Anthropomorphism a Way Forward to Create Customer Experience

By

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Quaid-i-Azam School of Management Sciences

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Dedication

To an Earthly Angel - My Mother

To the Sirius on My Sky - My Father

Acknowledgement

Above all, I am thankful to Almighty Allah, who supplied me with the wisdom, potential, and opportunity to successfully embark this journey. Countless salutation upon the ideal man of the world and most respectable personality Prophet Muhammad (PBUH) for whom Allah has created the whole world.

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Contents

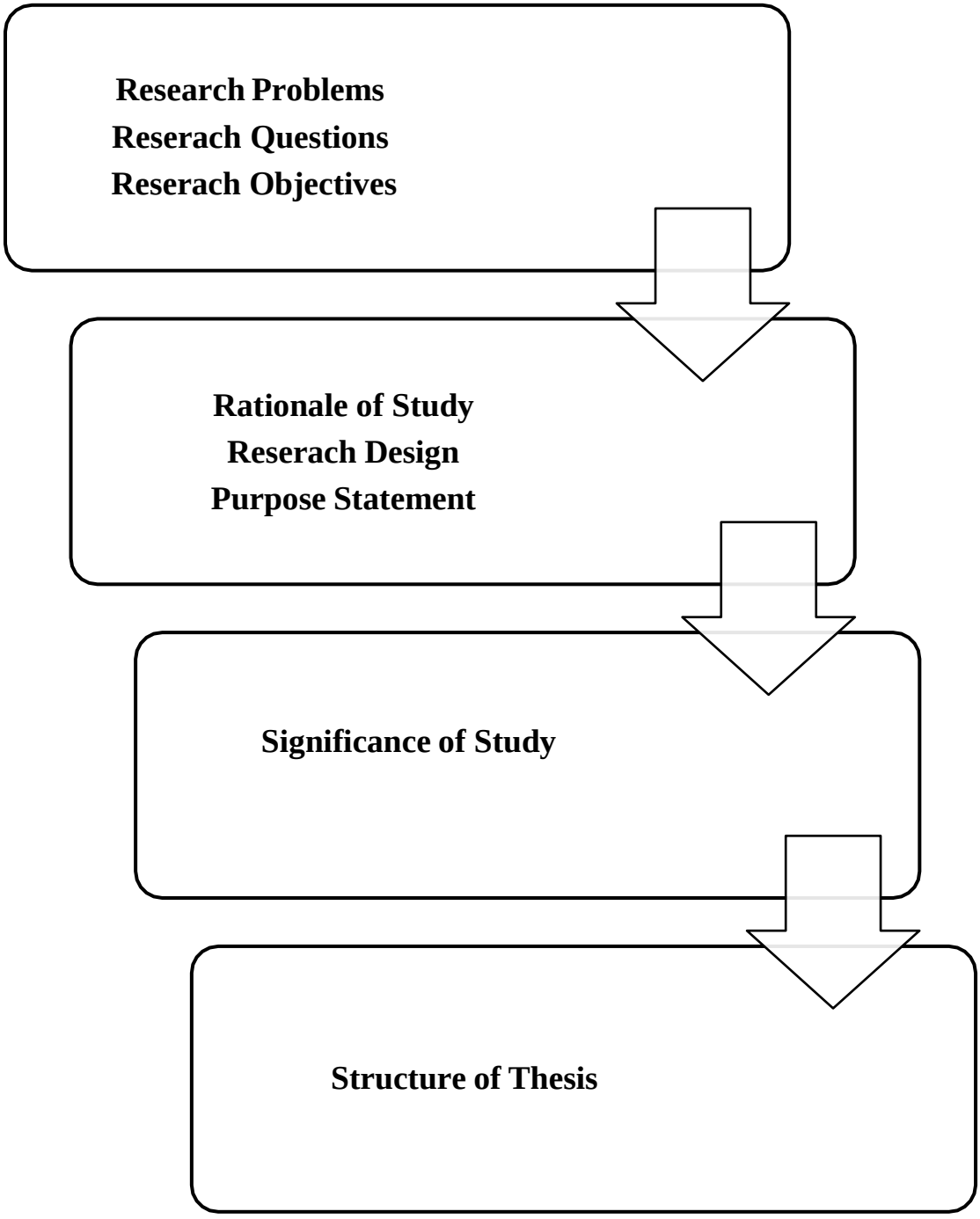
ABSTRACT

The implementation of various tools and techniques to create customer experience are very common in services marketing. However, unlocking the potential of anthropomorphism for travelers remains under studied. In an electronic-savvy business world, a growing number of businesses are leveraging the use of voice assistants. The use of voice navigation assistant has been largely overlooked. The key focus of this research is to investigate the role of anthropomorphism in creating customer experience and its subsequent outcomes. Moreover, this study also investigated the role of perceived usefulness and customer experience as mediators between anthropomorphism and continuance usage intention of voice navigation assistants by travelers. Survey data was collected from 542 respondents and was analyzed using Structural Equation Modeling (SEM). The results show anthropomorphism has significant positive impact on perceived usefulness, customer experience and intention to continue use. Customer experience and perceived usefulness both mediate the relationship between anthropomorphism and intention to continue use. The study also provides practical and theoretical insights along with future research directions for academic scholars and practitioners.

Key Words: Anthropomorphism, Intention to continue use, Customer Experience, Perceived Usefulness, Voice Navigation Assistant.

CHAPTER 1

INTRODUCTION



1 Introduction

"When life gets you down, want to know what you've gotta do? Just keep swimming, just keep swimming!" –Dory, Finding Nemo.

Growing up, hearing this renowned quote from the character Dory (A blue Tang fish) in Finding Nemo has become a mantra for various individuals, reminding them to preserve through tough times and never quit. Thinking of other Disney characters like Mickey Mouse, Winnie the Pooh, Donald Duck, and movie characters like Po in Kung Fu, Simba in the Lion King and Nemo and Dory in Finding Nemo, exploring the literature realm, famous story books series like Chronicles of Narnia, Alice in the Wonderland, Stuart Little and known Poem Humpty Dumpty confirm that as humans we tend to think and humanize non-human things. You may unknowingly be involved in this act when you name your pet, talk to your teddy bear or when you plead your computer when it struggles to work. In each of the mentioned cases, you are ascribing human-like qualities, personalities, behavior, or intentions to non-human agents. The specific term for this type of behavior is anthropomorphism. This behavior can be noticed widely around us, if you have ever seen the hashtag #iseefaces on social media then you know you can see faces anywhere around you on street walls, buildings, trees or it can be a mound of clothes or even food. Individuals also imagine unseen beings like Gods and angles possess humanlike features. The way humans' project humanlike traits to non-human entities have grown over the decades, but the concept has remained the same.

As a part of marketing practice, it is not to be considered as a latest tactic, rather; it is extensively applied in promoting brands like Cheetah of Cheetos, The loin of Paddle pop and

clown of McDonalds. The logo designs of Red bull and bottle shape of Coca Cola Bottle, which depict the vibes of stamina and feminine elegance respectively, signify the role of anthropomorphism. We can grasp an immense collection of samples of studies depicting the role of anthropomorphism in reference to tourism and hospitality marketing, and split them into three streams: technology, brand, and product anthropomorphism. Observing the introduction of robots as one of the newest technologies in this realm (Klaus & Zaichkowsky, 2020) illustrates the technological stream of anthropomorphism where AI enables bots are used in any two of mentioned types.

- Standalone devices.
- Embedded in apps or other systems.

Where the system comprises personalization and recommender system, conversational system (chat bots and voice bots) etc. (Bulchand-Gidumal, 2022)

Conversational agents like Google Assistant, Amazon Alexa, and Apples Siri are gaining significant attention as a service innovation in travel and hospitality industry, especially in terms of anthropomorphism(Lu et al., 2019). This monumental shift from computer screen (visual) to voice bots (audial) of customers is an important aspect to explore, hence service providers and hospitality managers can upgrade their methods, which feeds on the customers' need for experience and convenience. (Klaus & Zaichkowsky, 2020).

For making traveling a breeze, the travel, and tourism industry has also started availing conversational agents. Because in the era where technology is growing at a fast pace and tech

giant's highly advanced assistant is employed, delivering positive customer experience is the only way of standing out from competitors. Recently, customer experience has become an issue of successful importance. As emphasizing on its importance, Zendesk latest trend of 2023 has also reported that 52% of company's customers will switch to company's competitors after an awful experience. The rise in integration of anthropomorphism and its positive influence on service experience Murphy (2019) highlight the worth of considering it from both theory and industrial advancement perspectives. Though anthropomorphism has great importance in hospitality and tourism industry still there is a lack of studies on its literature. Ding (2022). thus, exploring the role of anthropomorphism in travel experience via voice navigation assistant will no doubt provide successful implications for academics and researchers.

Noting that Services marketing is concerned with technology Adoption (Murphy et al., 2019) thus the impact of customer acceptance and adoption of technology also play a substantial role for the reason that acceptance of customers of these technologies not only drive their use but ultimately success in enabling marketing goals. Thus that is the reason exploring adoption and implementation of technology from customer perspective has been highlighted under hospitality and marketing theme.(Ukpabi & Karjaluoto, 2017) and not much studies have been conducted on knowing/ understanding the role of anthropomorphism with perceived usefulness of travelers. Moreover, it has been validated that applying numerous tactics for engaging or making individuals to use service or product for the first time is not the only purpose plus to discover its impact on continuance usage scenario is important. (Dessart et al., 2015). Least attention has been paid to this individuals' intentions as it has been emerged as a new construct which is achieved after the first usage experience of technology.

In a nutshell, by doing quantitative research, this study will fill this gap by discovering the role of anthropomorphism on perceived usefulness, traveler experience and continuance usage intention of voice navigation assistant by travelers. Additionally, to discover the benefits and drawbacks of implementation of anthropomorphism as an AI trait, this study will not only help the practitioners about selecting the best strategy in order to deliver positive customer experience but also add meaningful insights in literature regarding hospitality, tourism, engineering IT, AI and robotic realm.

1.1 Research Problems, Questions, and Objectives

This part of introductory chapter deals with the research problem, research questions and research objectives of the study.

1.1.1 Research Problem

An often-misunderstood buzzword “customer experience” which sounds like something big with a potential to wow, is the fundamental problem of our study. It is considered as the major issue in hospitality and service business specifically in the travel and tourism industry which is consumer based as its core and always strive hard to deliver exceptional customer experience even today with all technological advancements modern facilities. Customers often find themselves dissatisfied with their experience, therefore we can say that delivering positive experience is one of the most challenging tasks to be achieved by hospitality businesses.

1.1.2 Research Questions

1. What is the impact of anthropomorphism on customer experience, perceived usefulness and intention to continue use of voice navigation assistant?
2. To what extent perceived usefulness and customer experience mediates the relationship between anthropomorphism and continue usage intention?

1.1.3 Research Objectives

1. To access relationship between anthropomorphism and travelers experience through voice navigation assistant.
2. To check the relation of customer experience as a mediator between anthropomorphism and intention to continue use.
3. To identify perceived usefulness as a mediator between anthropomorphism and intention to continue use.
4. To analyze the impact of anthropomorphism on continuance usage intention.
5. To determine the impact of anthropomorphism on perceived usefulness.

1.2 Research Design and Purpose Statement

The detailed explanation of research design and purpose statement is given below.

1.2.1 Research Design

The plan of research methods and techniques chosen by a researcher for investigation known to be as research design. In this study, we will use quantitative research method where we

will determine relationship among different variables. In this study, we will find a relationship among anthropomorphism, customer experience, perceived usefulness and intention to continue use using non-experimental design that includes survey technique for data collection. Moreover, cross-sectional study will be conducted for doing this research.

1.2.2 Purpose Statement

The study set out to shape and examine the framework which portrays the impact of anthropomorphism on traveler's experience and their outcomes like satisfaction, and behavioral intentions, towards voice navigation assistant. Furthermore, we have discovered the role of perceived ease of use and perceived usefulness influencing relationship among anthropomorphism and travelers experience and outcome variables.

1.3 Significance of Study

The primary beneficiaries of the study are the experts of hospitality and tourism industry who want to deliver positive service experience to their customer. This study is answer to problems face by travelers during navigation during their journey. Moreover, this study will help retailers and conversational agents and inventors for wearables. These contributions will be a wide interest for the researchers who are interest in studying bright side of anthropomorphism and artificial intelligence in services marketing. Additionally, this study will provide a key contribution in travel and tourism fields and those who are interested in drivers of continuance usage intentions of technology.

1.4 Rationale of Study

In today's world, no great customer experience can be delivered without artificial intelligence, therefore the use of conversational agents also has become popular in delivering positive customer experience. As service industry which is only depending on customer experience and delivery of positive experience is essential, as it not only boosts their business but also helps business in helping them to stand out in a competitive market and make loyal and satisfied customer. In literature, huge number of research has been conducted on experience in travel and hospitality field, but creating traveler experience via voice navigation assistant is still missing. The role of anthropomorphism on customer experience and perceived usefulness, consequently its subsequent outcomes, is a major missed area. This study will add knowledge to fill this gap and provide meaningful insights for experts. Even in the last two decades after pandemic, as the digitalization has acquired much attention, a lot of people have found it easy to use conversational agents, consequently there rise a need for exploring the role of adding humanizing characteristics to technologies on traveler's experience.

1.5 Structure of Thesis

This research study is categorized into the following five chapters.

1.5.1 Chapter 1–Introduction

The initial introductory chapter is divided into three sections. initial section is further broken down into three parts: research problems, questions and objectives. Moving into the second

section, it delves into research design and purpose statement whereas the final section describes the study's structure.

1.5.2 Chapter 2–Literature Review and Conceptual Framework

This chapter is divided into five sub-sections. opening one is about knowledge gaps. Section covers the discussion about research variables whereas the third one covers the theoretical perspective of the research study. The fourth section enlightens the overview of the fourth chapter and in the fifth section, hypothesis is developed with their stated operational definition.

1.5.3 Chapter 3 -Research Methodology

This chapter includes the explanation of nature of study, data collection procedure, data screening and analysis techniques. This chapter also includes the scales or instruments used in this study.

1.5.4 Chapter 4- Data Analysis and Results

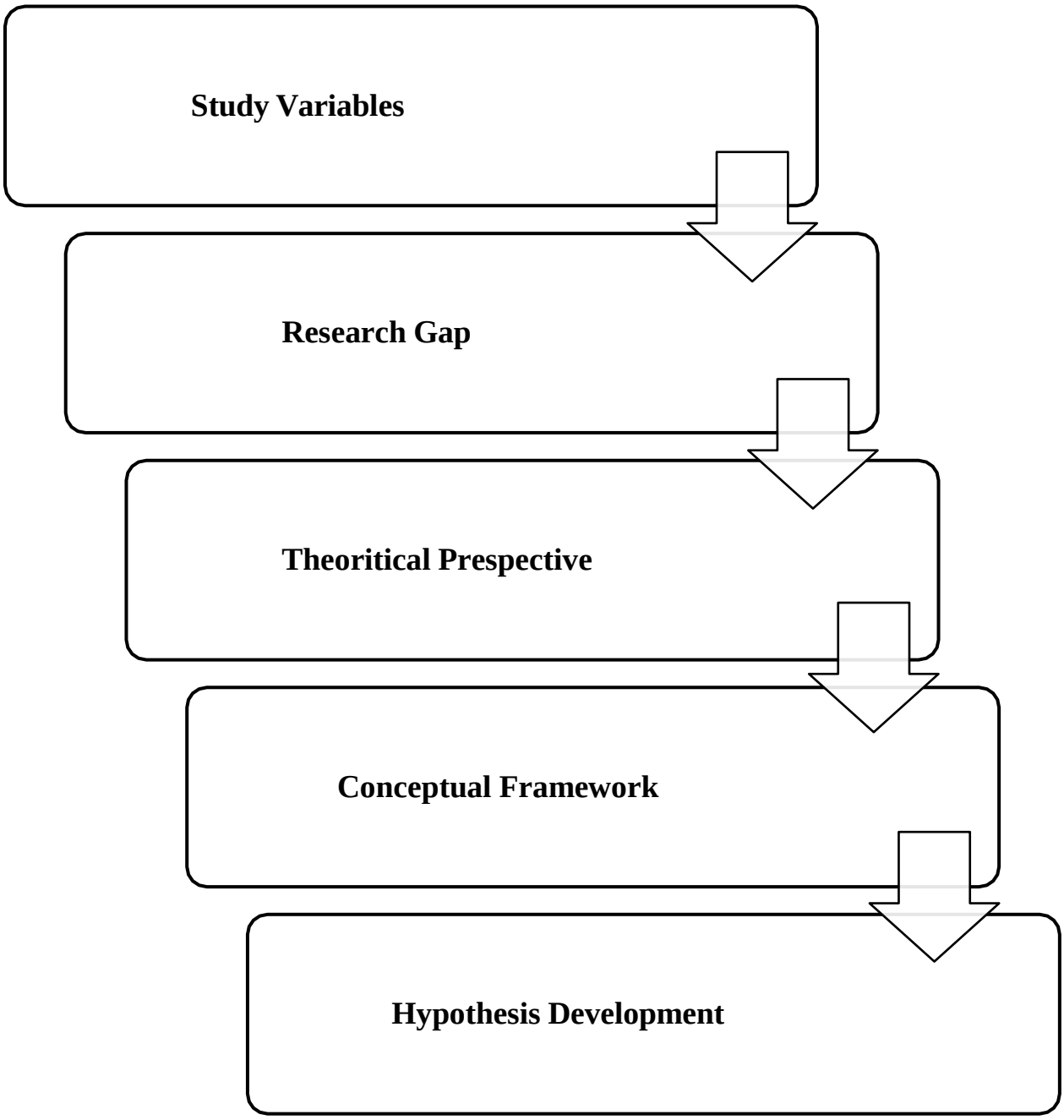
The primary section of this chapter includes characteristics of study participants, data normality and common method bias moreover it consists of exploratory and confirmatory factor analysis techniques for scale development and adoption.

1.5.5 Chapter 5- Discussion and Conclusion

This chapter consists of three subsections namely initial for the theoretical contributions, second for implications and last for future research directions and conclusions.

CHAPTER 2

LITERATURE REVIEW



2 Literature Review

This chapter is divided into five sub-sections. First one is about knowledge gaps. Section covers the discussion about research variables whereas the third one covers the theoretical perspective of the research study. The fourth section explains the overview of the fourth chapter and in the fifth section, hypothesis is developed with their stated operational definition.

2.1 Study Variables

2.1.1 Anthropomorphism

For decades, robotic technology has exhibited illusory humanoid robots in pictures and on television thus topping our imagination of artificial life forms, no longer humanoid robots are fictions but in reality, due to robotics and innovation they are not limited to an appearance like human but with human like senses, movements, behaviors, voices etc. this attribution of humanlike qualities, traits, characteristics to non-human entities is named as anthropomorphism

The term is shaped after merging of two Greek words Anthropos (human) and (morphe) form or shape includes a process of thinking and attributing human like traits, emotions, behavioral patterns, and qualities to non-human agents, objects, or entities (Epley et al., n.d.). Numerous meanings are provided by intellectuals on anthropomorphism as Barney in (2022) declares tendency of humanizing non-living things is a natural phenomenon for individuals for example giving a name to our beloved musical gadget, chatting with the bush and pleading our car in the morning when it's not starting, the specified activities is nothing but just attribution of humanlike characteristics to the items. According to Guthrie (1993)**, it** is that tendency that goes with human

all the way through his life and human keep ascribing or humanizing things like plants, clouds, and rocks with human faces.(Duffy, 2003). Blut in (2021) declares that anthropomorphism is not what a firm design or structure in fact it is what a human remark service robot. Preferring psychological and physical dimensions into account, Murphy in (2019) expresses anthropomorphism as the degree of having human like behavior and appearance of a character.

Looking back, the concept of anthropomorphism was started by Xenophenes when he observed the similar talents of worshippers and the god they worship. Giving attention to formation, Guthrie in (1993) declares that it can be a form on the shadowy roads when one perceives a signboard as a human, same when a person looks at the sky and perceives a cloud owns human face without trusting that it keeps humanlike abilities. Effectance motivation, elected agent knowledge and sociality motivations are three mechanisms or are famous as an antecedent theory of anthropomorphism exposed by(Epley et al., n.d.) for explaining the cause of why human anthropomorphize objects. Here, effectance motivation means to recognize and clarify behavior of other agents or people's motivation to interact aptly with the agent, elicited knowledge means pertinency of anthropocentric information last of all sociality motivations shows the longing for social interaction and association. From the certain mechanism by (Epley et al., n.d.) we can say that elicited knowledge and sociality motivation revolve around robotic characteristics of robot.

Weighing anthropomorphic traits of non-human agents' literature has classified them into two groups: lower level and high-level dimensions. Moving patterns, communication mode, and appearance of an agent sub categorized under lower level of dimension in contrast ethical virtue, cognitive experience, and conscious emotionality headed under high level of dimension. Lower-

level dimension of anthropomorphism is declared as superficial and other one as deep anthropomorphism (Wu & Li, 2023)

Whereas, Cognitive and visual anthropomorphism are considered being as two types of anthropomorphism. Where cognitive anthropomorphism generally deals with human qualities like mental states, intelligence and thinking competences, in contrast visual anthropomorphism included the surface features of objects. The broadly recognized case of cognitive anthropomorphism is seen as googles Alexa and apples Siri where visual anthropomorphism is seen in items or products and technology(Aggarwal & Mcgill, n.d.). In supporting the types of anthropomorphism Barney in (2022) says visual anthropomorphism acts as a tool that encourages inductive reasoning which therefore results in communicating and thinking of non-human objects basically visual anthropomorphism considers appearance, signs, and facial languages which results in exploring the relation among human perception and agents (Aggarwal & Mcgill, n.d.; Guthrie, 1993) in contrasts, cognitive anthropomorphism deals with assigning human like mental traits and character (T. Kim et al., 2023) which results in generating empathic responses. Partial anthropomorphism considers as a third type of anthropomorphism, which occurs when a product is made with the intention of not fully humanlike but having some of the characteristics of human (Aggarwal & Mcgill, n.d.; Guthrie, 1993)

Role of anthropomorphism in endorsing brands is not novel tactic rather it is gaining excessive attention in marketing domain as it can affect how a patron respond to brand, product, and services (Aggarwal & Mcgill, n.d.)it not only works as a supportive mean for brands and products with the purpose of standing out in a modest market (Lee & Oh, 2021) moreover aid them to be conspicuous on social media and other digital platforms exclusively those brands which are

less renowned among individuals. As we know, Social media or Digital marketing have profound influence on brands that's why marketers are continuously thinking of innovative and unique notions of delivering satisfying customer experience by highlighting their brands on digital platforms including restaurant industry where highly known chains to small individual food businesses are using anthropomorphism technique for example famous fast-food chains Mc Donalds uses its brand character whereas KFC uses representative mascot.(Aggarwal & Mcgill, n.d.) investigation demonstrates that integrating anthropomorphic features in business declare appraisal from customers. Famed food manufacturing company Kelloggs uses anthropomorphic Tony and tiger Mascot for its depiction (H. Kim & Jang, 2022). Helping brands through anthropomorphic logos for the US footballers, basketball teams which often specify animals, items spoke characters (Payne et al., 2013) is also giving a satisfactory response to brands.

Moreover, for the advancement of products through anthropomorphism samples include M&M which anthropomorphizes their goods with plain and peanut M&M duo.(Barney et al., 2022). furthermore It helps in growing sales of business and promoting sales of products as mentioned in the study (Shao et al., 2020)which was conducted with the goal of spreading awareness among individuals about ugly food depletion control depicts that incorporation of anthropomorphism has a constructive influence on purchasing behavior. In his study, ugly food states as oddly formed fruits and vegetables which are mostly thrown out and thus rise food wastage ratio.

Acknowledging, healthcare sector, anthropomorphism (Sestino & D'Angelo, 2023) displays that higher level human-like connections (i.e., doctor's avatars in the Metaverse) completely influence individuals' intention to use such health care service.

Former research on anthropomorphism has disclosed an optimistic role of anthropomorphism on customer valuations (Aggarwal & Mcgill, n.d.) this occurs as people are habitual of humanize objects on regular basis (Epley, 2018). This leads in making strong bonds between products and themselves. This is the reason which consequently forms a better customer experience. That's why it is broadly used by specialists as an effective tool to engage customers and travelers in hospitality and tourism sector(Lee & Oh, 2021).Bearing in mind the advantages of anthropomorphism it is considered as the competent mode of addressing the unfamiliar circumstances (Epley et al., n.d.; Guthrie, 1993) .(Shao et al., 2020) and additional work of (Epley, 2018)determine that anthropomorphism also assists in creating social bonds with non-human objects by increasing affection and love with pets or with objects he further understood that objects possessing humanlike traits and qualities sway people to have more semblance with them accordingly, which results in forming care and extra ease for individuals.

Most of the objects specifically robotic devices are purposefully designed in order to arouse anthropomorphism thus enhancing interaction and acceptance (Duffy, 2003) Innumerable up-to-date technologies like amazons Alexa, online chatbots and even AI apps have taken human like characteristics in response to consumer preference for anthropomorphize products(Aggarwal & Mcgill, n.d.).Lv in (2022) reveals that people will more prefer artificial intelligence apps with high perceived cuteness level for performing emotional task, contrary to it, low perceived cuteness level of artificial intelligence apps will be preferable to perform work related task. Discovering gender stereotypes Ahn in (2022) noticed that when a male agent recommends a utilitarian product, consumer will favor it more and customers will favor to buy hedonic product when a female agent makes recommendations.

Thanks to the advancing technology through which we have developed the technology that can talk, dance and sing and portray human expressions. Scholars have also considered this side of technology nowadays, as in prior literature, it is considered as the complex concept that involves three most widely used below mentioned sub concepts:

- Technological stimulus,
- Tendency,
- and a Perception. (M. Li & Suh, 2022)

In hospitality industry, where introduction of AI based technologies is increasing day by day, the use of service robots is increasing as well and hence ways of hospitality is growing with the passage of time which will subsequently give a way to academics and experts to study anthropomorphism of AI enable technologies as it has already been adopted by various service industries (J. Kim et al., 2022). The two forms of AI enable technology existence as mentioned by (Bulchand-Gidumal, 2022) are as in form of Embedded in

- existing apps
- or systems

In performing hospitality tasks, service robots used to execute front line responsibilities and sometimes replace staff to perform complex tasks (Murphy et al., 2019), here robot waiters are also getting attention(Ruiz-Equihua et al., 2023).Additionally,(H. Kim & Jang, 2022) study about encouraging dine in of customers in restaurants after covid outbreaks illustrates that mixing

anthropomorphic cues in non-food items will result in encouraging response of customers. Service robots support customers and service providers by providing flexibility, ease proficiency, and cost saving respectively but the foremost concern for both is trust, which hinders in adoption of self-service technology. For this reason, researchers have investigated the role of social bonds and appearances which determine positive effects on trust. Hence anthropomorphism has a positive impact in gaining the trust of customers and service providers. Furthermore, (Van Pinxteren et al., 2019) study on anthropomorphic cues tells that in the absence of gaze turn taking cues when perceived interaction comfort is high, the anthropomorphism is also high thus results in exceeding social functioning by means of encouraging anthropomorphism towards service robots. As the key point for service recovery is repairing trust when damaged, study of (C. S. Song & Kim, 2022) demonstrates that trust could be repaired effortlessly when recovered by human like service agent instead of machine agent. In view of (Aggarwal & Mcgill, n.d.) study which says when people humanize products, they attribute various features like emotions and intelligence to products and thus give positive response to them including the same context (J. Kim et al., 2022) discovers that perceived intelligence, social presence social interactivity has positive impact on building trust and thus usage intention.

In the not-too-distant past, hospitality industry is heavily dependent on face-to-face meetings, phone calls, and emails however after the transformation in modern methods thanks to conversational AI-driven tools, like conversational agents, which is helping businesses in boosting efficiency, performing task easily and delivering better customer experience.

Chatbots are also known as conversational agents are not only growing practically but also in research as they permit individuals to communicate with computer not only on text-mode but

also using voice-mode. The concept of chat bots was started in 1921 with the introduction of robotics (Christou et al., 2020). The two categories of chatbots have been declared by main in **(main, 2022)** in Forbes the declarative and predictive one. The one which give preprogrammed responses which is used for common inquires like inquiry for price, contact number and product feature is known as declarative chatbots on the other hand predictive chatbots chatty assistants or technologies.

In marketing and sales departments use of CA's has transform old methods.(Mariani et al., 2023).In today's era used to make shopping journey of consumer smooth via digital means. (Willems et al., 2017).That is the reason for making better customer experience small business which is playing a vital role in the global economy e.g. in the UK, more than 14 million people are employees in the private sectors which are going to adopt conversational agents for their small firms aimed at delivering better customer experience (Choi et al., 2019).(Sheehan et al., 2020) also supports this point by discovering that effective customer interaction is possible by anthropomorphizing chatbots. As The use of interactive technologies is providing myriads of perks not only by growing efficiencies and reducing waiting time of online customers among others but also by assisting firms by acting as a tool of collecting information from customers which in turn enhances Customer relationship management (CRM) programs by providing valuable insights about customer behaviors.(Camilleri & Troise, n.d.).Studying communication and interaction perspective of chatbots(Cai et al., 2022) reveal that addition of anthropomorphic emotional message cues could increase customers' intention to use OTA chatbots as the level of anthropomorphism is high when there is a need for social interaction.

Moving towards intelligent technologies like voice assistants whose usage intensity is growing by people also expresses a positive response in work-related tasks at work places (Marikyan et al., 2022) These Ghostly virtual agents like chatbots and voice assistants are manufactured by means of Artificial Intelligence (AI), Natural Language Programming (NLP), Machine Learning (ML), Deep Learning (DL) are robotic and by providing round the clock support to customers they have evolved old-style shopping journey while reducing load of staff.(Kamoonpuri & Sengar, 2023).

At travel and tourism industry, the concept of smart travel assistants (apps that are familiar with users) which are also known as autonomous agents, intelligent travel agents, and smart concierges have acquired much attention and practicability as they are well aware of users' choices, preferences, and availability hence can provide better recommendations on demand or automatically.(Bulchand-Gidumal, 2022) Moreover, (Christou et al., 2020) discovers that tourists favor more to anthropomorphic robots over any other robot, hence use of anthropomorphism robot in tourism industry will enhance tourist experience and its subsequent outcomes. So, exploring the role of anthropomorphism for travelers would be beneficial for travel and tourism industry for providing them with easy and enjoyable travel journey.

2.1.2 Customer Experience

If you are a fan of flicks, you must have seen a moment when the main character has a great clue and a light bulb turns on in their minds. Let's consider the case of the movie The Lion King when after encountering by Rafiki, Simba realizes that he must face his past and start his journey as a rightful King this "Aha moment" consider as the beginnings of Simba's revolution as

he decides to return and reclaim his throne. Well, this Aha moment isn't just for cartoon characters, businesses need it too and it is not just a matter of smooth sailing, but they are worth the effort. In business, this "Aha moment" is achievable when your customers realize the value of your products and services, which can only be conceivable by delivering the best experience.

Revisiting the earlier stages of customer experience, we can explore that in 1955 Abbot investigated that people do not want products but a satisfying experience since then customer experience turns out to be a key theme of services, management, and experience fields (Fernandes & Oliveira, 2021; McColl-Kennedy et al., 2019)

Variety of thoughts can be found on customer experience, (Pine & Gilmore, 1998) are famous for defining the experience first time as an event that engages an individual in a personal way. Meyer in (2007) labels CX as "the internal and subjective replies that clients have to any direct or indirect contact with a firm.", Lemon & Verhoef in (2016) state that customer experience is "a multidimensional construct focusing on a customer's cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings during the customer's entire purchase journey". Brakus et al. in (2009) theorized customer brand experience as "subjective, internal customer replies (feelings, moods, and cognitions) and behavioral actions".

Prior studies have considered interactional dimension as the primary principle of customer experience which says that foundation of customer experience is always held by interaction of customer with a set of market actors through several interfaces whereas a set of market actors consists of both human (front-line employees) and non-human entities (self-service technologies). The second principle is a definite level of distinctiveness and the last of all relates to its

multidimensional nature. The philosophy of this definition can be categorized into following issues (Keiningham et al., 2020):

- Cognitive: individuals' opinions
- Physical: human interaction
- Sensory: What people experience through their senses
- Emotional: emotional responses
- Social: ways of individuals' communication or exchanging

The above-mentioned categories depict the worth of customer experience in market and can be observed as it displays the bigger picture of customer experience for executives (Keiningham et al., 2020) In short, we can say that customer experience is a complete impression of quality of interactions between firm and customers which focus on how customers feel after interacting with firms' products, services, channel systems and their employees.

For researchers, it is a tricky task to differentiate customer experience from customer related constructs which leads researchers to focus on creating distinctions, therefore scholars put their efforts to create the difference from the concepts like customer satisfaction and loyalty (e.g., (Berry et al., 1988)**,** service quality (Parasuraman et al., 1985), customer relationship management (e.g (Mithas et al., 2005)**,** and customer engagement (e.g., (Lemon & Verhoef, 2016).

Customer experience has taken broader considerable attention in the academic literature. Let's say, in retails where keeping and surprising customers is not a matter of walking on a cake.

Here, scholars have explored customer experience as Omnichannel shopping experience (Rahman et al., 2022), (Gao et al., 2021), contrasting customer experience between mobile app and desktop browser(Khan et al., 2023), creating experience via mobile apps (Beeck et al., 2018; McLean et al., 2018; Sohn & Sunil, 2022), creating experience via online web pages(Bleier et al., 2019), enhancing customer experience and relating customer in e-service contexts (Ciuchita et al., 2019), for understanding and managing experience in corporate sector (De Keyser et al., 2015), studying gender ages (Khan et al., 2020a), exploring the impact of store elements on experience (Mohd-Ramly & Omar, 2017), examining experience with moderating role of loyalty programs (Z. Lin & Bennett, 2014).Moreover (H. Kim & So, 2022) have classified the antecedents of customer experience into five categories as motivational drivers, social and behavioral drivers, cognitive drivers, value drivers, and technological drivers.

Additionally, the hotels and restaurants industry which live and die by delivering best experience and satisfy their guests. Here, scholars have discovered luxury experience (Shahid & Paul, 2022), ("Phil" Klaus et al., 2022) Smart consumer experience (Roy et al., 2019), enhancing hotel experience with service design (Løvlie et al., 2008; Shi, 2019; TRAMOD et al., 2019), in taxi services(S. Kim et al., 2020) and in restaurants (Walter et al., 2010). Moreover, we can observe that customer experience is a vital focus for healthcare services and the studies like Creating co design model for delivering best experience in mental health services (Tindall et al., 2021), in improving patients experience (Rego et al., 2022),(O'Dell, 2020), in United Kingdom health services(Bowen et al., 2013) have confirms that customer experience is not limited to patients' visits but includes a holistic approach in treating patients.

Acknowledging service marketing, service experience plays a significant role as it is drawn on the basis of brand experience and interaction with service providers (Brakus et al., 2009). Crating brand experience which comprises sensations, thoughts, feelings, and behavior of customers also plays a crucial part as mentioned in the studies (Brakus et al., 2009; Chang & Lin, 2020; Filho, 2020; FILHO & Roto, 2018). Fruit brand experience (Yin et al., 2014) has also proved its importance in academia, further (Reichl, 2007)studied role of experience in telecom sector.

Customer experience has also been studied by considering various locations or spots like franchise (Gill & Kim, 2021), airports (Sabel, 2018), departmental **stores**(Ng & Chen, 2022)**,** promoting experience strategy and implementations in Thailand (Tivasuradej & Pham, 2019) in banks (Li, 2018) also, its role can be well considered in activities like promoting customers experience in innovation contest(Salgado et al., 2020), studying software tools for evaluating customer experience (Boinas, 2022), and design improvement (C. Lin & Cheng, 2015).

Going for shopping is always an exciting thing for every one of us and we have all experienced fair share of our pleasant and unpleasant shopping experiences, some of the memories fade away but some remain with us forever. additionally Researchers have discovered the role of experience in shopping, for example study like shopping experience(Y. Wang, 2013), in shopping malls(Singh & Prashar, 2014; Vilnai-Yavetz et al., 2021)

Students' experience (Baranova et al., 2011), furthermore, exploring how Airbnb(So et al., 2021) hones customer experience and experience of youth by implementing service design in Kinmen Houpou districts (Jao et al., 2022). Understanding experience in nonprofit performing arts (Hume et al., 2006), exploring experience design for public services (Trischler & Westman

Trischler, 2022) and its role in generating emotions and loyalty behaviors (Pullman & Gross, 2004) (Lucia-Palacios et al., 2016) has been extensively by researcher's. After the birth of experience economy (Pine & Gilmore, 1998), the thought experience has been discussed broadly in hospitality and tourism domains.(H. Kim & So, 2022)

After hitting by the global pandemic, travel and tourism industry are finding their ways to bounce back in the market. As the travel capacity is starting to return in various parts of the world, the stories have begun to surface about problems related to travel experience because as the interactions within the travel and tourism industry increase so does the graph of hopes of smart ad classy experience increase. Nowadays, every single customer demands personalized easy self-service and immediacy seeing this trend. Marketing and tourism scholars are increasingly paying attention to service experience elements.(Mossberg, 2007), Thailand's tourists experience (Siravanadorn et al., 2015),(Godovykh & Tasci, 2020),(Rajab, 2020) have also emerged considering tourists' experience.

Recently customer experience is gaining attention in service and marketing literature (Klaus & Zaichkowsky, 2020; Silva, 2021). As it involves us into new self-service technologies like IVA which are expected to bring a significant impact on customers' experience since they not only provide cognitive stimuli (giving information) also offer hedonic value (humanized interaction) for customers (Silva, 2021). Therefore, (Liu-Thompkins et al., 2022) have discussed that artificial empathy is a useful told in order to enhance marketing interaction between human and AI and thus increases customer experience., exploring AI as a friend or assistant (J. Kim et al., 2021), and in human and computer interaction(Idoughi et al., 2012).

Hospitality and tourism industries are considered as the main industries that are delivering tangible and intangible service through the usage of robotics (Parvez et al., 2022) as service robots become more commonplace, their role in mediating customer experience is growing consequently via artificial intelligence. CRM data base and online big data can use the customers data for making strong bonds with customers which consequently increase loyalty towards firms like room service robots can greet their customers with their name and ask about service preferences added in their profile (Murphy et al., 2019). Recent studies for service robots (Van Doorn et al., 2017; Wirtz et al., 2018), in hotels(Fuentes-Moraleda et al., 2020)are well considered in this direction.

Concerning the modern customers of the market, the first wave of 20- something Gen Z which has converted traditional market into the E-market and where firms have to interact with the generation which has never known the world out of the mobile phones or internet and for them digital environment is not a novelty, it's the integral part of their daily life something they have known since their birth. In order to effectively engage this tach savvy and digital native generation, firms have to listen and adapt to their unique preferences. This generation has habits totally different from previous generations like loyalty programs and deals encourage repeat behaviors of this generation moreover they prefer firms based on firms' values, convenience, and omnichannel presence. Observing the digital environment around us we can say that every other person is currently using different AI tools and technology for different purposes like for writing purpose, people are seeking help via ChatGPT, Google's Bard, chatting on social media with Snapchat's My AI, technology like self-driving cars, face recognition, and biometrics etc. as a result, it would be important to study the role of anthropomorphism in creating customer experience especially for the travelers who use voice navigation assistant for making their journey smooth. Thus,

investigations exploring experience via chatbots (Chen et al., 2021), has also been seen getting attention where chatbot is a conversational machine which can interact via voice and text and help us by assisting in identifying the thing which we have requested by voice or text. These are exciting for the two reasons they have ability to give us personalize experience and provide us with exact info from the large data. They have been using for multiple purposes like their use for small business (Rizomyliotis et al., 2022), and for shopping (Aslam, 2023)

Moreover, Chatbots or conversational agents have recently become a successful solution for meeting tourists demands for services. Many known hotel chains like Marriott International and Hayat hotel groups have started their chatbot services in order to enhance customer experience (Choi et al., 2019). Furthermore, (Melián-González et al., 2021) study reveals that chatbots have a great ability to enhance customer experience and service productivity by reducing operating costs (Lu et al., 2019). Other researchers have also shared their view that chatbots play a vital role in creating customer experience (Oliveira et al., 2023; Zierau et al., 2023),Integrating anthropomorphism in chatbots has positive influence in enhancing experience of customers as said by (Choi et al., 2019)

After the billions of evolutions, we humans unsurprisingly use the voice to interact, despite the fact that for a decade it was touted as a technology “which wasn’t there yet”. In the interim when technology and digitalizing become common and no one questioned it, things have really begun to change from the past two-years, chatty assistants like Apple’s Siri, Amazon’s echo, and Google talk acquired the momentum. Voice assistant, as we are all familiar with this concept, thanks to voice technology that modern smartphones and appliances are equipped with Siri for apple devices, google assistant, and Samsung S voice. They have helped in reducing the

complexity of technology and have also gained importance for researcher's like taking the context of voice assistant the study (Oliveira et al., 2023) demonstrates the compositions of construct customer experience with the following six factors (usefulness, ease of use, trust, privacy concerns, communication skills, and enjoyment).

Thus, exploring the ways in creating and enhancing customer experience is an interesting topic, especially for tourists and travelers who need to use voice navigation assistant during their travel journey.

2.1.3 Perceived Usefulness

From the last few decades AI has been become a vital element of our lives, it has become something everyone is talking about, for instance, if you are a programmer, you have started working GitHub's Copilot AI tool that converts natural language into coding suggesting to pre-doom coding if you are a writer, you might have come across to ChatGPT or similar language bots which produce human like text. It was just a few years back when artificial intelligence programs were in their infancy.

A popular theoretical framework that helps to understand why and how people acquire and use technology is the Technology Acceptance Model (TAM). The concept behind the model, created in the late 1980s by Fred Davis and Richard Bagozzi, is that perceived usefulness and ease of use are the two key elements which decide whether technology is accepted or not. The idea of perceived usefulness and perceived ease of use is one of the TAM's fundamental elements. The primary determinants of a user's intention to adopt and sustain technology usage are these variables.

Acknowledging one of the key elements perceived usefulness of TAM that is derived by (Davis et al., 1989)in his TAM model. Further, extensions of this model also has an additional element SRAM model by (Wirtz et al., 2018) which is used to determine behavioral patterns , intentions, and perceptions of individuals about services delivered by a service robot.

We can observe that most of the studies exploring customer intentions and attitude towards AI based technology or service robots is based on TAM model. Moreover, the consistent growth in extending this model like ITAM and SRAM model discloses significance of this study.(Davis et al., 1989)

Every researcher has a different perspective of studying perceived usefulness like (Arghashi & Yuksel, 2022) define it as a boundary condition of AR which increases customers affective, cognitive and behavioral responses towards AR. A study on personal digital assistants defines it as an extent consumers will think the usage of personal DA will improve their performance. Moreover, he said perceived usefulness is the stimulus that positively influence individuals' passion (organism).(Shaw et al., 2022). After collecting data from Canada, Germany and US states it shows that it strongly depends on the convenience given by online shopping websites together with overall quality of websites. Recently, (Maduku & Thusi, 2023) discover that usefulness, satisfaction and utilitarian value have a strong impact on continuance usage intention of mobile shopping. Studying user attitude towards mobile apps (Chueh & Huang, 2023) states that high perceived usefulness makes more positive attitude of people towards a particular technology or system. Moreover,(Giachino et al., 2023) after doing a survey on 327 individuals discovers that e sport enthusiast perceives that crowdfunding is useful for supporting video game and event they are passionate about and they will feel enthusiastic, consequently their motivation

and intention will be affected because when the delivered information is useful, it consequently delivers ideas, aspects, and advises that are relevant to a person which were unknown to him before which help him in decision-making process, so the user consider it as a useful information and through this user makes better choices(Barta et al., 2023).(Jaspers & Pearson, 2022) study on adoption of domestic inter of thing found perceived usefulness as a key driver of adoption intent. Furthermore, (Kao & Huang, 2023) discovered that people will have positive attitude towards that technology which will be useful to demonstrate the significance of this element by making it as the most important antecedent of people's attitude towards adopting a particular technology.

We can observe that hospitality and service marketing literature mostly depict the favorable influence of anthropomorphism on usefulness in hospitality domain. As (Wirtz et al., 2018) initially defined perceived usefulness and ease of use as a core element for robot services. Moreover, in the field of augmented reality, it is also gaining positive results as it is used to strengthen the relation between flow experience and engagement which gives future insights for AR marketers. Thus, augmented reality marketers should focus on perceived usefulness of AR technologies. (Arghashi & Yuksel, 2022). Moreover,(Xiao & Kumar, 2021) detailed study on proposing antecedents and outcomes of adopting service robots for performing customer services tasks says that the favorable impact of usefulness indicates that customers will have more confidence on humanlike service robots in performing and delivering better services. Moreover, in human robot interaction subject, one of the studies with 576 respondents explored that considering functional elements in human robot interaction perceived usefulness leads to a stronger impact as compare to perceived ease of use. (B. Song et al., 2022)

In just a few years, the covid crises has brought the ways how firms do business in all regions and sectors in order to stay competitive in this new digital environment adopting of new methods and technology is important the most challenging factor focusing are is to whether to invest in technological transformation or not because people are a creature of habits and become comfortable with the ways and things they are grown with and considering the pace of change that's occurring today. When it comes to new platforms, devices and apps it's hard to keep an open mind and even harder to integrate them in daily life. Considering the service robots (Kao & Huang, 2023)explored those individuals who perceived quality interaction with service robot per it to more be useful and thus form a positive attitude towards a robot.(C. S. Song & Kim, 2022) investigation on retail service robots says that those humanoid robots which help in delivering customized shopping assistance have a great impact on individuals' attitudes where usefulness, appearance, and social ability highly support human and robot interaction. In the context of voice assistant (Cai et al., 2022) discovered that perceived usefulness plays a positive role in creating a word of mouth and intention to use voice assistant if the assistant is branded. This shows that the role of perceived usefulness in creating travel journey of travelers via voice navigation assistant is still missing, therefore it would be intriguing to explore the role of perceive usefulness considering travelers. Moreover, Kim study of (2021) discovers that via perceived usefulness, functional AI will be preferred more than compared to social AI.

2.1.4 Intention to Continue Use

In today's era of the fourth industrial revolution where role of artificial intelligence has become a vital and transforming every walk of life by assisting different types of industries by helping them to improve capability, efficiency, and responsibility of their products and services.

Thus, due to this considerable growth from a couple of years it is not enough to keep AI technology into market but continuous use is also necessary, and it is only achievable by individuals' behavior. Moreover, when it comes to predicting the actual behavior of people nothing holds more importance than intention because intendants are willing to try to ready to act. (Ajzen, 1991) stating that as the intention of individuals intensifies, so does their willingness to act.

Continuance intention, also known as continuous usage intention or post adoptive intention, is articulated by numerous scholars according to their own understandings. Daniel in **(2023)** after collecting data of 437 south African shoppers and using structural equation modeling techniques for hypothesis and model validation, he states it as the extent to which online shopping customers find shopping useful via their wireless internet enable devices. Upon conducting explanatory research in service settings with participants pool of 893 users, there were 596 users of mobile music and 297 were users of mobile parking. In (2020) Hepola stated it as the one of the different types of behavioral intention that is a way different type from intention to use and many other categorizes like purchase, recommendation, and feedback intention. He said it is an extent to consumers for utilization of services in the post adoption phase. Considering the information system context in (2020) Franque, after his meta and weight analysis on 115 empirical studies, stated it as the decision of users for continuously using the IS further, he added that this type of behavior occurs after the first use of IS. He also explored that in recent years' studies, theories, technologies, and contexts related to continue usage of IS has been growing rampantly where most of the studies are narrative and descriptive.

Studying the history of intention to continue use we can say that when the model of continuance usage intention was the first form by Bhattacherji in (2001) it was named after his

information system, continuance intention and he proposed that perceived usefulness and individuals satisfaction is highly related with conformation of expectations. Moreover, perceived usefulness has a strong impact on user satisfaction and intention to continue use IS. Lastly, satisfaction of customer has a strong bond with intention to use an IS.

Reviewing the past literature on intention to continue use we can see a wide range of theories that are used to justify this concept for instance, in information system context theories like the ECM, expectation-confirmation theory (ECT), Technology acceptance model (TAM), unified theory of acceptance and use of technology(UTAUT)flow theory etc. where most applied theory was ECM (Franque et al., 2020)

Considering the contexts or situations of studies that researchers have used for explaining intention to continue use we can observe that in a technological context an extensive range of system have been studied which has covered most of the subjects for instance mobile, electronic business, social information electronic learning etc. (Franque et al., 2020). In online decision-making contexts on social networking sites where a new applied theory of motivation was used for conceptualizing of data. From 313 hotel consumers of data (Tran et al., 2019) depicts that online informative motivation enhances satisfaction of consumer which results in continuance usage intention. Whereas, drawing on augmented reality and social network the literature study of (K.-Y. Wang et al., 2023) was conducted to investigate social AR influence in building relationships with customer though shared experience and after collecting and analyzing data from 528 users he came to the point that shared experience can lead to satisfaction and thus towards continue usage intention. In continuance usage, intention of service consumption(Hepola et al., 2020) explains that attitude and satiation play a significant role in driving continuance usage

intention. Moreover, (Qing & Haiying, 2021) investigation of customer brand engagement has unique interrelationships which help in promoting continue usage intention of branded mobile apps which not only serve as a great marketing tool to assist existing customers but also potential customers and greatly motivate customers to engage with that brand. Talking about personalized services provided by branded mobile apps in the food service industry, a study composed of 348 valid responses indicates that trust significantly affects continue usage intention of mobile apps. (Kang & Namkung, 2019). Agreeing with this result and outcome, another study of(C.-Y. Li & Tsai, 2022) says that in sharing economy platform like Airbnb platform-based factors positively influence trust, which then results in continuous usage intention. Also, one of the recent studies conducted via taking survey-based data from 279 Tianjin and China individuals shows that younger customers have higher continue usage intention of using self-delivery boxes as compare to older customers. Moreover, they found that time pressure perceived behavioral control and self-delivery box reliability strongly affect continuance usage of intention of customers.(Wu & Li, 2023) depicts a number of benefits of online shopping, evidence shows that most of the customers especially those living in South Africa are not using mobile devices for this shopping, therefore after conducting research on mobile shopping innovation in online shopping in South Africa depicts that usefulness, satisfaction, and utilitarian values result in continues usage intention of mobile devices for shopping in South Africa(Maduku & Thusi, 2023).

These days with the evolution of information system and acceptance of digital innovations are becoming a source of remarkable victory for businesses, demonstrating their abilities to strengthen with ever changing technological environment. The continue usage intention considers as one of the key factors for not only firms high market share and vital revenues but also results in

long-lasting survival in this competitive market.(Bhattacherjee, 2001; Bhattacherjee et al., 2008) As we are all well aware of fact that technology industry has been chasing the holy grail of commuting and human always wanted to talk with machines or computers like real human but for a long time it felt like a pipe dream but if you notice, you are probably wondering why all of a sudden; we have stared conversing with machines same as humans instead of clicking on the buttons of our screen we are simply texting or talking out loud with conversational bots. therefore it would be important to investigate more factors contributing in continuance usage intention of conversational agents as one of the recent studies stated that use of informal language style in chatbots increases the continuance usage intention and brand attitude by mediating role of parasocial interaction (M. Li & Wang, 2023a).

Moreover, limited research has been conducted in voice bots' context. In a nut shell after reviewing much studies regarding continuance usage intention the findings of this review supports that it is still unknown to discover factors that drive continues usage intention of voice navigation assistant by travelers.

2.2 Knowledge Gap

After the detailed literature review following knowledge gaps can be identified:

Anthropomorphism has been studied widely in different contexts but we can observe the role that anthropomorphism plays in forming experience via service robots is still missing. In literature as stated by (Blut et al., 2021) though many outcomes have been generated and studied, much less is known about exploring the consequences of anthropomorphism of service robots with new outcomes(Blut et al., 2021) especially gives intention to continue use as (M. Li & Suh, 2022) also

suggested that future researchers can investigate the effects of anthropomorphism on individuals' continued intention to and continued use of AIET. As we know that service marketing consists of number of services and much studies have been carried out on exploring the impact of conversational agents especially voice bots but exploring beyond retail services, what other services are probably to be impacted by voice-bot platforms?(Klaus & Zaichkowsky, 2020) is yet to be studied. Meanwhile, the rise of the experience economy (Pine & Gilmore, 1998), the idea of "experience" has been examined in a wide range of hospitality and tourism settings (H. Kim & Jang, 2022) still how do innovative technologies enhance customer experience is less studied in literature (H. Kim & So, 2022) additionally studies on service robots is up-to-date scare and are mostly descriptive (Van Pinxteren et al., 2019). Hospitality and tourism practitioners could also embrace emerging technologies, such as robotic navigation, allowing them to recommend better long-range navigation for tourists in urban and, in particular, rural destinations.(Tung & Law, 2017) is still not applied by experts. hence, this study fills all this gap in studying role of service robots like conversational agents, especially voice bots beyond retail industry, as this would be used in travel context. Moreover, to answer the question whether anthropomorphism creates customer experience, this study has taken customer experience as a mediator. Exploring humanizing impact in new technologies has answered the role of innovative technologies in enhancing customer experience. Moreover, doing quantitative study, this research has filled the gap not only in service robot literature but also has given meaningful insights to experts.

2.3 Underpinning Theoretical Framework

Of particular interest to the recent study is continuance usage of voice navigation assistant which is consider as an essential trial in service marketing sector. For the formulation of our

hypothesis prior theoretical foundations are found for this purpose this study inspects the two prevalent theories i.e., TAM and TPB and one conceptual framework for investigating voice navigation assistant continue use intention by travelers.

2.3.1 Technology Acceptance Model

In history a number of research has been publicized discovering the factors of computer technology acceptance and its consumption for instance (Davis et al., 1989). It is developed in information management but due to its significance it has been used in numerous domains and businesses.(Mariani et al., 2023). Though numerous models has been proposed but TAM that has been proposed by Davis in (1989) and adapted from Theory of Reasoned action TRA (Fishbein et al., 1980) considers to be most widely accepted by researchers of information system. The TAM says that adoption of new information system by user is determined by users' intention which in turn determined by users' beliefs about system. The two beliefs in TAM model are perceived usefulness and ease of use which are instrumental in explaining variance in users' intention. Here Perceived usefulness defines the extent user think the system is useful for him and increases his performance.(Epley et al., n.d.) discovers that anthropomorphism increases usefulness in two ways. First by enhancing self-efficacy level which leads to greater interaction and second by increasing sense of being socially connected to a robot. Data from previous studies has shown positive effect of anthropomorphism on perceive usefulness. And perceived ease of use depicts the belief that using a particular system will be easy and effortless for him. Moreover as Davis in (1989) says more variables should be discovered in regard of future technology acceptance research this shows perceived ease of use and perceived usefulness do not fully explain behavioral

intentions towards use of voice navigation assistant, this highlights a search for additional factors that can predict acceptance of voice navigation assistant by travelers.

2.3.2 Theory of Planned Behavior

Theory of planned behavior is one of the popular social physiological theories describing getthe behavioral intention of users in context of new technology. (Ajzen & Madden, 1986). it consists of that factors that do not appear in TAM.(Luarn & Lin, 2005). It is detail version of TRA which enlightens behavioral intentions via attitudes and subjective norms.it consists of 3 factors Attitude, Subjective norm and perceived behavioral control. Attitude refers to users positive or negative evaluation, subjective norm describes opinion of whether he/she perform particular behavior or not whereas perceived behavioral control shows where user that necessities or resources to perform particular act or not.(Ajzen & Madden, 1986) it is not specific to Information system usage (Luarn & Lin, 2005).

2.3.3 Theoretical Structure

The conceptual framework by Blut's study conducted in (2021) in which he synthesizes total of 11,053 articles in investigating the question that where anthropomorphism in service marketing literature build customers intention or constraint them. Resultantly a conceptual model was proposed which depicts relationship among antecedents, moderators, mediators and consequences of anthropomorphism. Moreover, their results also demonstrate contextual circumstances in which in which anthropomorphism impacts customer intention to use a robot. Here we can see the role of functional mediator perceived usefulness as a mediator between anthropomorphism and intention to use a particular robot.

Merging above three theoretical concepts we can say that if travelers find voice navigation assistant with an AI characteristic (Voice) useful they will have intention to continue use it. Additionally, if traveler's experience with voice navigation assistant is good consequently this will build their continuance usage intention.

Thus, the theoretical framework suggests that if travelers or users found that voice navigation assistant having humanized voice it can help in enhancing or creating better customer experience if they found it useful their intention to continue use voice navigation assistant will be increased. Moreover, this also implies that if travelers will have positive attitude towards voice navigation assistant and have positive opinion towards using voice navigation assistant in future with the availability of required resources.

2.4 Conceptual Framework

The detailed literature review and its findings in the form of knowledge gaps leads to say that the more anthropomorphic feature voice navigation assistant has, the more successful travelers experience will be. This has mainly be framed by using the variables mentioned in (Blut et al., 2021) conceptual framework. The conceptual framework given in Figure 1. exhibits that Anthropomorphism, which is considered as an artificial intelligence characteristic, helps to create a positive experience of travelers with voice navigation assistant during their journey. Anthropomorphism is an independent variable, and intention to continue use is a dependent variable. Moreover, in order to understand the mechanism, customer experience and perceived usefulness are introduced as the parallel mediators between anthropomorphism and intention to continue use voice navigation assistant.

The framework suggests that anthropomorphism affects customer experience and perceived usefulness, which resultantly influences traveler intention to continue use voice navigation assistant by travelers. This study will not only add literature in service marketing subject but also help designers and IT experts in developing more efficient voice navigation assistant.

2.5 Research Hypotheses

In the light of previous literature and research by scholars following hypothesis has been postulated.

2.5.1 Anthropomorphism and Perceived Usefulness

The attribution of human characteristics to nonhuman beings or entities is known as anthropomorphism(M. Li & Suh, 2022). For us it will be like “attribution of human characteristics (voice) to non-human beings (navigation assistant) is called anthropomorphism. Where perceived usefulness is defined as the technology such as chatbots, which is making tourism easy and helpful for the tourists to plan, solve problems onsite and booking the transport, hotel and other required reservations.(Pillai & Sivathanu, 2020) considering our case, it would be like technology like voice navigation assistant which make travel easy and helpful for travelers in navigating the desired destinations.

Studies have flaunt a positive impact of anthropomorphism on perceived usefulness as customers will sense more assurance in the ability to deliver better services through humanoid robot (Blut et al., 2021). In view of the appearance and design of AI products which are now

extensively used in the market, (Zhang & Wang, 2023) investigation depicts that anthropomorphic appearance of technology expands consumers' purchase intention and brand evaluation from customers through perceived usefulness. This is so because of when a technology is providing functional benefits to customers, they will perceive it to be more useful. (Maduku & Thusi, 2023). Moreover, (Epley et al., n.d.) discovery about perceived usefulness shows that perceived usefulness of robots can be increased in two ways as by integrating anthropomorphism in robots can promote a sense of efficacy which improves interaction level and by an increasing sense of social connectedness and thus its perceived usefulness. Thus, based on these arguments, this study suggests that anthropomorphism of voice navigation assistant positively influences perceived usefulness.

H1 Anthropomorphism of voice navigation assistant positively influences perceived usefulness.

2.5.2 Relationship among Anthropomorphism, Perceived Usefulness, and Intention to Continue Use

Anthropomorphism also encourages continuance usage intentions of individual where continuance usage intention describes customers' decision to continue using a chatbot that they have already been using, as opposed to the intention to use it for the first time(M. Li & Wang, 2023a). In our scenario it would be like considering travelers' decisions to continue using a voice navigation assistant that they already have been using as opposed to the intention to use it for the first time. This area is supported by literature as (Christou et al., 2020) discussed the tourist perception on usage of robots especially anthropomorphic robots in tourism domains state that

tourists will show a favorable response towards anthropomorphic robot as compare to non-anthropomorphic robot which consequently enhances their experience and its subsequent outcomes. Similarity (Bhattacherjee, 2001) found that the users of information system if found the system useful, develop an intention to continue this system. This view is also supported by. (Maduku & Thusi, 2023) when he concludes that usefulness, utilitarian value, and satisfaction give a positive result on mobile shopping continuance intention. Along the same lines(Shaw et al., 2022) says perceived usefulness mainly depends on the convenience and quality of website offered by website which is already measured by multiple-item scale ES-QUAL. During pandemic, when customers are hesitant to enter in physical stores, online shopping turns out to be the best alternative though shopping in store has returned but experienced that has been gained from online shopping website during pandemic has led to the intention to continue online shopping. Consequently, following hypotheses which propose perceived usefulness mediate the relationship between anthropomorphism and continue usage intention of voice navigation assistant by travelers. Hence, anthropomorphism positively influence continuance usage intention of voice navigation assistant.

H2 Perceived usefulness mediates the relationship between anthropomorphism and continue usage intention of voice navigation assistant by travelers.

H3 Anthropomorphism positively influence continuance usage intention of voice navigation assistant.

2.5.3 Anthropomorphism and Customer Experience

Brand experience is conceptualized as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments (Brakus et al., 2009). In our context it would be like the sensations, feelings, cognitions, and behavioral responses evoked by travelers after using voice navigation assistant. Though less studies have been found in exploring the relationship between anthropomorphism and customer experience and the relationship where customer experience mediates the relationship between anthropomorphism and intention to continue use. Despite this fact anthropomorphism also has a positive impact on customer experience of small family business chatbots(Rizomyliotis et al., 2022). Moreover, integrating anthropomorphism in chatbots depicts positive influence in enhancing experience of customers as said by (Choi et al., 2019).

2.5.4 Anthropomorphism, Customer Experience and Intention to Continue Use

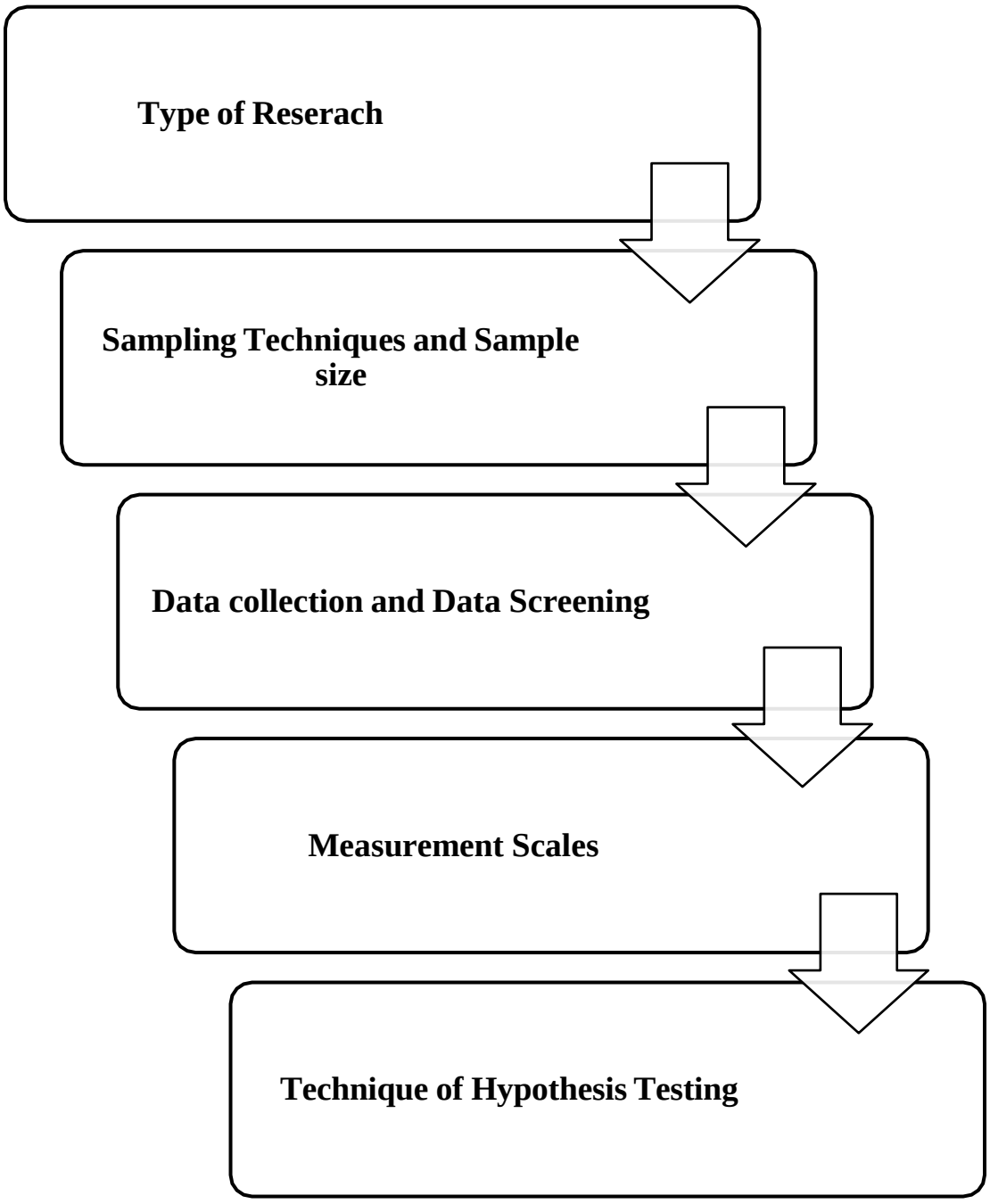
Which consequently continuance usage intention as (Van Pinxteren et al., 2019) study which consists of 114 participants displays that anthropomorphism drives trust enjoyment and intention to use. Also (Cai et al., 2022) discovers that humanizing a chatbot makes affective interaction where anthropomorphic emotional message cues are essential in creating customers usage intentions. thus, this study suggests that anthropomorphism has a direct impact on traveler's experience. Travelers experience mediates the relationship between anthropomorphism and intention to continue use voice navigation assistant.

H4 Anthropomorphism has a direct impact on traveler's experience

H5 Travelers experience mediates the relationship between anthropomorphism and intention to continue use voice navigation assistant

CHAPTER 3

RRESEARCH METHODOLOGY



3 Methodology

This chapter includes the description of nature of study, data collection procedure, data screening and analysis techniques. This chapter also includes the scales or instruments used in this study. In short, this chapter will enlighten the specific way or approach used to collect data and do research.

3.1 Type of Research

Outlined below are the type of this study.

3.1.1 Based on Purpose and Type of Data

As no former literature was found in the regard of exploring the impact of anthropomorphism on customer experience and perceived usefulness thus creating countenance usage intentions travelers' contexts. therefore, we have used an explanatory method for our study which is also known as causal research because it is used to investigate patterns and trends that have been ignored in previous literature. Furthermore, by considering the nature of data, this research is quantitative in nature as the data was collected via quantitatively and closed-ended questions and is analyzed using statistical and mathematical tools. Moreover, the data was collected in the form of numeric figures and can be measured or expressed in form of tables and graphs for predicting outcomes.

3.1.2 Based on Time of Study

A cross-sectional research design was employed to address the objectives of this study. This research is cross-sectional also known as synchronous because it is done by observing individuals and creating experience using voice navigation assistants over time.

3.2 Population

The study includes population of individuals who have used voice navigation assistants. It can be used by walking or used by individuals in their cars or vehicles. Population is considered as a well-defined collection of individuals or objects that have similar characteristics so in this study individuals of the defined age groups, income, and educational status have been considered.

3.2.1 Eligibility Criteria

These principles postulate particularly those persons in the population which hold with the purpose of being involved in the study**.** The eligibility standards in this study were that the applicants:

- Have aged above 18
- Have used voice navigation assistant during their travel during past one year.

3.3 Sampling Technique

Here exists two techniques for sampling known as probability and non-probability. Probability consists of simple random sampling, systematics sampling, stratified sampling and

cluster sampling whereas quota, purposive self-selection and snow sampling are headed under non-probability sampling**.** As the population of our research was unknown, thus convenience sampling was considered as the best one and rest all were not fulfilling the criteria. Online questionnaire was composed on Microsoft Forms and it was circulated among individuals via emails and other communication resources.

3.4 Sampling Size

A sample is a subset of a population selected to participate in the study, it is a fraction of the whole selected to participate in the research project. In this investigation, a subset of 542 was selected out of the entire population who have used voice navigation assistant during their travel in the past one year were willing to be involved in the sample. As we know, an over-all rule of the thumb is to always use the largest sample conceivable. The larger the sample, the more illustrative it is going to be, smaller samples generate less accurate outcomes for the reason that they are expected to be less illustrative of the population.

3.5 Data Collection

The data gathered for this investigation is obtained by users of voice navigation assistants during May and June 2023, by means of questionnaire which was comprised by structured questions because structured questions are used to gather data on the basis of studied objective and questions. These standardized questions or researchers administered questions bring together the data in form of numbers or quantity of research subjects and outlines, events, behavior procedures, and guidelines for collecting information to serve as a research data. Great efforts were made by

two researchers for reviewing and revising questionnaire before performing formal survey procedure. The data was collected by approaching respondents in persons and by online mediums.

3.6 Response Rate

A total of 600 questionnaire were shared and 545 responses were gathered, out of which three were discarded due to several reasons.

Response Rate = (Received Questionnaire)/ (Total Questionnaire) *100

Response Rate =545/600*100

= 90.83%

Workable questionnaire

therefore, the total of 90.83% questionnaire were considered appropriate.

3.7 Sampling Unit

Travelers who have used voice navigation assistant are considered as a unit for this study.

3.8 Data Screening

In order to make data error-free and accurate, data screening step was undertaken as it is considered as the first step before data recording and analysis in order to ensure integrity of data. Its main purpose is minimizing the noise and maximize the signal. consequently, for maximizing the signal we have used (SPSS 22.0), fortunately there was no missing and errored data.

3.9 Measurement Scales

All variables of this study were quantified by validated scales. For the insurance of contextual congruence with the study, minor alterations were made where required. All items were anchored on seven-points Likert scale varying from 1 (strongly disagree) towards 7 (strongly agree). The opinion poll was parted into 5 sections as presented in **Annexure 1**. with questions akin to

1. Respondents preferred voice navigation assistant

2. Functional and humanoid factors were measured like anthropomorphism and perceived usefulness

3. Mediators like customer experience

4. Outcomes like intention to continue use were measured

5. Demographics respondent information

3.9.1 Anthropomorphism

The scale of anthropomorphism was adapted from (M. Li & Suh, 2022) who adopted this scale from (Yen & Chiang, 2021). There were total 5 items, and we took them all.

3.9.2 Customer Experience

The scale's first four items were adapted from (Brakus et al., 2009) whereas other six items were adapted from(Khan et al., 2020a) whereas they had taken it from (Brakus et al., 2009).

3.9.3 Perceived Usefulness

The first three and last items were taken from(Pillai & Sivathanu, 2020) whereas two items were adapted from (Pitardi & Marriott, 2021) which they included from(Moon & Kim, 2001) From (Pillai & Sivathanu, 2020) all the 4 items were considered whereas 2 out of 4 were taken from (Pitardi & Marriott, 2021) study.

3.9.4 Intention to Continue Use

The first two and last items of scale of intention to use were adapted from the study (Poushneh, 2021) where they had taken it from (Engel & Roger, 1995) whereas other items are adapted from (Li & Wang, 2023) which they have adapted from (Bhattacherjee, 2001).

3.10 Measurement Items

The measurement items of this investigation with reference are given in Table 1.

3.11 Technique For Hypothesis Testing

Hypothesis testing plays an important role for researchers before putting their assumptions and theories into action, which consequently is beneficial for stakeholders and professionals to utilize their resources and funds into a border strategy.

3.12 Scale Validity and Reliability

We conducted an EFA via a Maximum Likelihood analysis with ProMax rotation method (SPSS 22.0) to identify and remove unfit items. We examined the sample appropriateness for

conducting an EFA, including the skewness and kurtosis, Kaiser-Meyer-Olkin (KMO) and individual KMO score for each item, Bartlett's Test of Sphericity, and commonalities. The initial screening procedure resulted in removing 2 items. Here, we left with 22 items.

The number of factors were determined using an eigenvalue higher than 2.0 criterion. A total of 1 item was further removed for having cross loading where the difference between cross loaded values was less than 0.30, thus it was removed.

Specifically, 2 items of customer experience, 1 item of perceived usefulness were deleted due to low item-to-factor loading or high cross-loadings. After iterative rounds of EFA, a six-dimensional 21-item scale has emerged.

Additionally, the questionnaire items for each research variable are adapted from previous literature; therefore, they already have good expert validity.

3.13 Regression Analysis

For the linkage of factors, we have performed regression analysis. A summary of the model is provided in Table 2. Were

Table 2: Regression Analysis

Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.828[a]	.686	.684	.55434354

a. Predictors: (Constant), ANT_H, CX_P, P_U

Note. Predictors: (Constant), ANT_H, P_U, CX_P

R is the multiple correlation coefficient (absolute value of Pearson's correlation coefficient). R square is the coefficient of determination. A measure of goodness of fit represents the degree of acquire that can be obtained when predicting a factor based on our knowledge of others. It lies between 0 and 1; with R2 being close to 0.6. We found that, although adjusted; it is reasonably good. Adjusted R square is a modified measure of the coefficient of determination that considers the number of predictor factors included in the regression equation. Although adding factors to the regression always causes the coefficient of determination to increase, the corrected coefficient of determination may fall if the added independent factors have little explanatory power. Standard error of estimation is the standard deviation of the residuals of the distances between the scores on the dependent variable and the predictions made with the regression line. This represents a measure of the part of the variability of the dependent variable that is not explained by the regression line.

To continue constructing the IDDI, we proceeded to generate the model. We began the process through ANOVA. Table 3 exhibits whether there is a significant relationship between the variables or not. The F statistic allows us to test the null hypothesis (0) i.e population value of R is 0, which, in the simple regression model, is equivalent to testing the hypothesis that the slope of the regression line is 0. If R is 0, then it is improbable. (SIG. =0.000) here R in the sample takes the value of 0.828. This implies that R is greater than 0 and that both variables are linearly related.

Table 3: ANOVA Results.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	361.123	3	120.374	391.720	.000[b]
	Residual	165.326	538	.307		
	Total	526.449	541			

Note. Dependent Variable= ITU, Predictors Constant =ANT_H, CX, P_U

The model was generated then. Table 4 displays the various coefficients. The coefficients of the regression line appear first in the direct scores, followed by the standardized or beta coefficients. The latter allows a direct comparison of the explanatory capacity of the criterion variable. They allow the assessment of the relative importance of each independent variable within the equation, as illustrated n in table 5

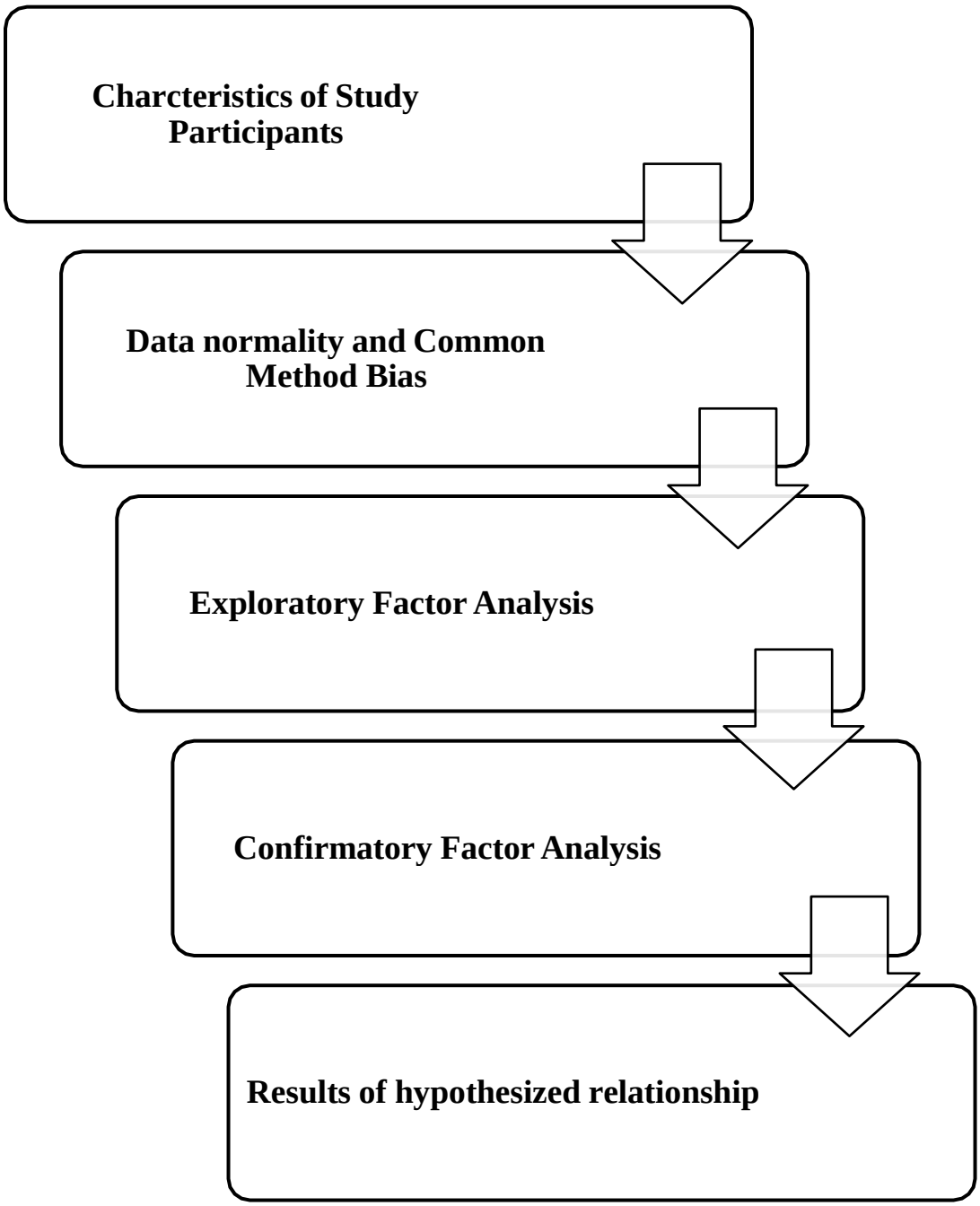
Table 4: Coefficient Table

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.663E-16	.024		.000	1.000
	P_U	.491	.036	.491	13.734	.000
	CX_P	.232	.030	.229	7.635	.000
	ANT_H	.245	.041	.238	5.980	.000

Note. CX_P (customer experience), P_U (perceived usefulness), ANT_H (anthropomorphism)

CHAPTER 4

DATA ANALYSIS AND RESULTS



4 Data Analysis

The first section of this chapter includes characteristics of study participants, data normality and common method bias moreover it consists of exploratory and confirmatory factor analysis techniques for scale development and adoption.

4.1 Characteristics of Study Participants

The participants of this study are individuals who have used voice navigation assistant. The demographics or characteristics of participants are given in the Table 5.

Table 5: The profile of respondents.

Demographic characteristics	Type	Frequency (n=542)	Percentage %
Income			
	100,001 - 150,000	36	6.6%
	30, 000 or below	263	48.5%
	31,000 - 50,000	64	11.8%
	51,000-71,000	54	10.0%
	71,000 - 100,000	53	9.8%
	Above 150,000	72	13.3%
Gender			
	Male	341	62.9%
	Female	201	37.1%
Age			
	Below 25 Years	340	62.7%
	26-35	138	25.5%
	36-45	41	7.6%
	45-55	17	3.1%
	Above 55 Years	6	1.1%
Education			
	Graduate	8	1.5%
	M.Phil.	1	0.2%
	Masters	224	41.3%
	MBBS	1	0.2%
	PhD	38	7.0%
	School	8	1.5%
	Under graduation	262	48.3%
Occupation			
	Freelancing	1	0.2%
	Government job	47	8.7%
	House wife	2	0.4%
	Housewife	1	0.2%
	IT Talent Acquisition	1	0.2%
	Own business	33	6.1%
	Private job	93	17.2%
	Private. Job and a b	1	0.2%
	Self employed	44	8.1%
	Student	315	58.1%
	Student / Part Time	1	0.2%
	Student and private	1	0.2%
	Teacher	1	0.2%
	Unemployed	1	0.2%
Frequency level			
	Very frequently	120	22.1%

	Frequently	201	37.1%
	Occasionally	158	29.2%
	Rarely	47	8.7%
	Very rarely	16	3.0%
Navigation level			
	Google navigation	504	93.0%
	Apple navigation	31	5.7%
	Sygic navigation	7	1.3%
Interactivity preferences			
	High	206	28.0%
	Limited	238	43.9%
	Low	98	18.1%
	Total	542	100.0%
Most frequently used device			
	Phone	515	95.0%
	Tablet	6	1.15%
	Car-built-in	16	3.0%
	Smart watch	5	0.9%
Quality			
	Appropriate	506	93.5%
	In appropriate	35	6.5%
Marital status			
	Married	126	23.2%
	Un married	416	76.8%

Where, we can observe that out of 542 cases, 62.9% are male whereas 37.1% are female. Individuals with an income of 100,001 -150,000 are 6.6%, people having income 30, 000 or below are 48.5%, people earning between 31,000 -50,000 are 11.8%, moreover the segment of population earning 51,000-71,000 are 10.0%, within 71,000 - 100,000 income range there are 9.8% of representatives and above 150,00 incomes are 13.35% of the total. Discussing the age demographic of individuals, we can observe that 62.7% are below 25 years, 25.55% age between 26-35, 7.6% participants are between 36-45, between 45-55 are 3.1% and above 55 years only 1.1%. Seeking educational sections of participants individuals completed their graduation are about 1.5%, merely 0.2% participants attained their M.Phil. qualification, the completion rate of masters is 41.3%

whereas MBBS are 0.2% individuals whereas the number of participants possesses Ph.D. degree are 7.0% while those who have attended school are about 1.5%. last of all people with undergraduate qualification are 48.3%. If we notice occupation from the below mention table, we can analyze that in our data freelancers are 2%, people holding government job are 8.7%, here house wives are0.4%, Housewife are0.2%, IT talent acquisition are 0.2%, business owners are 6.1%, private job workers are 17.2%, Private. Job and a -b are0.2%, self-employed people are 8.1%, students are 58.1%, student / part-time are 0.2%, student and private are 0.2%, teachers are 0.2%, and unemployed individuals are 0.2%. what stands out in table that 95% of people use mobile phone devices for using voice navigation and 3% uses their car built-in devices, 1.1 uses their tablet and 0.9%individuls uses smart watch. A minority of participants (1%) indicated that they use Sygic navigation assistant, total of 93% participants uses Google navigation assistant and 6% uses apple navigation assistant. Our data reveals that 77% contributors are unmarried and only 235 are married. A small number of contributors 18% preferred low interactivity level whereas 38% prefer high interactivity level and 44% prefer medium interactivity level. 93.5% people say the quality of voice navigation assistant is appropriate and a small number 6.5% depicts the in appropriate quality level. Lastly, marking the usage frequency level of voice navigation majority with 37.1% says they use it frequently, 29.2 uses occasionally, 22.1 very frequently, 8.7% rarely and only 3% uses it very rarely.

4.2 Data Normality Check

Normality of data refers to as distribution of data for a particular variable. Normality test is used to check whether the data collected is distributed equally among the population or not. There are two methods to check normality of data:

- Skewness & Kurtosis
- Histogram

In our study, we have used skewness and kurtosis method. Skewness is used to represent the curve of data whereas kurtosis of data clarifies the height of data in the histogram. The significant value considered is between +2 and -2 for both skewness and kurtosis. The data in this study is normally distributed, as stated in descriptive analysis Table 6 all values lie between +2 and -2.

Table 6: Descriptive Analysis.

Item	Minimum	Maximum	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ANH_1	1.00	7.00	-.185	.105	-1.003	.209
ANTH_2	1.00	7.00	-.723	.105	-.647	.209
ANTH_3	1.00	7.00	-.134	.105	-1.152	.209
ANTH_4	1.00	7.00	-.431	.10	-.827	.209
ANTH_5	1.00	7.00	-.372	.105	-.899	.209
PU_1	1.00	7.00	-.708	.105	-.757	.209
PU_2	1.00	7.00	-.669	.105	-.790	.209
PU_3	1.00	7.00	-.649	.105	-.745	.209
PU_4	1.00	7.00	-.771	.105	-.574	.209
PU_5	1.00	7.00	-.243	.105	-1.054	.209
PU_6	1.00	7.00	-.782	.105	-.668	.209
CXP_4	1.00	7.00	-.626	.105	-.693	.209
CXP_5	1.00	7.00	-.344	.105	-.867	.209
CXP_6	1.00	7.00	-.038	.105	-1.048	.209
CXP_7	1.00	7.00	.134	.105	-1.081	.209
CXP_8	1.00	7.00	-.008	.105	-1.101	.209
CXP_9	1.00	7.00	-.164	.105	-1.019	.209
CXP_10	1.00	7.00	-.010	.105	-1.039	.209
ITU_1	1.00	7.00	-.406	.105	-.884	.209
ITU_2	1.00	7.00	-.611	.105	-.714	.209
ITU_3	1.00	7.00	-.596	.105	-.598	.209
ITU_4	1.00	7.00	-.677	.105	-.528	.209

ITU_5	1.00	7.00	-.746	.105	-.482	.209
ITU_6	1.00	7.00	-.791	.105	-.411	.209

Note.CX_P (customer experience), IT_U (intention to continue use), P_U (perceived usefulness), ANT_H (anthropomorphism)

4.3 Common Method Bias

To minimize the Common Method Bias (CMB), we used both procedural and statistical remedies. First, we used the procedural remedies suggested by (Podsakoff et al., 2003)**.** According to their recommendations, respondents were informed that their identities would remain anonymous and that the data they provided would be used only for academic purposes. Similarly, all respondents were asked that there were no right or wrong answers and that their honest responses were appreciated as stated in Annexure 1.

Second, we used statistical diagnostic tests to evaluate the absence of CMB as Table 7. indicates that the cumulative percentage of fourth factor is 83.40 and its cutoff value is 70% as our results have value greater than 70% thus the value is significant. Moreover, 1.006 is the value of factor fourth which is also greater than 1.

4.4 Cronbach Alpha

In order to check reliability of items that each item is loaded on its factor, Cronbach's Alpha values are explored for each variable. To demonstrate an acceptable level of reliability, the coefficient of this criterion should be should be above 0.7 for each item. Though the value increases as no one of items increases, there should be at least three items we left with for each variable. The alpha values for each variable are given in Table 8. which confirms total alpha values are 0.971

out of 24 items, which is consider strong and significant. Quiet a few methodological investigations has proposed that Cronbach alpha can also be used for evaluating the reliability of measurement model (Hair, 2009).

Table 8: Cronbach Alpha

Construct	**Cronbach alpha**
CX_P	0.953
IT_U	0.970
P_U	0.962
ANT_H	0.908

Note. CX_P (customer experience), IT_U (intention to continue use), P_U (perceived usefulness), ANT_H (anthropomorphism)

4.5 Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) a statistical practice used in behavioral, psychological and in social sciences research in order to discover the way or modes how items are assembled together or in simple words it identifies how numerous numbers of variables can be formed by given items. As it finds the relationship between respondent and variable so it focuses more in identifying meaningful factors for performing EFA. I have used (SPSS 22.0) because it is suitable as tourism and hospitality researchers are regularly using multi-item scales and in order to provide assurance that the items or indicators, they have chosen, represent a common underlying variable, they use Exploratory Factor Analysis.(Howard & Henderson, 2023)

4.5.1 Meyer-Olkin Kaiser- (KMO) Test

Along with measuring a sampling appropriateness of every variable KMO test is used to state how finest is our data. For factor analysis, its value should be between 0.5 and 0.7 as you can see in our study in Table 9 that the value of KMO test is 0.958 which is considered as marvelous on scale. What stands out in this table is Bartlett's Test of Sphericity values that must be less than 0.05 and our study demonstrates 0.000 which is also considered excellent.

Table 9: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.958
Bartlett's Test of Sphericity	Approx. Chi-Square	13717.733
	df	210
	Sig.	.000

4.5.2 Goodness of Fit

The goodness-of-fit test denotes that the data which has been collected is matched with observed results as closer inspection of Table 10 indicates that the goodness-of-fit test that denotes extents of the data that has been collected is a match with observed results. Here Chi-square value is 611.973, df=132 and significance level is 0.000. which is marked good on scale.

Table 10: Goodness-of-fit-Test

Chi-Square	df	Sig.
611.973	132	.000

4.5.3 Communalities

An extent to which an item correlates with all other items is called as communality, higher the communalities better result would be. According to criteria Its value should be above 0.5 and our all-items values in the extraction column are above 0.5, which signifies that all items can be loaded significantly on any factor as confirmed in Table 11.

Table 11: Communalities.

Construct	Item	Initial	Extraction
Anthropomorphism	ANTH_1	.591	.607
	ANTH_2	.664	.687
	ANTH_3	.572	.627
	ANTH_4	.693	.746
	ANTH_5	.681	.732
Perceived usefulness	PU_1	.857	.877
	PU_2	.881	.903
	PU_3	.828	.838
	PU_4	.843	.853
	PU_6	.858	.873
Customer experience	CXP_6	.746	.730
	CXP_7	.768	.767
	CXP_8	.795	.853
	CXP_9	.739	.720
	CXP_10	.783	.789

Intention to continue use	ITU_1	.786	.753
	ITU_2	.851	.833
	ITU_3	.851	.859
	ITU_4	.875	.902
	ITU_5	.888	.887
	ITU_6	.873	.857

Note. Extraction Method: Maximum Likelihood.

4.5.4 Factor Structure

Factor structure is used to check intercorrelations between variables being tested in EFA. They usually represent items groups into variable, more precisely they load onto variable. The value of each item should be greater than 0.7 in our study. From the data in Table 12 it is apparent that all values are above 0.7 except the one item, i.e., ANT_H 1 whose value is 0.640.

Table 12: Pattern Matrix.

		Factor			
		1	**2**	**3**	**4**
1. Intention to continue use	ITU_4	.938			
	ITU_3	.928			
	ITU_5	.909			
	ITU_6	.896			
	ITU_2	.829			
	ITU_1	.706			
2. Perceived Usefulness	PU_2		.954		
	PU_1		.893		
	PU_3		.877		
	PU_4		.866		

		PU_6	.841		
3.	**Customer Experience**	CXP_8		.936	
		CXP_7		.905	
		CXP_10		.865	
		CXP_6		.841	
		CXP_9		.743	
4.	**Anthropomorphism**	ANTH_4			.828
		ANTH_5			.823
		ANTH_3			.810
		ANTH_2			.711
		ANTH_1			.640

Note. Extraction Method: Maximum Likelihood, Rotation Method: Promax with Kaiser Normalization.

4.5.5 Model Improvement

The model is improved by deleting indicator that represents:

- Weak Extracted Communality, in our data not a single value of weak communality is identified.
- Weak Loading, customer experience CX_P 4 and customer experience CX_P 5 are removed.
- Weak gap among Cross-Loadings perceived usefulness P_U 5 is removed
- Models' comparisons indicate that such successive deletions improve fit.The corresponding results are stated in Table 13

Table 13: Model improvement.

	χ^2	p-value	Model Comparaisons
Model (24 items)	837.632	p < .001	
Model 2	740.733	p < .001	$\Delta\chi^2(11) = 96.899$
(CX_P4 Removed)			$p < .001$
Model 3	698.100	p < .001	$\Delta\chi^2(10) = 42.633$
(CX_P5 Removed)			$p < .01$
Model 4	611.973	p < .001	$\Delta\chi^2(9) = 86.127$
(P_U 5 Removed)			$p < .001$

Note. x^2 (ratio of chi square), df (degree of freedom). CX_P (customer experience), P_U(perceived usefulness)

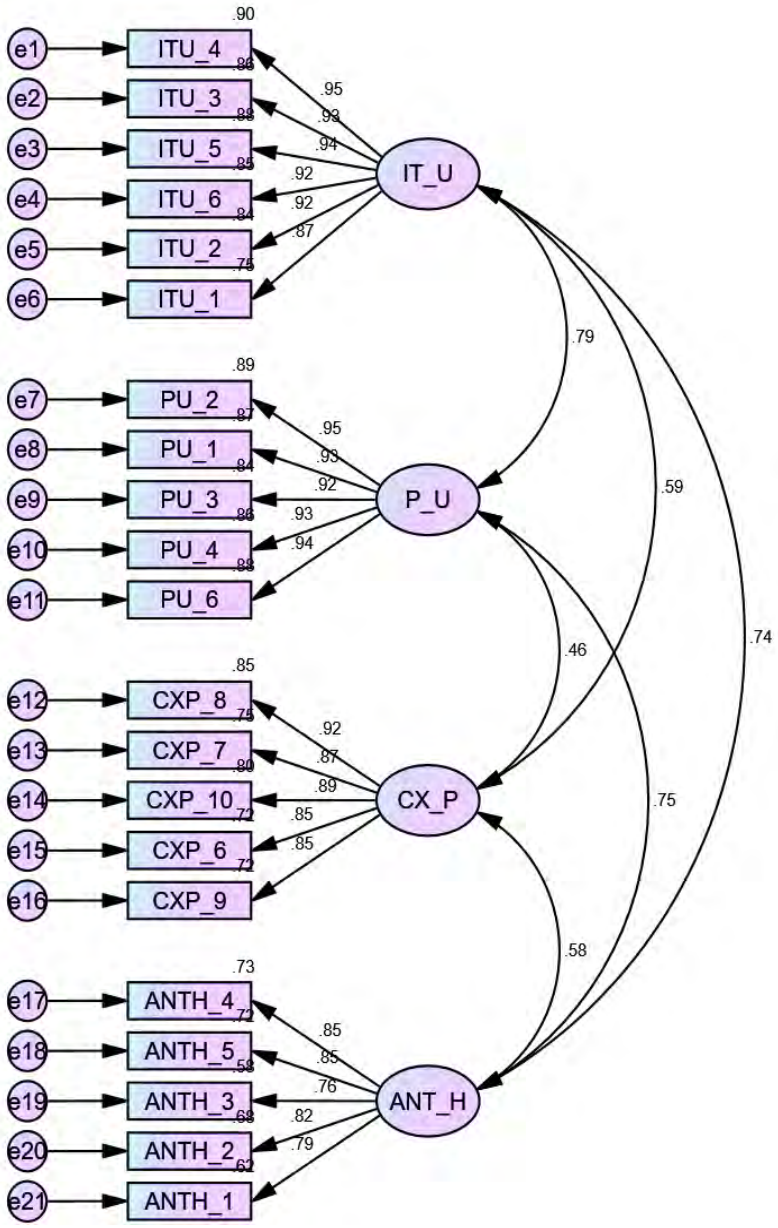
4.6 Confirmatory Factor Analysis (CFA)

In order to determine the factor structure of data set after performing EFA, the next step is to perform CFA. In CFA, authenticity of factor loading and measurement was checked.

4.6.1 Measurement Model

The measurement model presented in the Figure 2.. Reveals the strong relationship between variable and its measures. As all values are between 0.82 to 0.95, signifying the marvelous relationship on scale.

Figure 2: Measurement Model.



Note. CX_P (customer experience), IT_U (intention to continue use), P_U (perceived usefulness), ANT_H (anthropomorphism)

4.6.2 Measurement Model's Fit Indices

The model fit, reliability, and validity of measurement model were assessed using Confirmatory Factor Analysis (CFA). A variety of approaches exists for evaluating goodness-of-fit but commonly chi-square denote by (χ^2) is used, the ratio of x^2 to the degree of freedom (χ^2/df), the root-mean-square error of approximation (RMSEA), the comparative fit index (CFI), and the standardized root mean square residual (SRMR). The suggested deadline values for excellent model fit recommend that χ2/df should be small (< 3), RMSEA < 0.08 CFI > 0.90, SRMR < 0.08, PCLOSE > 0.05 (Hu & Bentler, 1999). The current study performed confirmatory factor analysis to assess the reliability and validity of the measurement model. What stands out in Table 16. is that the overall fit of the measurement model was meritorious (x^2 = 801.684; df = 183; x^2/df = 4.381; GFI = 0.871; AGFI = 0.838; TLI = 0.948; CFI = 0.955; RMSEA = 0.079 PCLOSE=0.000).

Table 16: Measurement Model fit indices.

	χ^2	**DL**	***P***	**χ^2** ***NORME***	**GFI**	**AGFI**	**TLI**	**CFI**	**RMSEA**	**SRMR**	**PClose**
MODEL 1											
(21 ITEMS)	801.684	183	.000	4.381	0.871	0.838	0.948	0.955	0.079	-	0.000

Note.**x^2** (likelihood ratio), **x^2 Norme** (chi-square), **GFI** (Goodness of fit index), **AGFI** (adjusted goodness of fit index), **TLI** (tucker Lewis's index) **CFI** (comparative fit index), **RMSEA** (root mean square error of approximation), SRMR (standardized root mean square residual), **PClose** (probability of close fit)

4.7 Construct Validity

It measures the extent used to measure whether a measurement tool measures the thing we are interested in measuring. It comprises two types which always work together: convergent validity and discriminant validity. In this study it is assessed by CFA.

4.7.1 Convergent Validity

It measures the items that have to be grouped together are actually grouped together under one variable or not. As per recommendation in order to find Convergent validity we can evaluate average variance extracted (AVE) value, which should be greater than 0.5 (AVE > 0.5). (Fornell & Larcker, 1981). The average Variance of each construct exceeded 0.50, providing evidence of convergent validity. Moreover, the values of Composite Reliability are also greater than 0.70, indicating that convergent validity is verified. In this study composite reliability of variables lies between 0.876-0.949 whereas, extracted variance lies between 0.587-0.759. which indicates that all values are significant as displayed in Table 14.

Table 14: Validity and reliability

Constructs	CR	AVE	Square of Factorial Correlation
IT_U	0.949	0.759	0.745
P_U	0.948	0.787	0.745
CX_P	0.934	0.741	0.566
ANT_H	0.876	0.587	0.695

Note. CR= composite reliability, AVE= average variance extracted CX_P (customer experience),IT_U(intention to continue use), P_U(perceived usefulness), ANT_H (anthropomorphism)

4.7.2 Discriminant Validity

It is used to measure the variables whose items should not group together are not group together or not forming any relationship. Two criteria are commonly used: the square root of the AVEs and the Hetero Trait–Mono-Trait ratio of correlations (HTMT). Discriminant validity lies when HTMT coefficients values are less than 0.9 (Henseler et al., 2015) and AVE is greater than square root of its factorial correlation of every item. (Fornell & Larcker, 1981), so our values indicates that discriminant validity is verified as reported in Table 14. and can be understood from the factor correlation matrix in Table 15.

Table 15: Correlation Matrix.

Factor	1	2	3	4
1. IT_U	1.000	0.745	0.566	0.694
2. P_U	0.745	1.000	0.427	0.695
3. CX_P	0.566	0.427	1.000	0.555
4. ANT_H	0.694	0.695	0.555	1.000

Note. extraction method= maximum likelihood, rotation method Pro max with Kaiser normalization. CX_P (customer experience), IT_U (intention to continue use), P_U (perceived usefulness), ANT_H (anthropomorphism)

4.7.3 Factor loading

After running CFA on scale items, we observe that all indicators are strongly and significantly loaded on their respective constructs. It is apparent from the Tables 17., all factor loadings were mark excellent on scale as they exceeded 0.7.

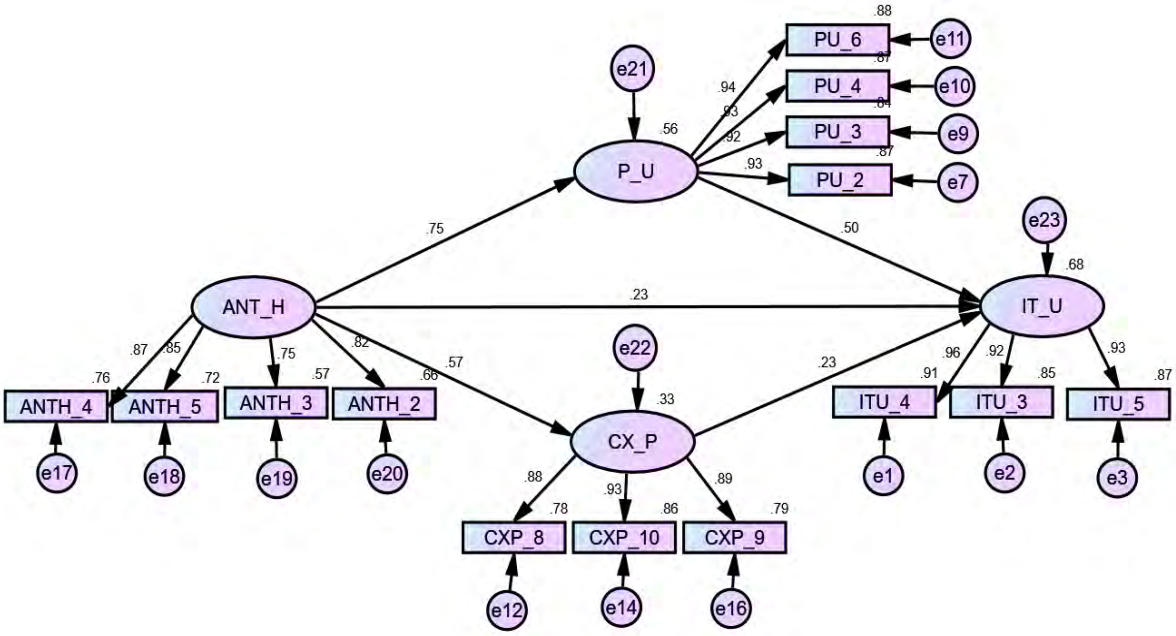
Table 17: Factor loading.

Construct	Item	CFA Loading
Intention to Continue Use (IT_U)	ITU _4	0.95
	ITU_3	0.93
	ITU_5	0.94
	ITU_6	0.92
	ITU_2	0.92
	ITU_1	0.87
Perceived Usefulness (P_U)	PU_2	0.95
	PU_1	0.93
	PU_3	0.92
	PU_4	0.93
	PU_6	0.94
Customer Experience (CX_P)	CXP_8	0.92
	CXP_7	0.87
	CXP_10	0.89
	CXP_6	0.85
	CXP_9	0.85
Anthropomorphism (ANT_H)	ANTH_ 4	0.85
	ANTH_5	0.85
	ANTH_3	0.76
	ANTH_2	0.82
	ANTH_1	0.89

4.8 Structural Model

In order to test Reliability and validity of data and investigate hypothesized paths of model we have used two steps structural equation model (SEM). The structure model of this study is displayed in Figure 3.

Figure 3: Structural Model.



4.8.1 Structural Model Fit Indices

The overall model-fit indices for the structural model were deemed acceptable as displayed in Figure 4.(x^2 = 190.560; df = 72; x^2/df = 2.647; GFI = 0.953; AGFI = 0.932; TLI = 0.981; CFI = 0.985; RMSEA = 0.055; PCLOSE=0.178; SRMR=.0322).

4.9 Results

4.10 Path Analysis

After ensuring that there is no reliability and validity concerns, we embarked on testing structural model. Figure 5. revealed the results of path analysis. 5 out of 5 paths are significant.

4.10.1 Direct Effect

It seems that three out of three direct paths are significant. The path coefficients for the research constructs are expressed here in a standardized form. there were significant positive effects of anthropomorphism on customer experience ($\beta = 0.571$, $p < 0.001$) hence Hypothesis 1 is supported. Anthropomorphism effect on perceived usefulness is significant as ($\beta = 0.750$, $p < 0.001$) hence, hypothesis 2 is supported. Anthropomorphism effect on intention to continue use is significant as ($\beta = 0.226$, $p < 0.001$) hence, hypothesis 3 is supported as exhibited in Table 18.

Table 18: The results of test of hypothesis.

H	Direct Paths	Coef.	Sig	Observations

H4	Anthropomorphism→Customer experience	.571	***	Supported
H1	Anthropomorphism→Perceive usefulness	.750	***	Supported
H3	Anthropomorphism→Intention to continue use	.226	***	Supported

Note. bootstrapping of 5000 samples was used.95% confidence interval was used in the analysis. *** $p < 0.001$, ** $p < 0.010$

4.10.2 Mediating Effect

The indirect effect effects are gauge by the ways endorsed by preacher and Hayes in (2008). The bootstrapping results are based on 50,000 bootstrap samples and 95 confidence level. The Table 19. displays that the positive indirect effect between anthropomorphism and intention to continue to use through perceived usefulness as PU ($\beta = 0.374$, p-value < 0.001), proposing observed indication to accept H4. The indirect effect between anthropomorphism and intention to continue to use is positive through customer experience as ($\beta = 0.133$, p-value < 0.001), recommending observed proof to accept H5. Overall voice navigation assistant with anthropomorphic characteristic influence intention to continue use via customer experience and perceive usefulness.

Table 19: Analysis of mediation model.

H	Indirect Path	Unstandardized Estimate	Lower	Upper	Sig.	Standardized Estimate	Observation

H2	ANT_H→P_U →IT_U	0.402	0.317	0.488	0.001	0.374**	Partial Mediation
H5	ANT_H→CX_ P→IT_U	0.143	0.101	0.194	0.001	0.133***	Partial Mediation

Note. bootstrapping of 5000 samples was used.95% confidence interval was used in the analysis. *** $p < 0.001$, ** $p < 0.010$

4.11 Reliability and Validity

The results of reliability and validity are stated in Table 20. Where we can see that AVE is greater than square of factorial correlation.

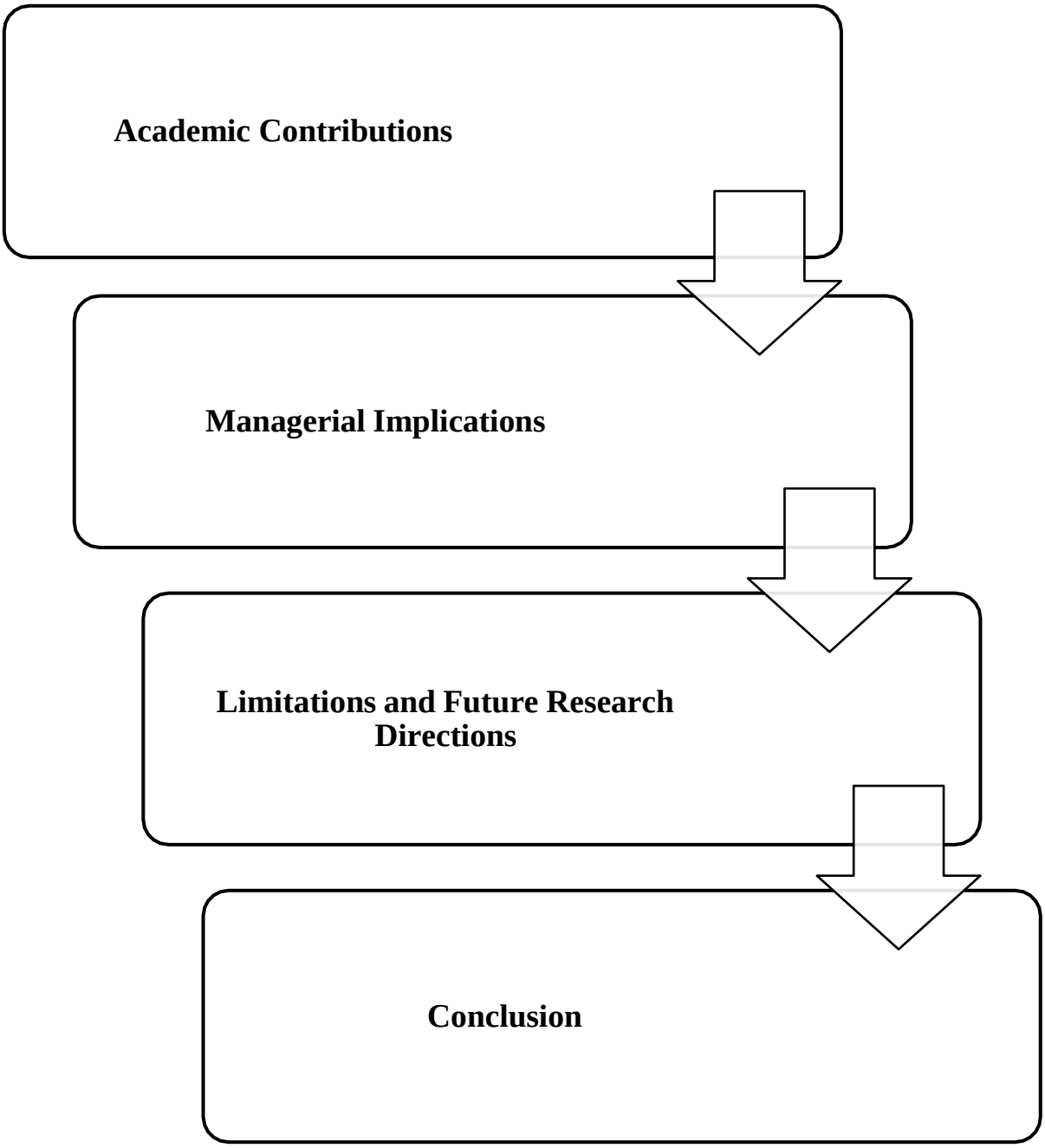
Table 20: Convergent validity test.

	CR	AVE	MSV	MAXRH	1	2	3	4
1. Customer Experience	0.927	0.809	0.352	0.930	**0.900[a]**			
2. Intention to continue use	0.956	0.879	0.599	0.959	0.593	**0.938[a]**		
3. **Perceive usefulness**	0.963	0.868	0.599	0.964	0.469	0.774	**0.932[a]**	
4. Anthropomorphism	0.894	0.680	0.555	.0901	0.562	0.727	0.745	**0.824[a]**

Note. [(a)] represent the square root of average variance extracted (AVE) and the figure below represent the between construct co-relations. Sample size= 542

CHAPTER 5

DISCUSSION AND CONCLUSION



5 Discussion and Conclusion

This chapter consists of three subsections namely first for the theoretical contributions, second for implications and last for future research directions and conclusions.

5.1 Academic Contributions

Here are study's theoretical contributions.

5.1.1 Perceived Usefulness as a Key Driver of Continuance Usage Intention

The results not only offer support for positive effect of perceived usefulness but also propose a direct relationship with continuance usage intention. Thus, it proves the worth of perceived usefulness in driving continuance usage intention. Though former studies have only focused on perceived usefulness as an initial technology adoption driver, the significant results of this study boost the existing literature of perceived usefulness for the formation of post adoption experience and continuance usage intention of voice navigation assistant.

5.1.2 Role of Anthropomorphism in Travelers' Journey

Despite the fact that the importance of customer experience has been discovered in different contexts, the role of customer experience in travel context through voice navigation assistant is still scare. Therefore, this study paves the way for an enhanced understanding of the role of anthropomorphism on continuance intention of voice navigation assistant in travel context. thus, this study explored the role of anthropomorphism on customer experience in traveler's context. It is considered as the first step to illustrate a vital contribution in travel and tourism

literature. Our study supports the idea that travelers prefer anthropomorphized navigation assistant during their journey, which not only results in better experience but also provokes them for continuous usage intention of voice navigation assistant.

5.1.3 Unveiling the Bright Side of Anthropomorphism

Unlike prior research that have primarily focused on negative effects of anthropomorphism like Alsaad in (2023)discovered that anthropomorphism negatively impact the decisions of guests in hotel for using AI devices as it encourages identity threats. Consequently, which leads to negative emotions and increases effort expectancy. In contrast, this study may help us to realize positive role of anthropomorphism in traveler's context which not only aids to deliver better experience but also help in promoting continuance usage intentions of travelers.

5.1.4 Bridging Gap of AI and Service Marketing Literature

By exploring the aspects associated with traveler's experience with voice navigation assistant and in turn how this experience can be changed into continuance usage intention, this study expands the literature of AI integration. As this study may work as the evidence about a role of AI supporting travelers' activities. Moreover, looking broadly this study not only advantageous for travel and tourism marketing but it also aids the growing body of service industries. As the outcome suggests that anthropomorphizing technologies or integrating humanlike characteristics, qualities, emotions, and personality to service technologies not only advance experience but also results for behavioral intentions which provide valued visions into the process which drive customer behavior in the interaction with technology and is therefore essential addition into the field of marketing and service marketing.

5.1.5 Functional and Humanoid Factors as Drivers of Customer Experience

The vital contribution of this study is providing fresh evidences for the successful use of anthropomorphized navigation assistants. It exposes that functional and humanoid factors are good predictors of customer experience. Discussing functional factor like perceived usefulness is strongly related to customer experience and thus behavioral intentions.

5.2 Managerial Implications

Following are managerial implications of the study.

5.2.1 Role of Anthropomorphism in Technological Implications

The findings will be of interest to service providers who are involved in enhancing customer experience and making loyal customers for their business. The study's most vital results are that using anthropomorphism in technological implementations, namely voice navigation assistants with humanlike features like language, voice, and behavior may boost experience and in turn continuance usage intention of customers. To better serve their customers, service providers may generate voice navigation assistants that converse with them like humans than formal. Through this customer experience and behavior may grow with this step. It may also be improved by applying different techniques and methods, e.g., voice cloning, etc.

5.2.2 Assisting Transportation Via Voice Navigation Assistant

The evidence from the usage of voice navigation assistants by travelers approves the positive relation between anthropomorphism and customer experience. Hence, we encourage car

enterprisers for investing resources and funds in the development and up-gradation of voice navigation assistant with anthropoid features and characteristics as it not only gives their clients a better experience but also encourage purchase intentions sequentially which benefit enterprises to gain an advantageous spot in fiercely competitive market. Moreover, insertion of options for public and private mass transit services might serve as a helping hand for passengers in recognizing bus numbers and detection of unoccupied seats. Also, in-car voice navigation can also be upgraded by adding the skill of giving information about fuel levels and service needed, so when fuel level is low, the voice navigation assistant may also suggest going to the nearest gas station. For a better travel experience, in-car voice navigation assistant can also be upgraded with placement of expert microphones and speakers. Navigation assistant must be proficient in precise categories of sounds and disturbances it will face. Similarly, voice navigation assistant must be profound of listening and understanding users' words even in presence of road noise, music, or background conversations.

5.2.3 Navigating Beyond Cars: Renovating Service Interactions

Voice navigation assistant is not limited to automobile industry, w it is also important for pedestrians like navigating lounges, food, and emergency areas in airports, parks, and cities etc. Hospitality managers can also be benefitted taking into account indoor travel setting into consideration, for instance, locating parking areas, brand outlets, and cinemas in shopping centers. This will save time by providing the quickest route to a specific store or product, reducing the time spent wandering around the mall's parks and hospitals. Through its implementation in hospitals, doctors, and patients can equally get benefits from it by locating wards, medical units and theaters in hospitals which not only helps patients to reach on time for their appointment and checkups but

also is helpful in aiding health care experts so that they can devote more time with their patients and provide better services. Additionally, as technological advancements have transformed the means of interaction for individuals in order to encounter services rather than interacting with service staff, they desire self-service technology for production of their own service via machine or robot interaction. This has benefited businesses to lessen costs, allow for service standardization and resulted in complete advancement in-service experience. Implementation of voice navigation assistants may help businesses to lessen their extra staff. Moreover, it can also be coupled to home-based IoT devices which permit owners to set alarms and switch off lights after leaving home.

5.2.4 Voice Activated Wearables: The Future of Outdoor Activities

Considering our outdoor enthusiasts who love to engage in activities like hiking, camping, mountaineering or trial running for their assistance. Technology inventors should think of integrating voice navigation assistants into other technologies like wearable gadgets e.g., wristwatches and wristbands etc. with the aim of providing directions to users without looking down the screen and making it comfortable for all genders. It can also help in identifying traffic signals through voice to assist visually deprived people to cross the road.

5.2.5 Enhancing Retails Potential Via Voice Navigation Assistants

Our results thus have vital implications for growth of retail industries as employing voice navigation assistants that not only help users in locating brands outlets of their choice but also with addition of more features and making shoppers' experience more convenient, for example recommendations or announcements of discounted products and services through voice navigation assistant from nearby outlets which in return not only increase sales but also help retailers to keep

loyal customers by providing them up-to-date experience. Through this process, retailers can not only save time but also give a better experience to customers by providing quickest way to their store, reducing time spent wandering around malls.

The digital world also demands financial service institutions for implementing digital solutions for better customer experience. Our study has proved that through the use of voice navigation assistant, financial institutes can offer upgraded and distinctively satisfying patron experience by making it easier for a customer to trace their nearest ATMS and branches in shopping centers and parks etc. which help business to reduce overhead costs by a reduction in number of pricy calls to customer care departments. In addition, in educational institutes, students can spend productive time doing their educational activities by locating departments, study areas, sports grounds, and medical centers etc. in no time using a voice navigation assistant.

5.2.6 Sanctions for IS Executives: Improving Voice Navigation Assistants

Also, our outcomes give sanctions for IS executives, primarily in refining the development and implementation of functional elements of voice navigation assistants. The secret recipe to appeal and involve the users with an app is humanizing it through appearance and sound. Consequently, logistics companies and delivery services for effective execution and planning of routes for transporting goods like food, grocery and products deliver app makers are proposed to insert voice navigation assistant within apps. These tactics will expect to boost moods of riders. Likewise, it will enable to build human warmth and understanding, which can expand interpersonal bond between riders and retailers. Additionally, by implementing an assistant with built-in feature of remembering most common delivery addresses of a user and demographics will offer chances

for sellers to deliver personalized content to each user. This personalization may generate a sensation of humanity between retailers and riders and give engagement behavior. Furthermore, installing a voice navigation system not only helps retailers to build emotional bond but also considers delivering a better experience. In response, they will indubitably regard the creation of an admirable user experience as a long-lasting asset to support the continuance use of delivery app and ultimately brand, which in turn drives valuable business performance.

5.2.7 Assisting Inventors with Redesigning Voice Navigation Assistants for Improved User Experience

Our study can assist inventors in applying the results for forming and understanding of how to redesign and upgrade voice navigation assistants to enhance user experience during travel. Moreover, designers also need to consider what anthropoid features are most likely to enhance experience. Along with voice navigation, additional Ad-ins like fire risk detection, and obstacle detection with voice alerts by an assistant can also help in creating a better customer experience. In developing voice navigation assistant designers may seek a multilingual feature of the assistant as users feel most comfortable speaking in their native language. People are more likely to use a navigation assistant that can speak in their language. Moreover, it should be able to understand accented language and speech difference like even within English language there are regional accents that can be a challenge for a voice navigation assistant which is not trained with enough user data to differentiate between pronunciation of developers who made them and people who use them. Developers might emphasize on quality of the voice navigation assistant ‘s conversational interface. Adding skills like converting speech to meaning and ability to realize the context of chat so that navigation assistant can be able to continue a conversation and remember

location and information provided previously. Consequently, users don't have to repeat themselves, hence letting users speak naturally and build conversations without remembering same phrases and commands that have been fitted in it. Also, humanlike feelings can also be enhanced in navigation voice assistant by switching between male and female voice depending on information for instance, emergency alerts can be told by female and directions can be told by a male voice navigation assistant. Another area which demands improvement is the personalization. Gradually, voice navigation assistants could remember users preferred locations or the locations where users frequently visit and it may automatically suggest that location in future requests.

5.2.8 Overcoming Old Input Methods: Enhancing Web Accessibility through Voice Commands

Web developers should also consider fitting voice navigation assistants on sites as it might declare positive outcomes by offering approachability to visual impairments and motor disables who face struggle to use old inputs methods of voice commands, they can navigate and access site content and help to build superior hands-free and user-friendly browsing experience.

5.2.9 Vocal Updates for Boaters

The discoveries of this study also deliver ideas for the marine industry through assisting boaters and sailors to navigate their vessels, while receiving directions via voice commands besides many other ad-ins. For instance, for improving situational awareness on water through vocal updates for instance speed, proximity to landmarks etc. Consequently, letting boaters to concentrate on steering.

5.3 Limitations and future research directions

5.3.1 Limitations

Following points highlights the limitations of the study.

5.3.2 Lack of Former Research Studies

The first limitation of this study is lack of prior studies on this topic as a huge number of studies has been conducted determining the role of anthropomorphism in technological advancements however exploring impact of anthropomorphism on customer experience or travelers experience is considered trivial. Second is its impact on continuance usage intention variable. As intention to continue use is a new variable in marketing, especially service marketing domains, very few literatures have been found related to it. So, citing papers related to intention to continue to use and relation between anthropomorphism and intention to continue use is the major limitation of this study.

5.3.3 Limited Access to Information

This study involved the individuals who have used voice navigation assistant, majority of the people are of age group 25 and below which are also known as tech-savvy generation. In other words, we can say that the targeted audience is limited to younger consumers however it has been observed that voice navigation also becoming popular among middle-aged group the age 40-60 years. It has been found that this specific age group is using voice navigation assistants most frequently. So, the access of data from adults from age 40-60 hasn’t been collected extensively.

5.3.4 Adoption of Outdated Software

Statistical tools have now become vital element for data analysis as they give more accurate data in no time. We have used (SPSS 22.0) and Amos version 24 in this study for data analysis. however, in the market, there are more advanced software available with the latest versions like R-software, Python, and Smart PLS. Comparison reveals that this study has analyzed the data using old or dinosaur statistical tools.

5.3.5 Lack of Time

Deadlines by educational institutions have been a hurdle in doing excellent research as we have to submit our research prior to deadline. Time constraints are always there in implementing or testing new tools and techniques by institutes.

5.3.6 Data Collection and Methods Technique

The data of study have been collected using a survey method by distributing questionnaires for which the results are obtained in numeric forms. Other methods like interviews could help in attaining detailed thoughts of individuals on problem. In other words, doing qualitative study instead of quantitative may give detailed output on issue.

5.4 Future Research Directions

The forthcoming research areas of this study are as follows:

5.4.1 Context of Study

The service context (Travel) studied here is considered low in credence quality (Mazaheri et al., 2012). Examiners may observe the role of anthropomorphized voice navigation assistants in SSTS designed to support travelers in complex service scenarios like medical or legal services (Mitra et al., 1999). Moreover, future research can be performed to explore how voice navigation assistant help travelers experience in different contexts like backpacking and hiking process which are mainly based on mapping. In addition, people with physical or mental limitations depend on others for their support to fulfil their daily life needs and tasks. By employing voice navigation, patients have difficulty using their hands or fingers due to injury or disability, could easily move from one place to another on their own. Voice navigation assistant can be particularly helpful for shoppers with visual impairments or disabilities, providing them with an easier way to navigate the mall independently so, this would be a fruitful area for further exploration. If research can be conducted on physically or mentally retarded people for the fulfillment of their daily life needs and tasks, and discover their response to anthropomorphized voice navigation assistant then it would serve as a gatekeeper for independent living for them.

5.4.2 Country

As the focus of our study is Pakistan thus results can only be generalized in countries similar to it from both economic and social perspectives. It would be successful to conduct a multi-county comparative study in understanding the role of voice navigation assistants in different socio-economic, geopolitical, and eco-friendly contexts.

5.4.3 Age Group

The targeted audience is limited to younger consumers. Additionally, the majority of our respondents in our study were from an age group below 25 years. It has been observed that voice navigation also becoming popular among middle-aged group the age 40-60 years has been found using voice navigation assistants most frequently. Therefore, future research may examine the individual differences among various age groups to refine the present study findings.

5.4.4 Different Stages of Travelling:

Upcoming studies may include the use of voice navigation assistants at different stages of travel.

5.4.5 Culture:

Culture plays an important role in determining attitude towards service robots. Some suggestions express that Asians customers are more inclined to accept service robots that's why many of the firms, malls, restaurants, and cafes in Asia have implemented service robots rapidly which may be due to Asians openness to robots. Future researchers need to examine our research framework in diverse cultures with the purpose of determining how culture affects customers' likings and attitudes on the way to voice navigation assistants in the service sectors.

5.4.6 Voice design

Another avenue for future research is the voice design of voice navigation assistant. It investigates the extent of vocal features of the navigation assistant like pronunciation, volume,

fluency, pitch, and types of accents, etc. What is still unknown is the use of voice navigation assistant in conventional devices, hence this opens a vast array of new areas for academic research.

5.4.7 Considering Employees' View

Taking into consideration the employee's views, service robots have also altered employee's workplace environment. Though literature has raised ethical concerns such as potential increase in unemployment rate produced by using service robots (Huang & Rust, 2018), positive results can also be generated like voice navigation assistant may bring entertainment for travelers during travel and reduce stress by playing music according to destination and travelers' mood. Future research may take an employee's point of view and explore service staff perceptual dynamics of working with vice navigation assistant in a shared environment.

Future research can also take more humanized features like using 3d images and first-person language (I, you) as the best way to deliver better experiences through logistics and delivery apps.

5.4.8 Service Delays

Additional research can also be conducted on exploring negative response on an individual from a voice bot like service delays or if user have to repeat his commands which in result will cause anger and frustration.

5.4.9 Dependent and Independent variables

Future research may focus on determining different types of anthropomorphism and its impact on dependent variables like relationship development of travelers, traveler's loyalty and tolerance for service failure. Moreover, future research needs to examine independency factor like lack of tangible interface or trust in the future.

5.4.10 Negative Externalities

This study doesn't include negative effects of network, for instance, a slow processing speed that may arise and affect usefulness of voice navigation assistant. Future researchers should also focus on negative externalities like network failure in the model.

5.4.11 Role of Disembodied Bots

As this study has considered only voice bots, we can say the study outcomes are only limited to voice AI, as an embodied machine, despite the fact, most of voice-based AI technology have technological features like Samantha, like being equipped with voice like Alexa and Siri, it is possible for AI to appear in other forms like physically embodied machines which we call Robots or virtually embodied bots like Clippy of Microsoft. from this point of view, we can observe that the perception of people might be different in viewing embodied and disembodied machines. For this, future researcher has to consider anthropomorphism for not only embodied machines but also for disembodied machines that look like humans.

5.4.12 User-assistant's Gender

Moreover, male gender may have different experience while interacting with female assistants and vice versa. Therefore, future research explores this user–assistant interplay and how it affects the behavioral outcome of individuals.

5.4.13 User's Commitment

The study works on the continued usage aspect of the voice-assistants but there can be various users who tried to use the voice navigation assistants but discontinued their usage. This results in a decrease in satisfaction level of users that affects continuance usage intention. Therefore, future research could consider commitment factor to use voice navigation assistants by collecting data parallel to current and ex-users who have discontinued their usage however this issue is not raised in this study.

5.5 Conclusion

The study's key focus lies in creating traveler experience through the usage of voice navigation assistant during their journey. the study on the basis of cross-sectional quantitative methods exposes the significant impact of anthropomorphism (as an AI characteristic) on traveler experience, perceived usefulness and behavioral outcome like intention to continue use. Voice navigation assistant portrays the meaningful insights not only for the researchers but also for the experts of service marketing. Conclusively, our findings indicate that the continuance usage intention of travelers can only be achievable only when voice navigation is comprised of humanoid characteristics and is useful.

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Table 1.

Measurement Items for Constructs

Construct		Measurements items	Sources
Anthropomorphism	i.	This voice navigation assistant feels natural	(M. Li & Suh, 2022)
	ii.	This voice navigation assistant is polite	
	iii.	This voice navigation assistant is humanlike	
	iv.	This voice navigation assistant is authentic	
	v.	This voice navigation assistant is realistic	
Perceived usefulness	i.	This voice navigation assistant is useful for my travel planning	(Davis et al., 1989)
	ii.	This voice navigation assistant improves efficiency of my travel planning	
	iii.	This voice navigation assistant improves my performance of travel planning (save time)	
	iv.	This voice Navigation assistant is useful for getting travel information	
	v.	This voice Navigation assistant makes my life meaningful	
	vi.	Overall, I feel that this voice navigation assistant is very useful for travel planning	
Customer experience	i.	I enjoy using this voice navigation assistant	(Brakus et al., 2009)
	ii.	The experience of using this voice navigation assistant was interesting	
	iii.	I am happy with the experience of using this voice navigation assistant	
	iv.	This voice navigation assistant appeals to my senses (audio, visual)	
	v.	This voice navigation assistant induces my feelings and sentiments	
	vi.	I have strong emotions for this voice navigation assistant	(Khan et al., 2020b)
	vii.	This voice navigation assistant reminds me of actions and behaviors when I use it	
	viii.	This voice navigation assistant makes me think	
	ix.	This voice navigation assistant stimulates my curiosity	

	x.	Overall, I have a good experience of using this voice navigation assistant for my travelling.	
Intention to continue use	i.	I intend to accomplish my travel tasks using this voice navigation assistant	(Poushneh, 2021)
	ii.	I would be willing to use this voice navigation assistant.	
	iii.	I would like to continue interact with this voice navigation assistant	
	iv.	I would like to continue accepting services from this voice navigation assistant	(M. Li & Wang, 2023b)
	v.	It is likely that I will continue using this voice navigation assistant in the future.	
	vi.	In future, I would use this voice navigation assistant.	

Note. This table represents the measurement items for constructs and their sources.

Table 7.

Total Variance Explained								
Factor	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings[a]**	
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	
1	12.688	60.417	60.417	12.363	58.873	58.873	10.707	
2	2.519	11.994	72.411	2.344	11.162	70.035	9.890	
3	1.308	6.227	78.639	1.008	4.801	74.835	7.501	
4	1.006	4.792	83.430	.978	4.656	79.491	9.361	
5	.442	2.105	85.535					
6	.384	1.829	87.364					
7	.344	1.639	89.003					
8	.324	1.542	90.545					
9	.306	1.456	92.001					
10	.243	1.159	93.159					
11	.191	.910	94.069					
12	.179	.854	94.923					

13	.168	.799	95.723
14	.150	.713	96.435
15	.140	.667	97.102
16	.135	.642	97.745
17	.117	.556	98.301
18	.113	.539	98.840
19	.093	.441	99.281
20	.080	.380	99.661
21	.071	.339	100.000

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

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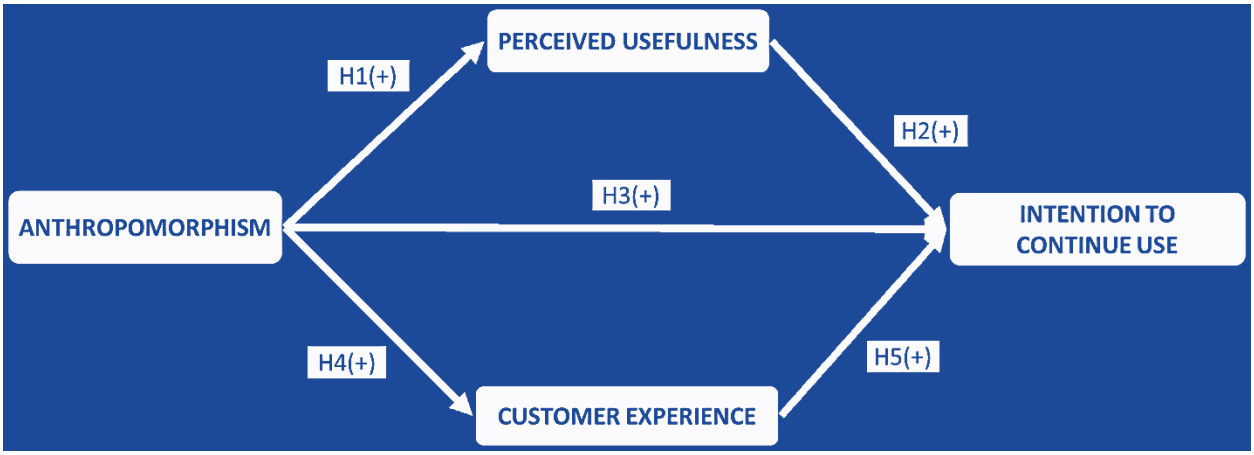
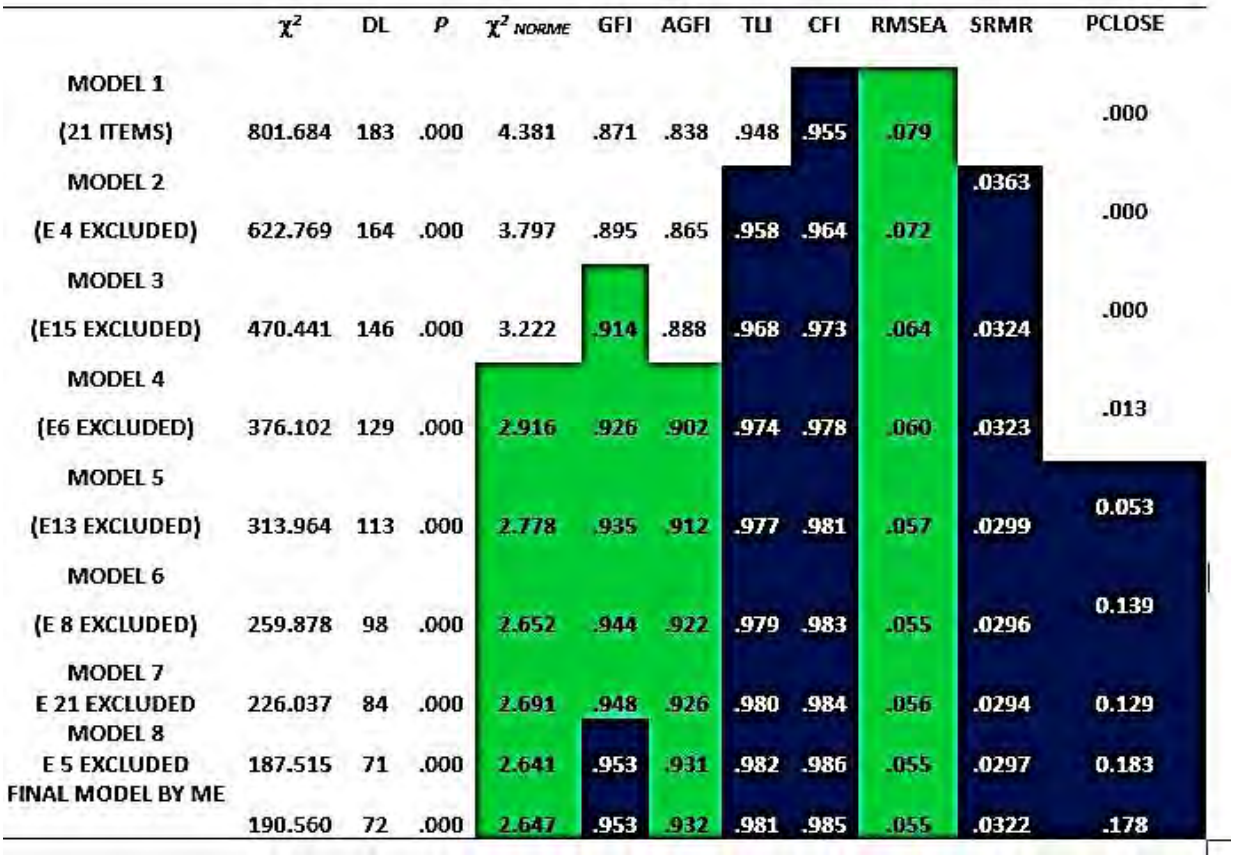
Figure 1.

Conceptual Framework



Note. the figure demonstrates interplay of various factor that impact intention to continue use. The central construct Intention to continue use is influenced by three factors, “Anthropomorphism” “Perceived usefulness” and “Customer experience”. The arrows indicate directional relationships. Suggesting the impact of each factor. H1, H2 H3, H4 and H5 states the hypothesis number which are proposed.

Figure 4.

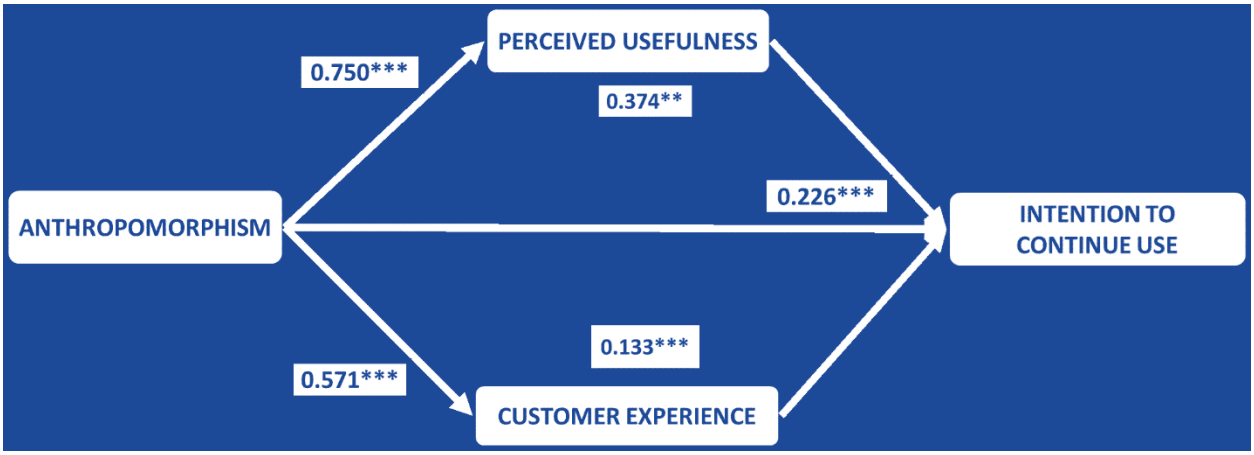


	χ^2	DL	*P*	χ^2 *NORME*	GFI	AGFI	TLI	CFI	RMSEA	SRMR	PCLOSE
MODEL 1 (21 ITEMS)	801.684	183	.000	4.381	.871	.838	.948	.955	.079		.000
MODEL 2 (E 4 EXCLUDED)	622.769	164	.000	3.797	.895	.865	.958	.964	.072	.0363	.000
MODEL 3 (E15 EXCLUDED)	470.441	146	.000	3.222	.914	.888	.968	.973	.064	.0324	.000
MODEL 4 (E6 EXCLUDED)	376.102	129	.000	2.916	.926	.902	.974	.978	.060	.0323	.013
MODEL 5 (E13 EXCLUDED)	313.964	113	.000	2.778	.935	.912	.977	.981	.057	.0299	0.053
MODEL 6 (E 8 EXCLUDED)	259.878	98	.000	2.652	.944	.922	.979	.983	.055	.0296	0.139
MODEL 7 E 21 EXCLUDED	226.037	84	.000	2.691	.948	.926	.980	.984	.056	.0294	0.129
MODEL 8 E 5 EXCLUDED	187.515	71	.000	2.641	.953	.931	.982	.986	.055	.0297	0.183
FINAL MODEL BY ME	190.560	72	.000	2.647	.953	.932	.981	.985	.055	.0322	.178

Note. Note.**x²** (likelihood ratio), **x² Norme** (chi-square), **GFI** (Goodness of fit index), **AGFI** (adjusted goodness of fit index), **TLI** (tucker Lewis's index) **CFI** (comparative fit index), **RMSEA** (root mean square error of approximation), SRMR (standardized root mean square residual), **PClose** (probability of close fit). Indicates the value are or above 0.95 and indicates that values are above 0.90 and for x norme value are above 2.

Figure 5.

Path Analysis



Annexures

5.5.1 Annexure 1

Survey Form

VOICE NAVIGATOR: TRAVEL EASILY WITH YOUR MAPMATE

Dear Participant,

We are a team of researchers studying travelers' attitudes and perceptions towards voice navigation assistant.

Participation in the survey is voluntary and has no right or wrong answers. Moreover, your responses will be kept confidential and are protected under the US privacy Data Protection Act of 1972 and Pakistan Data protection bill 2021. Only anonymized aggregate data will be used for academic research publications.

Thank you.

Dr. Muhammad Junaid-Assistant Professor, QAU Islamabad.

Ms. Hajra Asghar- Research Scholar, QAU Islamabad.

****

Please mention which voice navigation assistant mostly you choose for travelling.

- ***Google Voice Navigation Assistant (Google Map)*** ☐
- **Sygic Navigation** ☐
- **Apple Navigation** ☐
- **Others (Please Mention) _____**

NOTE: Please fill this survey keeping in mind your travel experience with voice navigation assistant as you mentioned in the above question. There is no right or wrong answer, we just need your opinion (level of agreement) on the questions given below.

1 = Strongly disagree

7= Strongly agree

****

1. Anthropomorphism	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
i. This voice navigation assistant feels natural	1	2	3	4	5	6	7
ii. This voice navigation assistant is polite	1	2	3	4	5	6	7
iii. This voice navigation assistant is humanlike	1	2	3	4	5	6	7
iv. This voice navigation assistant is authentic	1	2	3	4	5	6	7
v. This voice navigation assistant is realistic	1	2	3	4	5	6	7

2. Perceived usefulness	Strongly Disagree	Disagree	Somewhat agree	Neutral	Somewhat Agree	Agree	Strongly Agree
i. This voice navigation assistant is useful for my travel planning	1	2	3	4	5	6	7
ii. This voice navigation assistant improves efficiency of my travel planning	1	2	3	4	5	6	7
iii. This voice navigation assistant improves my	1	2	3	4	5	6	7

	performance of travel planning (save time)							
iv.	**This voice Navigation assistant is useful for getting travel information**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
v.	**This voice Navigation assistant makes my life meaningful**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
vi.	**Overall, I feel that this voice navigation assistant is very useful for travel planning**	**1**	**2**	**3**	**4**	**5**	**6**	**7**

3. Intention to continue use	**Strongly Disagree**	**Disagree**	**Somewhat agree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
i. I intend to accomplish my travel tasks using this voice navigation assistant	**1**	**2**	**3**	**4**	**5**	**6**	**7**
ii. I would be willing to use this voice navigation assistant.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
iii. I would like to continue interact with this voice navigation assistant	**1**	**2**	**3**	**4**	**5**	**6**	**7**

iv.	I would like to continue accepting services from this voice navigation assistant	1	2	3	4	5	6	7
v.	It is likely that I will continue using this voice navigation assistant in the future.	1	2	3	4	5	6	7
vi.	In future, I would use this voice navigation assistant.	1	2	3	4	5	6	7

Customer experience		Strongly Disagree	Disagree	Somewhat agree	Neutral	Somewhat Agree	Agree	Strongly Agree
i.	I enjoy using this voice navigation assistant	1	2	3	4	5	6	7
ii.	The experience of using this voice navigation assistant was interesting	1	2	3	4	5	6	7
iii.	I am happy with the experience of using this voice navigation assistant	1	2	3	4	5	6	6

iv.	**This voice navigation assistant appeals to my senses (audio, visual)**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
v.	**Overall, I have a good experience of using this voice navigation assistant for my travelling.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Demographics	1	2	3	4	5	6	
Gender		Male	Female	Other			
Work status		Part time	Part time	Part time	Part time	Part time	
Marital status		Married	Un married	Other			
Age		25 below but above 18	26-35	36-45	46-55	Above 55	
income		30,000 or below	31000-50,000	51,000-71,000	71,000-100000	100001-150,000	Above 150000
Occupation		Student	Self employed	Government job	Private job	Own business	
Education		School	Undergraduate	Masters	Ph.D.		
Most frequently used device		Phone	Tablet	Car-built in	Smart watch		
Interactivity preference		High	Low	Limited			
Frequency level		Very rarely	Rarely	Occasionally	Frequently	Very frequently	
Quality		Appropriate	In-appropriate				

We are Thankful for your time and Participation in this Survey.

If Any Other Remarks, please enter below:----------

Nomenclature

Abbreviation	Meaning
AI	Artificial Intelligence
ANOVA	Analysis of Variance
ANTH	Anthropomorphism
Apps	Applications
ATM	Automated teller machine
CA	Conversational Agent
CBM	Common Method Bias
CFA	Confirmatory Factor Analysis
CXP	Customer Experience
DL	Deep Learning
ECT	Expectation-Confirmation Theory
EFA	Exploratory Factor Analysis
IS	Information System
IT	Information Technology
ITAM	Interactive Technology Acceptance Model
ITU	Intention to Continue Use
KMO	Meyer-Olkin Kaiser
ML	Machine Learning
NLP	Natural Language Programming
PU	Perceived Usefulness
SRAM	Service Robot acceptance model
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
VA	Virtual Assistant

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ABSTRACT

The adoption of countless tools and techniques is adopted in services marketing for creating positive customer experience, however unlocking the potential of anthropomorphism for travelers remain scarce. In an e-savvy business world, a growing number of businesses are leveraging the use of voice assistants, on the flip side voice navigation assistant has been largely overlooked. The key focus of this research is to investigate the role of anthropomorphism in creating customer experience and its subsequent outcomes. Moreover, we have assessed the role of perceived usefulness and customer experience between anthropomorphism and continuance usage intention of voice navigation assistants by travelers. Survey data was collected from 342 respondents and was analyzed using Structural Equation Modeling (SEM). The results show anthropomorphism has significant positive impact on perceived usefulness, customer experience, intention to continue use. Customer experience and perceived usefulness both mediate the relationship between anthropomorphism and intention to continue use. The study provide practical and theoretical insights and we end up with a research agenda to motivate additional thought-leading research in this fast-growing area.

Key Words: Anthropomorphism, Intention to continue use, Customer Experience, Perceived Usefulness, Voice Navigation Assistant.

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