.2
	701 to 900	81	22.3
	above 901	70	19.3
	Total	363	100
<b>Train type</b>	Super-fast	113	31.1

<b>Class of reservation</b>	Express	129	35.5
	Passenger	121	33.3
	Total	363	100
	Sleeper	108	29.8
	Third AC	98	27
	Second AC	58	16
	First AC	49	13.5
	Chair	50	13.8
	Total	363	100
<b>Ticket booking type</b>	Online	213	58.7
	Offline	150	41.3
	Total	363	100
<b>Purpose of the journey</b>	Business	104	28.7
	Education	97	26.7
	Pilgrimage/Recreation	77	21.2
	General visit	85	23.4
	Total	363	100
<b>Travel partner</b>	Family	86	23.7
	Friends	99	27.3
	Colleagues	64	17.6
	Alone	114	31.4
	Total	363	100

#### **4.1.4.3. Study 4 (a): validating the scale with non-student data.**

The seven-factor structure was tested using CFA. Based on the previous studies (Bhat et al., 2000) the uni-dimensionality of the dimensions was tested by examining the reliability and the validity of the measurement items. Firstly, the model fit indices for the measurement model suggested that the seven-factor model is a great fit. All the fit indices were above the threshold criteria. The following table presents model fit values (Table 4.1.4.3).

Table 4.1.4.3.1. Measurement model fit indices (non-student sample)

Measure	Actual values	Threshold values	Source
CMIN	243.656		(Podsakoff et al., 2003)
DF	188		
CMIN/DF	1.296	<3.0	
CFI	0.98	> 0.95 great	
TLI	0.97	> 0.95 great	
IFI	0.98	> 0.95 great	
NFI	0.92	> 0.90 good	
GFI	0.94	> 0.90 good	
RMSEA	0.029	<0.05 good	

Further , the validity tests were conducted. Firstly, Convergent validity tests the uniformity of the items. That means how well the items of a dimension converge together? This validity was tested using factor loadings and AVE values. Standardized factor loadings of all the items were >.60. This shows the good internal consistency among the items as well as good convergent validity(Harrison et al., 2012). Additionally, the squared multiple correlations (SMC) ( $R^2$ ) are checked to confirm the convergent validity and the internal consistency of the items, and they found to be good.

AVE values were estimated to test the convergent and discriminant validity of the dimensions. AVE value tests whether the average variance explained by the items of a single dimension is above its unexplained variance? Which means, if the AVE is higher (>.50) than the unexplained variance (which is also called as error variance), the convergence among the items of that dimension is good(Fornell & Larcker, 1981). AVE of the all the factors were >.50. AVE value also tests the discriminant validity of the dimensions. The items that belong to one dimension should converge together.

Similarly, the items should diverge with the items of another dimension. This discriminant validity was tested using AVE value. AVE value should exceed the correlation value among

factors(Fornell & Larcker, 1981). The following table shows that AVE values are exceeding the correlation values among factors.

Table 4.1.4.3.2. Measurement model (Indian railways passengers)

	Estimate	SMC
<b>Safety &amp; security</b>	0.85	
Personal security	0.81	0.66
Luggage Safety	0.84	0.71
Seat/berth comfort	0.74	0.55
Crowding	0.69	0.48
<b>Off-board service</b>	0.82	
Cleanliness of platforms	0.80	0.64
Seating availability in the station	0.82	0.67
Rest room facility at the station	0.66	0.44
Ticket line queues	0.69	0.47
<b>Vehicle maintenance:</b>	0.78	
Cleanliness in the vehicle	0.73	0.53
Temperature in the vehicle	0.72	0.52
Vibration and noise levels of a vehicle during travel	0.76	0.58
<b>Supporting services</b>	0.77	
Parking services	0.81	0.65
Hotel/catering services	0.75	0.57
Porter (Coolie) services	0.66	0.43
<b>Social interactions</b>	0.77	
Physical appearance of the other passengers	0.70	0.48
Empathy of staff	0.79	0.62
The behaviour of the other passengers	0.70	0.49
<b>Travel Information</b>	0.81	
Information about Vehicle root	0.80	0.65
Announcements at the station (vehicle timings)	0.75	0.56
Ticket price information	0.76	0.57
<b>Accessibility</b>	0.70	
Access to/from the vehicle	0.67	0.45
Ease of entry/exit to/from the vehicle	0.82	0.67

Table 4.1.4.3.3. Construct inter correlations

	CR	AVE	MSV	1	2	3	4	5	6	7
1. Vehicle maintenance	0.779	0.541	0.248	<b>0.736</b>						
2. Safety & Comfort	0.855	0.598	0.108	0.329	<b>0.773</b>					
3. Off-board services	0.831	0.554	0.157	0.244	0.311	<b>0.744</b>				
4. Supporting services	0.785	0.550	0.248	0.498	0.186	0.260	<b>0.742</b>			
5. Social environments	0.773	0.532	0.258	0.467	0.174	0.234	0.369	<b>0.730</b>		
6. Travel information	0.814	0.593	0.247	0.476	0.327	0.396	0.436	0.497	<b>0.770</b>	
7. Accessibility	0.716	0.560	0.258	0.410	0.031	0.121	0.495	0.508	0.424	<b>0.748</b>

Further, the reliability of the items was tested using composite reliability (CR) scores and Cronbach's alpha scores (Podsakoff et al., 2003). Reliability tests the consistency of the items. Firstly, scores of the composite reliability (CR) ranged from .71 to .85 supported the internal consistency of the items. Further, Cronbach's alpha scores of each dimension ranged from .70 to .85 revealed an excellent internal consistency among the multiple items of each dimension (Fornell & Larcker, 1981). Therefore, the above results have confirmed the reliability and validity of the scale.

#### 4.1.4.4. Study 4(b): Measurement invariance test

Most of the consumer behavior questionnaires are in self-reported form. A set of statements are used to measure the latent or unobserved constructs. These measurement properties are said to be good only when they reflect similar kind of meaning to the different group of people. This psychometric property is tested through measurement invariance (Baumgartner & Steenkamp, 1998). To test the measurement invariance, the data was divided into two

groups viz., Male and Female. Further, the measurement invariance was tested in two ways.

1) Configural invariance and 2) Metric invariance.

#### 4.1.4.4.1. Configural Invariance Test

Configural invariance tests whether both groups are producing identical measurement model or not? Therefore, this study has conducted multi-group CFA for the seven-factor correlated model. The results revealed that the measurement model was a good fit to both the groups with significant factor loadings. The model fits were; CMIN/DF=1.284; CFI=0.96; TLI=0.95; IFI=0.96; GFI=0.90; RMSEA=0.028.

Table 4.1.4.4.1. Configural Invariance fit indices

Measure	Actual values	Threshold values	Source
CMIN	482.676		(Podsakoff et al., 2003)
DF	376		
CMIN/DF	1.284	<3.0	
CFI	0.96	> 0.95 great	
TLI	0.95	> 0.95 great	
IFI	0.96	> 0.95 great	
GFI	0.9	> 0.90 good	
RMSEA	0.028	<0.05 good	

#### 4.1.4.4.2. Metric Invariance Test

Metric invariance tests whether factor loadings of both measurement models are identical or not? Thus, this study has compared the  $\chi^2$  values of a freely estimated model with another model in which factor loading are constrained equally to all the factors. The results have shown that there is no significant difference between both the groups'  $\chi^2$  values and the factor loading are similar across both the groups.



Unconstrained model:  $\chi^2 = 482.7$ ,  $df = 376$

Unconstrained model:  $\chi^2 = 510$ ,  $df = 398$

The difference:  $\Delta\chi^2 = 27.3$ ,  $\Delta df = 22$ ,  $p > 0.20$

Therefore the above two measurement invariance tests confirmed that the seven-factor scale is invariant across groups.

#### **4.1.4.5. Study 4 (c): The predictive/ Nomological validity of the scale**

The above steps have strongly recommended that the measures of seven-factor scale are valid and reliable. A scale is useful for the practitioners and academicians only when it can predict the consumer behavioral outcomes. Therefore, based on the customer experience definition by Meyer and Schwager (2007) “the internal and subjective response customers have to any direct or indirect contact with a company” this study has established causal paths between antecedents and components of passengers’ travel experience. As already discussed in the literature section, the passengers’ travel experience is composed of two components viz., affective responses (emotions) and cognitive responses (satisfaction). Thus, hypotheses are framed between all the seven factors of passenger' travel experience, components, and behavioral intentions of price acceptance.

Hypothesis 1a: Social environments positively influence passengers’ emotions

Hypothesis 1b: Social environments positively influence passengers’ satisfaction

Hypothesis 2a: Vehicle maintenance positively influence passengers’ emotions

Hypothesis 2b: Vehicle maintenance positively influence passengers’ satisfaction

Hypothesis 3a: Safety & comfort positively influence passengers’ emotions

Hypothesis 3b: Safety & comfort positively influence passengers' satisfaction

Hypothesis 4a: Supporting services positively influence passengers' emotions

Hypothesis 4b: Supporting services positively influence passengers' satisfaction

Hypothesis 5a: Travel information positively influence passengers' emotions

Hypothesis 5b: Travel information positively influence passengers' satisfaction

Hypothesis 6a: Accessibility positively influence passengers' emotions

Hypothesis 6b: Accessibility positively influence passengers' satisfaction

Hypothesis 7a: Off-board services positively influence passengers' emotions

Hypothesis 7b: Off-board services positively influence passengers' satisfaction

Hypothesis 8: Passengers' emotions positively influence their intention to price acceptance

Hypothesis 9: Passengers' satisfaction positively influence their intention to price acceptance

#### **4.1.4.5.1. Measures & definitions**

**Customer satisfaction** refers to “an overall evaluation based on the customer's total purchase and consumption experience with a good or service over time (E. W. Anderson et al., 2004).

**Customer Emotions** refer to the set of emotional responses elicited specifically during consumption experiences (Westbrook & Oliver, 1991).

**Price acceptance** refers to the maximum price that a buyer is ready to pay for the given product or service (Huber, Herrmann, & Wricke, 2001).

**Travel Information:** Information related to vehicle timings, travel rules, and ticketed booking or cancelation, available through various channels such as online, digital boards at the station or on-board travel, telephone, and print media.

**Comfort and Safety:** Passengers' overall comfort and safety during the trip that includes, adequate space in the bogie, seat/berth size, crowding, luggage, and personal security.

**Off-board service:** The services offered before and after a trip that includes, parking, restroom, and benches to sit.

**Vehicle maintenance:** Refer to look and condition of the vehicle that includes vehicle interior design, vibration, sounds, and temperature.

**Accessibility:** Easy access to and from the vehicle during all moments of the trip including walking access when entering and exiting.

**Social interactions:** Direct or indirect interaction with other passengers or staff during the trip

**Supporting services:** The services which are not directly related to service provider but supports the overall travel experience of the passengers (e.g., Catering, porter, and medical)

#### **4.1.4.5.2. Structural Equation Model (SEM)**

SEM was conducted using SPSS version 21 and Amos version 21 to test the proposed paths among the study variables. All the determinants of travel experience are used as exogenous variables to the passengers' travel experience components viz., emotions and satisfaction. Intention to price acceptance was used as the final endogenous variable.

#### 4.1.4.5.2.1. Common method bias

Before measuring the structural model, the study has conducted common method bias test to check whether the data used for this study has suffered from biasness. Common method bias is one of the serious issues in social sciences research. Specifically, in the cross sectional research there is a more likely that the data can be biased. Therefore, this study has conducted Harman's one-factor test to detect whether the data was suffered from bias (Podsakoff et al., 2003). The study has conducted EFA with all the items of the study variables to group in to one factor. The one factor was accounted to 32.4% of variance which is lesser than 50%. Therefore, the study has concluded that the data used for testing the hypotheses of the study did not suffer from common method bias.

During the time of data collection, this study has taken few steps to avoid the common method bias. The format of the questionnaire was changed for every 100 samples. Likewise the survey has utilised different sets of questionnaires to reduce the bias. For example, few questionnaires started with independent variables followed by dependent variables. Others started with dependent variables followed by independent variable.

#### 4.1.4.5.3. SEM results

Table 4.1.4.5.3. Summary of SEM results

Hypotheses			$\beta$	t value	P value	Supported/ Not Supported
H1a: Social environments	→	Emotion	0.19	2.27	0.02	Supported
H1b: Social environments	→	Satisfaction	0.19	2.52	0.01	Supported
H2a: Vehicle maintenance	→	Emotion	0.18	2.19	0.03	Supported
H2b: Vehicle maintenance	→	Satisfaction	0.18	2.37	0.02	Supported
H3a: Safety & Comfort	→	Emotion	0.03	0.42	0.67	Not Supported
H3b: Safety & Comfort	→	Satisfaction	0.16	2.71	0.01	Supported
H4a: Supporting services	→	Emotion	0.25	3.07	0.00	Supported
H4b: Supporting services	→	Satisfaction	0.01	0.12	0.90	Not Supported
H5a: Travel information	→	Emotion	0.01	0.11	0.92	Not Supported

H5b: Travel information	→	Satisfaction	0.20	2.70	0.01	Supported
H6a: Accessibility	→	Emotion	0.24	2.69	0.01	Supported
H6b: Accessibility	→	Satisfaction	0.08	1.00	0.32	Not Supported
H7a: Off-board services	→	Emotion	0.16	2.45	0.01	Supported
H7b: Off-board services	→	Satisfaction	0.19	3.27	0.00	Supported
H8: Emotion	→	Price acceptance	0.47	6.67	***	Supported
H9: Satisfaction	→	Price acceptance	0.18	2.91	0.00	Supported

The results showed that; H1a social environments on emotion was supported with  $\beta = .19$ ,  $t = 2.27$ ,  $p = .02$ . Similarly, H1b social environments on satisfaction was supported with  $\beta = .19$ ,  $t = 2.57$ ,  $p = .01$ . Further, H2a vehicle maintenance on emotion was supported with  $\beta = .18$ ,  $t = 2.19$ ,  $p = .03$ . H2b vehicle maintenance on satisfaction was supported with  $\beta = .18$ ,  $t = 2.37$ ,  $p = .02$ . H3a safety and comfort on emotion was not supported with  $\beta = .03$ ,  $t = 0.42$ ,  $p = .67$ . H3b safety and comfort on satisfaction was supported with  $\beta = .16$ ,  $t = 2.71$ ,  $p = .01$ .

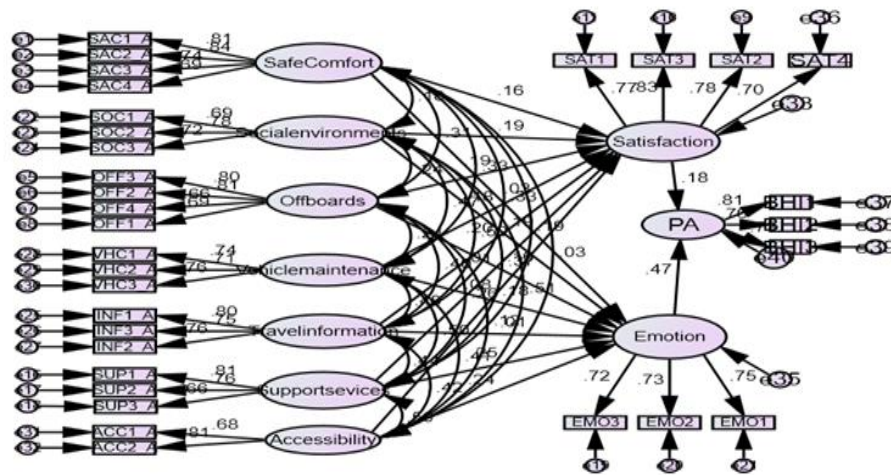


Figure 4.1.4.5.2. Structural model

H4a supporting services on emotion was supported with  $\beta = .25$ ,  $t = 3.07$ ,  $p = .00$ .  
H4b supporting services on satisfaction was not supported with  $\beta = .01$ ,  $t = 0.12$ ,  $p = .90$ .  
H5a travel information on emotion was not supported with  $\beta = .01$ ,  $t = 0.11$ ,  $p = .92$ .  
H5b travel information on satisfaction was supported with  $\beta = .20$ ,  $t = 2.70$ ,  $p = .01$ .  
H6a accessibility on emotion was not supported with  $\beta = .24$ ,  $t = 2.69$ ,  $p = .01$ . H6b accessibility on satisfaction was supported with  $\beta = .08$ ,  $t = 1.70$ ,  $p = .32$ . H7a Off-board services on emotion was not supported with  $\beta = .16$ ,  $t = 2.45$ ,  $p = .01$ . H7b off-board services on satisfaction was supported with  $\beta = .19$ ,  $t = 3.27$ ,  $p = .00$ . H8 emotion on behavioural intention was supported with  $\beta = .47$ ,  $t = 6.67$ ,  $p = .00$ . H8 satisfaction on behavioural intention was supported with  $\beta = .18$ ,  $t = 2.91$ ,  $p = .00$ .

## **Chapter 5**

### **FINDINGS, SUGGESTIONS, AND CONCLUSIONS**

This chapter discusses the findings of the study. It also discusses the application of the study findings to the public transportation industry with specific reference to Indian railways. More specifically, this chapter deals with the theoretical and managerial contributions of the research. Finally, this chapter concludes with limitations of the study and directions for future research.

The purpose of the study was 1) to understand the passengers' travel experience 2) to develop a comprehensive scale to measure the determinants of the passengers' travel experience, 3) to examine the effect of each determinant on travel experience components, and 4) to investigate the role of passengers' emotions on their behavioral intentions.

This study followed a mixed method approach, i.e., qualitative and quantitative approaches to pursue the objectives of the research. Moreover, this study has followed a systematic scale development procedure suggested by various studies in the marketing literature (Churchill Jr, 1979; DeVellis, 2016). The study also proposed and empirically examined a conceptual model of antecedents and outcome of passengers' travel experience in the public transportation.

#### **5.1. Findings of the study**

##### **5.1.1. Findings from the qualitative research**

A total of 45 students were interviewed to identify the determinants of their highly positive/negative experiences with Indian railways. The analysis of the content analysis has produced 11 themes viz., vehicle maintenance, Information, safety and security, social

interactions, ticketing services, off-board services, accessibility, supporting services, waiting time, staff skills, and comfort. Vehicle maintenance refers to look and condition of the vehicle that includes vehicle interior design, vibration, sounds, and temperature (Eboli & Mazzulla, 2012). Travel information denotes the information related to vehicle timings, travel rules, and available through various channels such as online, digital boards at the station or on-board travel, telephone, and print media (Nathanail, 2008).

Safety and security refer to passengers & safety and security during the trip that includes personal safety and luggage security, no fear of accidents, road or rail track maintenance, and weather conditions (de Oña et al., 2013). Social interactions refer to direct or indirect interaction with other passengers or staff during the trip. Ticketing services refer to the services related to ease of ticket booking and cancelation (Carreira et al., 2013). Off-board services refer to the services offered before and after a trip that includes, parking, restroom, and benches to sit (Eboli & Mazzulla, 2012). Accessibility refers to easy access to and from the vehicle during all moments of the trip including walking access when entering and exiting (Stradling et al., 2007) .

Supporting services refer to the services which are not directly related to service provider but which support the overall travel experience of the passengers (e.g., Catering, porter, and medical). Waiting time refers to punctuality and frequency of vehicles (Carreira et al., 2013). Staff skills refer to staff performance, responsiveness, and empathy during the travel (Beirão & Sarsfield Cabral, 2007). Comfort refers to passengers' overall comfort of the journey that includes seat/berth comfort, adequate space in the vehicle, and crowding (Wallin Andreassen, 1995).



### **5.1.2. Findings from Exploratory Factor Analysis**

EFA was conducted to group the items into a meaning full constructs. This analysis has provided seven components with 24 items. All the seven factors were named based on the previous literature. They are safety & comfort, off-board services, travel information, supporting services, social environments, vehicle maintenance, and accessibility.

Safety & comfort has been extracted with 13.10% variance and five items namely luggage safety, adequate space in the vehicle, seat/berth comfort, crowding, personal security. Similarly, off-board services' has been extracted with 12.51% variance and with five items namely Cleanliness of platforms, Rest room facility at the station, Seating availability in the station, Ticket purchase facility, Information counters at the station.

Travel information has been extracted with 8.72% variance with three items namely Information about Vehicle root, Announcements at station (vehicle timings), Ticket price information. Further, supporting services has been extracted with 8.48% variance and with three items namely Porter (Coolie) services, Hotel/catering services, parking services at the station.

The social environment has been extracted with 8.46% variance and with three items namely Physical appearance of the other passengers, Empathy of staff, Behavior of the other passengers. Vehicle maintenance has been extracted with 8.21% variance and with three items namely Cleanliness in the vehicle, Temperature in the vehicle, Vibration and noise levels of a vehicle during travel. Finally, accessibility has been extracted with 6.21% variance and with three items namely Access to/from vehicle and Ease of entry/exit to/from vehicle.

### 5.1.3. Findings from structural equation model test

The study has proposed a model that consists of determinants and outcome of passengers' travel experience. A total of seven determinants (safety & comfort, off-board services, travel information, supporting services, social environments, vehicle maintenance, and accessibility) and one outcome (price acceptance) was proposed. The construct passengers' travel experience was measured with two components viz., emotions and satisfaction.

Based on the strong theoretical support the study has established 16 causal paths between 10 variables. The structural equation model results have revealed that a total of 12 hypotheses found to be significant and four hypotheses found to be insignificant.

H1a social environments on emotion was significant with  $\beta = .19$ ,  $t = 2.27$ ,  $p = .02$ . Similarly, H1b social environments on satisfaction was significant with  $\beta = .19$ ,  $t = 2.57$ ,  $p = .01$ . Further, H2a vehicle maintenance on emotion was significant with  $\beta = .18$ ,  $t = 2.19$ ,  $p = .03$ . H2b vehicle maintenance on satisfaction was significant with  $\beta = .18$ ,  $t = 2.37$ ,  $p = .02$ . H3a safety and comfort on emotion was not significant with  $\beta = .03$ ,  $t = 0.42$ ,  $p = .67$ . H3b safety and comfort on satisfaction was significant with  $\beta = .16$ ,  $t = 2.71$ ,  $p = .01$ . H4a supporting services on emotion was significant with  $\beta = .25$ ,  $t = 3.07$ ,  $p = .00$ . H4b supporting services on satisfaction was not significant with  $\beta = .01$ ,  $t = 0.12$ ,  $p = .90$ . H5a travel information on emotion was not supported with  $\beta = .01$ ,  $t = 0.11$ ,  $p = .92$ . H5b travel information on satisfaction was significant with  $\beta = .20$ ,  $t = 2.70$ ,  $p = .01$ . H6a accessibility on emotion was not significant with  $\beta = .24$ ,  $t = 2.69$ ,  $p = .01$ . H6b accessibility on satisfaction was significant with  $\beta = .08$ ,  $t = 1.70$ ,  $p = .32$ . H7a Off-board services on emotion was not significant with  $\beta = .16$ ,  $t = 2.45$ ,  $p = .01$ . H7b off-board services on satisfaction was significant with  $\beta = .19$ ,  $t = 3.27$ ,  $p = .00$ . H8 emotion on behavioural intention was significant with  $\beta = .47$ ,  $t = 6.67$ ,  $p = .00$ . H8 satisfaction on behavioural intention was significant with  $\beta = .18$ ,  $t = 2.91$ ,  $p = .00$ .

## **5.2. Theoretical contribution**

### **5.2.1. Extension of customer experience literature to public transportation**

This study has extended the customer experience literature by measuring the experience concept in public transportation. Understanding customer experience has become one of the critical success factors for the successful business (Homburg et al., 2015). Moreover, the research trends in consumer behavior literature are shifting from functional aspects (service quality) to psychological and subjective experiences of customers (Helkkula, 2011). Therefore, services marketing scholars are examining this emerging concept in all the service settings (Brakus et al., 2009; Rose et al., 2012; Verhoef et al., 2009; H.-C. Wu et al., 2014). This study has examined the customer experience concept in the context of public transportation.

This study has made an extensive literature review to identify the components of the travel experience in the non-experience centric service settings. Based on the literature review this study has defined passenger travel experience as the cognitive and affective response to passenger's interactions with service, product, or brand. This experience is created not only by those factors that the transport provider can control (e.g., vehicle maintenance, ticket booking service, price, staff) but also by factors outside of the transport provider's control (e.g., another passenger behavior, the purpose of journey). Based on the previous studies (Ma, Gao, Scott, & Ding, 2013; Oliver, 1993) the cognitive responses were measured with a satisfaction scale. Affective responses were measured with emotions scale (Bagozzi et al., 1999; Pullman & Gross, 2004).

### **5.2.2. Determinants of PTE -Scale development**

This study has developed a scale to measure the determinants of passengers' travel experience in the public transportation sector. Even though, various studies have measured the determinants of service quality in the transportation literature (Eboli & Mazzulla, 2012; Nathanail, 2008) they were limited to core services. As the consumer research is shifting its face from functional aspects to subjective and experiential aspects, this study has explored and developed a comprehensive scale that includes factors that are completely under the control of the service provider and not completely/partially under the control of the service provider.

The study has followed a systematic scale development procedure. All the psychometric measures were tested such as validity and reliability. The scale is parsimonious and comprehensive. The scale consists of seven factors with 22 items. The seven factors are safety & comfort, off-board services, travel information, supporting services, social environments, vehicle maintenance, and accessibility.

### **5.2.3. The relationships between determinants and components of PTE**

Another significant contribution of this research includes exploring the relationships between determinants and components of passengers' travel experience in the public transportation context. This study has proposed 14 causal relationships out of which ten paths have found to be significant. More specifically, social environments were found to be significant on both the components of passengers' travel experience viz., emotions and satisfaction. These findings are on par with Brocato et al. (2012). Public transportation service consumption takes place in the presence of various passengers. Therefore, the interactions of other passengers can influence the focal passengers' emotions and satisfaction (Grove & Fisk, 1997). Moreover, this study has used long journey experiences as its sample. Therefore,

during the long journeys, there will be higher chances for the interactions among the passengers (Abou-Zeid & Ben-Akiva, 2011). The positive interactions enhance the overall travel experience, in contrast, the negative interactions may last negative experiences.

In addition, vehicle maintenance was found to be significant on both the components of the passengers' travel experience. Vehicle maintenance refers to look and condition of the vehicle that includes vehicle interior design, vibration, sounds, and temperature. Previous studies in the transportation literature (de Oña et al., 2013; Eboli & Mazzulla, 2012) have revealed that vehicle maintenance is one of the critical factors for the passengers' satisfaction. This study has contributed to the transportation literature by examining the role of vehicle maintenance in the formation of passengers' emotions.

Off-board services were found to have significant effect on passengers' travel experiences. Off-board services refer to the services offered before and after a trip that includes, parking, restroom, and benches to sit. The results are similar to the previous studies in the transportation literature (Nandan, 2010; Nathanail, 2008). In the service quality literature, off-board services were found to be very important and they played a critical role in the formation of satisfaction. By Extending the service quality and satisfaction literature, this study has found a significant relationship between off-board services and passengers' emotions.

Another important finding of the study is the role of safety & comfort in the formation of the passengers' travel experience. Safety& comfort were found to have a significant effect on passengers' satisfaction. Safety& comfort is one of the core elements of public transportation. Various studies in the transportation literature (Beirão & Sarsfield Cabral, 2007; Stradling et al., 2007) have revealed the effect of safety and comfort on passengers' satisfaction and loyalty. These study results are on par with previous findings.

This study also examined the relationship between travel information and passengers' travel experience. Passengers' satisfaction was significantly influenced by travel information. Travel information refers to Information related to vehicle timings, travel rules, and ticket booking or cancelation, available through various channels such as online, digital boards at the station or on-board travel, telephone, and print media (Habib et al., 2011). Travel information is one of the critical factors that influence the selection of transport service.

Another important finding of this study was the role of supporting services in the formation of the passengers' travel experience. Supporting services refers to the services which are not directly related to service provider but supports the overall travel experience of the passengers (e.g., Catering, porter, and medical). This study results found that supporting services affect the passengers overall travel experience. While the previous studies have revealed that the role of supporting services are minimal on passengers' satisfaction (Hensher et al., 2003; Lai & Chen, 2011), this study has evidenced its role on passengers' emotions to be significant.

Accessibility was found to be a significant factor in the formation of passengers' travel experience. More, specifically, accessibility is very closely associated with passengers' emotional experiences. Previous studies (Bhat et al., 2000; Litman, 2007) have examined the relationship between accessibility and passengers' satisfaction. This study has extended the literature by examining the relationship between accessibility and passengers' emotions. The results have shown that accessibility positively influenced passengers' emotions.

#### **5.2.4. The relationship between passengers' travel experience and price acceptance**

Another significant contribution of the study is extending the travel experience literature by examining its outcomes. This study has proposed two causal paths between passengers' travel experience and price acceptance. Both paths, satisfaction-price acceptance, and emotions-

price acceptance found to be significant. While previous studies have examined the 'loyalty' as behavioral intention (Forgas, Moliner, Sánchez, & Palau, 2010; Wen, Lan, & Cheng, 2005), this study replaced it with 'price acceptance.' The results found that satisfied travel experiences can positively influence passengers' intentions towards the acceptance of higher prices (fares).

#### **5.2.5. Passengers' travel experience matrix**

This study has attempted to draw some inferences based on the interplay between determinants and the outcomes of passengers' travel experiences. This study has drawn a matrix table placing the determinants of PTE on the vertical axis, upper label as 'factors completely under the control of transport provider' and bottom label as 'factors not completely under the control of transport provider.' The components of PTE are placed on the horizontal axis, emotional experiences on left and cognitive experiences on the right side of the axis.

The upper left quadrant shows the relationship between the factors completely under the control of the transport provider and customer experience components that are high on the emotional side. The upper right quadrant shows the relationship between the factors entirely under the control of the transport service provider and customer experience components that are high on cognitive side. Similarly, the lower left quadrant shows the relationship between the factors not completely under the control of the transport provider and customer experience components that are high on the emotional side. The lower right quadrant shows the relationship between the factors that are not completely under the control of the transport provider customer experience components that are high on cognitive side.

In other words, the factors completely under the control of the transport provider are strongly influencing the passengers' cognitive responses. All these factors are the core services of

public transportation. Cognitive responses are mostly based on the disconfirmation theory which says the difference between expectations and the performance (Oliver, 1993). Passengers consume travel services with certain expectations. Mostly, these expectations are on basic services such as vehicle maintenance, off-board services, travel information and safety & comfort during the journey.

Whereas, factors that are beyond the control of the transport provider are highly related to emotional experiences and less related to cognitive experiences. This reveals that passengers may not be having the equal level of expectations on the factors which transport provider may not control as compared to factors which transport provider can control (Carreira et al., 2013). However, effectively managing them would create an emotional attachment with the transport service provider.

Table 5.2.5. Passengers' travel experience matrix

Passengers' Travel Experience Matrix	
<b>Determinants</b>  Factors completely under the control of transport provider  Factors not fully under the control of transport provider	Emotional experience
	Cognitive experience

### 5.3. Practical implications

The study findings are very much helpful to the managers of public transport organizations. Firstly, this study has developed a passengers' travel experience scale. This scale can be



utilized to evaluate the service performance of the transport company. This scale is short and comprehensive. This scale consists of 7 factors that determine the passengers' travel experience. They are: social environments, safety & comfort, off-board services, travel information, supporting services, vehicle maintenance, and accessibility. All the determinants have a significant role in the formation of passengers' travel experience.

Social environments play a significant role in public transportation. In Indian railways, each coach consists of 50 to 70 berths. There is a high chance for the interactions between the passengers specifically in the long journeys. The study results found that the behaviors of the other passengers' influence the focal passengers' experience. Moreover, social interactions are not a service offering. They are beyond the control of the service provider (Verhoef et al., 2009). But passengers' come with the notion that the transport provider would monitor and ensure the entire journey of the passengers. Therefore, the transport manager should consider the social environments during the journey and design effective policies to control them. Transport managers can create awareness programs on the code of conduct during the travel. They can also make announcements or use display boards to create awareness about the importance of right behavior during the travel. Another best way is to use surveillance in each coach for effective monitoring.

The study results also identified that vehicle maintenance plays a critical role in the formation of the passenger's travel experience. Therefore, transport managers should maintain their vehicles properly. Cleanliness of train, coach, and the toilets in the train are essential aspects as they are directly influencing the passengers' experiences. Vehicle aesthetics plays a critical role in the formation of positive emotions (Bayley, Curtis, Lupton, & Wright, 2004). Therefore, transport managers should design their vehicles in such a way that they could attract the passengers and create the look and feel experience. Recently, Indian railways have introduced some of the luxury trains for tourism purpose viz., Maharaja's Express, Royal

Rajasthan, Golden Chariot, etc. These kinds of trains can be implemented in public transportation. They may cost high but can attract the passengers who are willing to experience the high-quality luxury services during their journey.

Travel information is another important factor in PTE. Transport managers should make available the necessary information for their passengers. This information could include, train timings, delays, platform arrivals, ticket booking information, etc. Large segments of the passengers are using mobile phones and the internet. Therefore, if the managers can display the information on their travel website, it could enhance the passengers' overall journey experience. In addition, the websites can also be useful to promote their services and brands.

Off-board services were also found to be significant determinants of PTE. Off-board services include parking services, ticket services, restroom services, platform services, etc. For example, parking service is necessary for the passengers. Similarly, availability of restrooms and benches/chairs at the platform are basic facilities that should be available at the stations. Moreover, the maintenance of platforms is another critical aspect at stations. As off-board services are playing an essential role in the formation of PTE, transport managers should be able to provide excellent services that are necessary for passengers at stations. For example, Indian Railways is planning to fix escalators at the stations for the passenger's comfort. The restroom services are available at stations, but maintenance of them needs to be improved further. Some of the stations also have paid restroom services.

Safety & comfort are essential aspects of the travel. Safety refers to personal security as well as luggage safety. Indian railway is taking excellent care for their passengers' safety. It has got one of the world's best engineering systems that ensure the safety of trains and passengers. But, passengers' luggage safety is one of the challenges being faced by Indian railways. However, Indian railways have approximately 65000 police under Railway

protection force to escort the trains to ensure the safety and security for their passengers. In addition, proper designing and alignment of the seats and berths can improve the passengers' comfort during the travel.

Supporting services are not entirely under the service provision. For example, catering services, porter services, etc. However, these factors play a vital role in the overall passengers' travel experience. Therefore, transport managers have to consider these services as essential. Effective management of these services could yield benefits to the service provider.

Accessibility is another crucial determinant of PTE. It plays a very significant role in travel. Easy accessibility can improve the passengers' chances of selecting the particular transport services. Accessibility is not fully under the control of the service provider. For example, accessibility of the vehicle to a person who stays near to the station is different from the person who stays far away from the station. Accessibility mostly depends on the passengers' origin and destination points. Therefore, providing easy access to the vehicle is relatively difficult to the transport provider specifically for Indian railways. However, this can be improved to a certain extent by using various means. For example, transport managers can collaborate with other entities (RTC, Cabs, Road infrastructure, etc.), to improve the entire transport service ecosystem to enhance total passengers' travel experience.

Finally, the SEM results have suggested that transport managers have to adopt a holistic approach to understanding the passengers' behaviors. This holistic approach includes the entire journey of the passengers. More specifically, the transport managers have to focus on every interaction of the passengers with the transportation service or brand. The transport service provider has to consider all the determinants of the passengers' travel experience such as the factors which are fully under the control of the transport provider (vehicle

maintenance, travel information, off-board services, safety & comfort) and the factors that are not fully under the control of service provider (social environments, supporting services, accessibility).

#### **5.4. Limitations and directions for future research**

This study has developed and validated the determinants of PTE scale in the public transportation sector. Moreover, this study has examined a comprehensive model of PTE that includes antecedents and outcomes of PTE in the public transportation industry. The findings of this study are beneficial for the academia and public transportation industry. However, these results may not be generalizable for all the service settings. Therefore, this study acknowledges some of the limitations in generalizing the findings and suggests directions for future research.

1. This study was conducted in the public transportation service setting with particular reference to Indian railways. The reason behind selecting the Indian railways as study setting was -Indian railway is one of the largest public transportation systems in India. Moreover, it is a centralized system and covers all the parts of India. The future studies can validate the scale in the other modes of transportations such as buses, cabs, etc.
2. This study has considered only long distance journeys for the sample. As the objective of the study was to develop passengers' travel experience scale, long distance journey passengers could provide exhaustive information as they get an opportunity to spend more time to experience maximum services. The further studies can test the scale in the short distance journeys.

3. This study has selected the sample from the passengers who traveled in reservation class. Further studies can include the entire passenger from unreserved class, MMTS, and Metro trains.
4. This study was conducted in the Indian context. Indian culture is a restrained culture. Therefore, to generalize the results of the research, future studies should further test the scale by utilizing the sample from a different culture.
5. This study has identified seven determinants of the passengers' travel experience. Further studies can explore additional determinants.
6. This study has measured only the positive experiences. Further studies can include negative experiences.
7. This study has not included any control variables. The purpose of journey, frequency of travel, etc., play a critical role in the passengers' travel experience. Therefore further studies can include these variables as control variables.
8. This study has not considered the role of a service failure on passengers' travel experience. Therefore, further studies can look into it.
9. Finally, recently Indian railways have introduced luxury trains for tourism (Golden chariot, Maharaja's express, Royal Rajasthan, etc.). Further studies can examine the passengers' experiences with these new services.

## **5.5. Conclusion**

Customer experience is an emerging area of interest in the consumer behavior literature. Marketing scholars are investigating and applying the concept of 'customer experience' in various service settings. This study has explored passengers' travel experience in the context of public transportation concerning Indian railways. More specifically, this study has developed a scale to measure determinants of PTE. The study has followed a systematic scale

development procedure. The scale is holistic and comprehensive that includes the factors that are entirely under the service provider and the factors that are not wholly under the control of the service provider. The scale consists of seven factors.

In addition, the study also proposed a conceptual model with determinants and outcomes of PTE. A total of 16 hypotheses were proposed, and 14 hypotheses were found to be significant. Passengers' travel experiences were measured with two components viz., cognitive responses and emotional responses. The SEM results showed that the factors that are under the control of the transport provider are more related to cognitive responses. In contrast, the factors that are not completely under the transport provider are more related with passengers' emotional responses. Finally, the results also showed that PTE has a positive effect on passengers' intentions of price acceptance.

The study findings can benefit the public transportation industry. This study highlights the importance of adopting integrated management of the passengers' travel experience through all the moments of a journey. Specifically, the PTE scale can serve as a diagnostic tool to evaluate the performance of public transportation services across the journey. To enhance the passengers' overall travel experiences, PT managers have to consider all the factors, viz., Vehicle maintenance, Safety & Comfort, Travel information, and Off-board services (under control) and Social environments, Supporting services, and Accessibility (beyond the control of service provider). The effective management of the seven determinants of PTE can yield benefits to the passenger transport organizations.

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## **Questionnaire**

- This survey is strictly confidential. There are no right or wrong answers. All responses will be kept confidential. Your co-operation in providing this information will be greatly appreciated.

Basing on your **most recent travel** with Indian railways, please fill up/tick the blanks with appropriate answer.

<b>1.Journey details</b> From: _____ To : _____	<b>2.Approximate distance</b> (_____)Kms
<b>3. Purpose of journey</b> 1. Business purpose (___) 2. Education (___) 3. Pilgrimage (___) 4. General (visit to relatives)(___)	<b>4. Travel partners</b> 1. Family members (___) 2. Friends (___) 3. Colleagues (___) 4. Alone (___)
<b>5. Train type</b> 1. Superfast express (___) 2. Express (___) 3. Passenger (___)	<b>6. Ticket booking type</b> 1. Offline (___) 2. Online (___)
<b>7. Reservation class</b> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <span>1. Sleeper (___)</span> <span>2. 3<sup>rd</sup> AC (___)</span> <span>3. 2<sup>nd</sup> AC (___)</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <span>4. 1<sup>st</sup> AC (___)</span> <span>5. Chair car (___)</span> </div>	



Basing on your above mentioned journey experience, please indicate your satisfaction to the following statements by tick.

Eg: How satisfied are you with \_\_\_\_\_?

**(1=not at all satisfied, 2=dissatisfied, 3=somewhat dissatisfied, 4=neither satisfied nor dissatisfied, 5=somewhat satisfied, 6=satisfied, 7=completely satisfied)**

1	Personal security	1	2	3	4	5	6	7
2	Luggage Safety	1	2	3	4	5	6	7
3	Seat/berth comfort	1	2	3	4	5	6	7
4	Crowding	1	2	3	4	5	6	7
5	Cleanliness of platforms	1	2	3	4	5	6	7
6	Seating availability in the station	1	2	3	4	5	6	7
7	Rest room facility at the station	1	2	3	4	5	6	7
8	Ticket line queues	1	2	3	4	5	6	7
9	Cleanliness in the vehicle	1	2	3	4	5	6	7
10	Temperature in the vehicle	1	2	3	4	5	6	7
11	Vibration and noise levels of a vehicle during travel	1	2	3	4	5	6	7
12	Parking services	1	2	3	4	5	6	7
13	Hotel/catering services	1	2	3	4	5	6	7
14	Porter (Kuli) services	1	2	3	4	5	6	7
15	Physical appearance of the other passengers	1	2	3	4	5	6	7
16	Empathy of staff	1	2	3	4	5	6	7
17	The behaviour of the other passengers	1	2	3	4	5	6	7
18	Information about Vehicle root	1	2	3	4	5	6	7
19	Announcements at the station (vehicle timings)	1	2	3	4	5	6	7
20	Ticket price information	1	2	3	4	5	6	7
21	Access to/from the vehicle	1	2	3	4	5	6	7

22	Ease of entry/exit to/from the vehicle	1	2	3	4	5	6	7
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2. Please indicate your agreeability to the following statements by tick

(1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6=agree, 7=strongly agree)

1	Overall, the train journey made me comfortable	1	2	3	4	5	6	7
2	Overall, the train journey made me relaxed	1	2	3	4	5	6	7
3	Overall, the train journey made me satisfied	1	2	3	4	5	6	7
4	When I plan for a journey I always pay attention to the information about the cost of the journey	1	2	3	4	5	6	7
5	I compare the other modes of transportation before selecting Indian Railway	1	2	3	4	5	6	7
6	My decision to choose Indian Railways was a correct one	1	2	3	4	5	6	7
7	I am satisfied with my decision to travel with Indian Railway	1	2	3	4	5	6	7
8	I am happy I made my trip with Indian Railway	1	2	3	4	5	6	7
9	Sometimes I am willing to pay more	1	2	3	4	5	6	7
10	I am aware of competitors price levels	1	2	3	4	5	6	7
11	I usually accept the changes in price	1	2	3	4	5	6	7

Please tick/fill up the blanks with the response.

1. <b>Gender:</b> 1. Male (___) 2. Female (___) 3. Other(___)		2. <b>Age</b> (_____)years
3. <b>Education:</b> 1. High school (___) 2. Plus two (___) 3. Graduation (___) 4. PG and Above (___)	4. <b>Occupation</b> 1. Student (___) 2. Employee (___) 3. Business (___) 4. Others (___)	5. <b>Monthly income</b> Approximately  Rs_____
6. <b>Frequency of journey</b> 1. At least once in a week (___) 2. At least once in a 15 days(____) 3. At least once in a month (___) 4. At least once in 3 months (___) 5. Other (___)	7. <b>Do you own car?</b> 1. Yes (___) 2. No (____)	8. <b>State you belong</b> _____

*Thank you very much for your time and support*

## Publications:

1. Ittamalla, R., & Srinivas Kumar, D. V. (2018). The impact of social cues on passengers' travel experience. *The Service Industries Journal*, 1-20.  
Indexing: SCOPUS, SSCI, and ABDC (B).
2. Ittamalla, R., & Srinivas Kumar, D. V. (2018). Role of service experience on vivid memory and loyalty. *International Journal of Hospitality & Tourism Administration*, (Accepted). Indexing: SCOPUS, SSCI, and ABDC (B).
3. Ittamalla, R., & Srinivas Kumar, D. V. (2018). Customer Experience Determinants: A Review in Online Purchase Context. *Asian Journal of Research in Social Sciences and Humanities*, 8(2), 105-115.
4. Ittamalla, R., & Srinivas Kumar, D. V. (2017). Factors Affecting Customer Experience: A Study in the Context of Retail Stores. *IMR-Management Speak*, 10(1), 64-67.
5. Rajesh Ittamalla; Srinivas Kumar , D.V. (2017). Servicescapes and Experiential Marketing: A Conceptual Framework and Research Propositions for Memorable Customer Experience. *International Journal of Engineering Technology Science and Research*, 4(11), 104-109.

## Workshops attended

S.no	Name of the workshop	Sponsored	Duration	Venue
1	Professional development program	University Grants Commission (HRDC)	One week	Maulana Azad National Urdu University
2	Faculty development program On research methodology on Management And Multivariate Statistical Analysis Using SPSS 22.0	AICTE	Two weeks	ITM university- Gwalior
3	Advanced data analysis using smart PLS	Self-sponsored	Three days	IMT- Hyderabad
4	Data analysis using SPSS and thesis writing	AICTE	Two days	University of Hyderabad
5	Workshop on systematic reviews and meta-analysis	Campbell Collaboration	Three days	University of Hyderabad
6	Workshop on Mendeley software for references	Elsevier Publisher	One day	University of Hyderabad

## Conferences & paper presentations

S. No	Conference	Paper Title	Venue	National/ International
1	7 <sup>th</sup> international conference on excellence in research and education	Total Passenger Experience: Examining the Effects of Passenger Experience on Satisfaction and Loyalty in Indian South Central Railways	IIM Indore	International
2	International seminar on management perspectives on globalization, technology & innovations	Exploring the Relationship between Social Interactions and Servicescapes	University of Madras	International
3	9 <sup>th</sup> Doctoral thesis conference	Travel Experience: A holistic approach to understand railway passengers satisfaction and loyalty	IBS Hyderabad	International
4	5 <sup>th</sup> International Conference on Advancement of Engineering, Applied Science and Management (ICAEASM-2017)	Services capes and experiential marketing: a conceptual framework and research propositions for memorable customer experiences	IETE, Bangalore	International
5	International conference on changing paradigms in marketing of services (ICCPMS-2017)	Determinants of customer experience: a review in online purchase context.	University of Hyderabad.	International
6	5 <sup>th</sup> International Conference of Research Trends in Engineering, Applied Science and Management (ICRTESM-2017)	Impact of social environments on customer experience	IETE, Pune	International
7	Marketing of services challenges in the era of globalization	Examining the Role of Service Clues in Creating Experiential Value	Mahathma Gandhi university.	National
8	Women's worlds congress	Participated	University of Hyderabad	International

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## The impact of social cues on passengers' travel experience

社会暗示对乘客出行体验的影响

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### ABSTRACT

Despite the importance of social cues in service experience environments, little is known about the role of other customer perceptions (OCP) in the formation of passengers' travel experience (PTE) and loyalty in public transportation. This study examines the impact of OCP on PTE and loyalty in public transportation and also investigates the moderating role of face-consciousness between OCP and PTE. Results revealed that all three dimensions of OCP have a positive effect on PTE, which consequently influences loyalty. More importantly, face-consciousness moderated the relationship between suitable behavior and PTE. Transport managers can benefit from these findings by considering the social environment as they design their services.

### 摘要

尽管社会暗示在服务体验环境中的重要性不言而喻，但对其他顾客感知（OCP）在乘客旅行体验（PTE）形成和公共交通忠诚度中的作用知之甚少。本研究考察了OCP对公共交通中PTE和忠诚度的影响，并研究了面子意识在OCP和PTE之间的调节作用。结果表明，OCP的三个维度都对PTE有积极影响，从而影响了忠诚度。更重要的是，面子意识调节了适当行为与PTE之间的关系。交通管理者在设计他们的服务时通过考虑社会环境可以从这些发现中受益。

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### 关键词

乘客体验; 互动质量; 面子  
意识; 乘客忠诚度;  
公共交通

## 1. Introduction

'Value is now centered in the experience of consumers' (Pralhad & Ramaswamy, 2004, p. 137); service organizations generate competitive advantage by delivering satisfying experiences to their customers (Chang & Horng, 2010; Klaus, 2018). Customer experience is defined as an 'internal and subjective response customers have to any direct or indirect contact with a company, brand or service' (Meyer & Schwager, 2007, p. 118). Even though the concept 'customer experience' is well studied in the consumer behavior literature, most studies concern tourism (Chen & Chen, 2010; J.-H. Kim, 2014; Otto & Ritchie, 1996), but the concept's relevance can be observed in all types of service, including non-experience-centric services, like public transportation (Carreira, Patrício, Jorge, Magee, & Hommes, 2013). Moreover, customer experience is a strong predictor of customers

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	<ul style="list-style-type: none"> <li>Accept (16-Oct-2018)</li> <li>Awaiting Production Checklist</li> </ul>				
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# Determinants of Passengers' Travel Experience -A Study in the Context of Indian Railways

*by* Rajesh Ittamalla

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