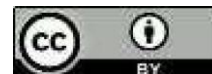# Trust in Travel Apps: Antecedents and Mediation of the Satisfaction-Loyalty Relationship

Confiança em apps de viagem: antecedentes e mediação da relação satisfação e lealdade

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ABSTRACT

New technologies have revolutionized how tourists make decisions related to organizing their trips, often bypassing intermediaries. This shift requires users of emerging technologies to develop new skills and, above all, trust in their tourism service providers. Although trust is crucial for the decision-making process of travel app users, the antecedents of trust, such as consumer behavior, and its role in the relationship between satisfaction and loyalty intention remain developing research areas. This study, grounded in Social Exchange Theory (SET) and the Service-Dominant Logic (SDL), aims to identify the main constructs antecedent to affect-based trust and cognition-based trust, as well as their implications for traveler satisfaction and loyalty intention. To achieve this objective, five thousand comments and reviews from users of the main travel apps available in virtual stores were collected. Each comment was coded, with researchers serving as judges for this stage, based on the literature on trust and consumer behavior, and content analysis. The results revealed the predominance of cognition-based trust compared to affect-based trust, as well as the decreasing relative importance of human assistance as users' experience increases. Following these conclusions, the authors conducted a post-hoc analysis to verify the robustness of the findings. In conclusion, the authors discuss the significant theoretical implications of software-assisted

content analysis, highlighting the use of user testimonials as a data source, as well as the managerial implications that emphasize the importance for industry practitioners of building trust for the use and dissemination of such apps. Finally, the study's limitations are addressed, and directions for future research are pointed out.

Key-words: Travel apps, affect-based trust, cognition-based trust, satisfaction, Loyalty

RESUMO

Novas tecnologias têm revolucionado a maneira como os turistas tomam decisões relacionadas à organização de suas viagens, frequentemente dispensando intermediários. Isso exige que os usuários de tecnologias emergentes desenvolvam novas habilidades e, sobretudo, confiança em seus provedores de serviços turísticos. Apesar de a confiança ser relevante para o processo decisório dos usuários de aplicativos de viagem, os fatores antecedentes da confiança como comportamento do consumidor e o papel dela na relação entre satisfação e intenção de lealdade continuam sendo áreas de pesquisa em desenvolvimento. Este estudo, fundamentado nas Teorias das Trocas Sociais (SET) e na Lógica do Serviço Dominante (LDS), tem como objetivo identificar os principais construtos antecedentes à confiança baseada em afeto e à confiança baseada em cognição, além de suas implicações na satisfação e intenção de lealdade do viajante. Para atingir tal objetivo foi realizada a coleta de cinco mil comentários e avaliações de usuários dos principais aplicativos de viagem disponíveis em lojas virtuais. Cada comentário passou por uma codificação, sendo os pesquisadores os juízes da etapa, baseada na literatura sobre confiança e comportamento do consumidor e usando como técnica a análise de conteúdo. Os resultados revelaram a predominância da confiança baseada em cognição em comparação com a confiança baseada no afeto, bem como a diminuição da importância relativa do atendimento humano à medida que a experiência dos usuários aumenta. Após tais conclusões, os autores realizaram uma segunda análise, a posteriori, para se verificar a robustez dos achados. Na conclusão, os autores discutem as implicações teóricas significativas da análise de conteúdo assistida por software, destacando o uso de depoimentos de usuários como fonte de dados, assim como as implicações gerencias, que reforçam para os praticantes da indústria a importância da construção de confiança para o uso e disseminação do uso de tais aplicativos. Por fim, são abordadas as limitações do estudo e apontadas direções para pesquisas futuras.

Palavras-chave: Aplicativos de viagem, confiança baseada em afeto, confiança baseada em cognição, satisfação, lealdade

INTRODUCTION

Despite being a recent phenomenon, the use of smartphones has become a rule in consumption, including in tourism. In 2020, Brazil had 238 million electronic devices of the smartphone type (Meirelles, 2021). In the same year, e-commerce in the country reached 87.4 billion reais, with a compound annual growth rate (CAGR) of 19.4% in the last decade. This growth was not only in revenues, but also to the growth of the customer base connected to the network. In the same year, the country gained more than 13 million consumers (EBIT/Nielsen, 2021).

Obviously, this technological change has affected the acquisition of tourism products and services: only 17% of consumers express interest in buying "holidays and entertainment" items through physical stores. In other categories, such as groceries, clothing, electronics and beauty, this average was higher than 50% of respondents (Adyen & KPMG, 2022). In 2023, 80% of sales of themed cabins on cruises that sailed the Brazilian coast were made through the mobile messaging app WhatsApp (Omnichat, 2023).

In tourism as a field of study, the subject evolves the purchase of services that will be consumed in the future, for potentially unknown destinations to the tourists, as well as the existence, location and attributes of the accommodations. Many times, tourists choose destinations with currencies, languages and cultures different from their own. In order for these potential points of friction to be resolved, consumers must trust the service providers. Despite the aforementioned numbers, tourism continues to have potential for exploration of the issue of trust and its impacts on tourists' decision-making processes: while for consumers, confidence in buying online travel is the main concern, for service providers, it ranks sixth, demonstrating a significant dichotomy in priorities between both parties involved in the sector (Shah et al., 2023).

The rise of new technologies has allowed tourists to make decisions related to the organization of their trips in unprecedented ways, often eliminating the need for intermediaries (Mendes Filho et al., 2017). However, this transformation in the consumer's decision-making process requires the development of new skills, and specifically trust in tourism service providers (Cohen, Prayag and Moital, 2014), due to the asymmetry of information and uncertainties present in online environments (Kalaignanam et al., 2018; M. J. Kim et al., 2013).

Considering these aspects, the paradox of personalization emerges: to receive personalized offers, consumers must share their personal data. However, based on Social Exchange Theory (SET, consumers expects benefits from sharing their information (Corrêa & De Sevilha Gosling, 2023; Cropanzano et al., 2017). Moreover to natural characteristics tourist products such as intangibility, inseparability, perishability and heterogeneity (Zeithaml, Berry & Parasumaran, 1996), users of travel applications face several risks and uncertainties, including potential losses related to the performance of the product or service, financial, psychological, social, physical and temporal aspects (Quintal, Lee and Soutar, 2010). Thus, trust as a behavioral construct emerges as a crucial component in the decision-making process of consumers.

SET posits that the results of social interactions are shaped by the reciprocal expectations of the agents involved, extending beyond economic motivations (Santos Novais & Bridi, 2024; Corrêa & De Sevilha Gosling, 2023). This observation is particularly relevant in tourism contexts, where the act of exchanging information, goods, and services is inherently embedded in interpersonal interactions.

As a consequence of exchanges, this article also draws on the **Service-Dominant Logic (SDL)**, which, in the context of the tourism industry, conceptualizes it as a service ecosystem. Within this framework, organizations act as resource integrators, interconnected through shared institutional arrangements, resulting in the mutual creation of value through service exchange (Assiouras et al., 2019). The experiential nature of tourism and hospitality reinforces the validity of **value co-creation** (Eletxigerra et al., 2021; Ribeiro et al., 2023), including the **active participation and collaboration** of tourists with service providers (Nunkoo & Ramkissoon, 2012), as well as among tourists themselves (Frio et al., 2024), generating valuable insights for the entire supply chain (Rihova et al., 2018).

Although trust is widely recognized in the academic literature on tourism, most research on the subject has explored it in relation to mature destinations (Kumar & Kaushik, 2018; Nunkoo & Ramkissoon, 2012) or emerging ones (Marques et al., 2021), or has focused on establishments within these destinations, such as casinos (Baloglu et al., 2017) or local restaurant chains (Roy et al., 2017). Few studies have addressed the critical role of travel package intermediation, particularly in the online context. From a managerial perspective, it is important to highlight that, while trust is the primary concern for travel customers, for companies, it typically ranks only sixth on their list of priorities (Shah et al., 2023).

Thus, this study focuses on identifying the antecedent constructs of trust and assessing their impact on consumer satisfaction and loyalty in travel apps—issues that are inseparable from the personalization paradox. Using a phenomenological approach, we seek to uncover aspects of consumer trust, encompassing both cognitive and affective dimensions. This will be achieved through content analysis, supported by computational techniques for text corpus analysis.

To accomplish this goal, data collection was designed using secondary sources, drawing from user-generated content in the mobile app stores of leading providers in this category, followed by an analysis of these texts.

This article is structured as follows: first, we conduct a literature review on consumer trust, exploring its connection with related topics such as satisfaction, loyalty, and technology adoption, among others. Next, we present our methodological approach, the selection of the research object, its association with theoretical constructs and the application of content analysis. Finally, we conclude with key findings, limitations, and discussions relevant to both theoretical and managerial perspectives.

LITERATURE REVIEW

1 Trust

Before the widespread adoption of information technologies and e-commerce, commercial exchanges were built over time through in-person

interpersonal relationships. However, with the proliferation of these technologies, such interactions often occur remotely or through autonomous systems—a phenomenon described as the disembodying of social relations (Fulmer & Gelfand, 2012, citing Giddens, 1990). This shift in the social landscape raises significant questions about how to establish trust in online transactions, as it deprives individuals of the opportunity to develop trust through traditional, face-to-face interactions (McKnight, Liu & Pentland, 2020; Soares, Dias & Mendes Filho, 2017).

Therefore, it is justifiable that researchers and professionals focus on understanding and managing user reactions to information technologies. Consumer technology adoption should primarily aim to enable new forms of interaction while mitigating undesirable effects, including reducing perceptions of risk and uncertainty during the purchasing and consumption process (Maia, Lunardi, Budiño & Pereira, 2022). Quintal, Lee & Soutar (2010) identify potential losses related to product or service performance, financial aspects, psychological factors, social implications, physical safety, and time investment. The concepts of risk perception and uncertainty, explored in the following sections, share a common concern with potential losses or undesirable outcomes, although they differ in certain academic discussion.

One line of thought suggests that, in commercial interactions, risk is a subjective feeling linked to the ability to calculate the likelihood of unfavorable purchase outcomes, whereas uncertainty arises when such calculations are impossible due to a lack of clear and probabilistic information (Cunningham, 1967). Both concepts are widely explored in consumer research, particularly in the tourism sector, addressing financial risks, such as those associated with crowdfunding for hotels (Salem, Elkhwsky, Baber & Radwan, 2022), physical risks in maritime cruises (Holland, Weden, Palmer & Lester, 2022), and various risks related to natural disasters (Rocha & Silveira, 2021).

In the Brazilian market, beyond the consequences of the SARS-CoV-19 pandemic, there are challenges related to image perception and uncertainty regarding public policies (Lohmann et al., 2022). This uncertainty heightens the importance of travelers' trust in tourism agents—whether physical or virtual—, a crucial element for building strong and lasting relationships within the tourism value chain (Cohen et al., 2014). It is important to note that trust is built cumulatively over time

(Dedeoğlu et al., 2019) and plays a fundamental role in transactions involving high-value products or services, such as tourism (M. J. Kim et al., 2015).

Therefore, the essence of trust lies in the willingness to accept risk in transactions, based on positive beliefs about the integrity and reliability of the other party (Mayer et al., 1995; Rousseau et al., 1998). Due to information asymmetry and consumer uncertainty in online environments, trust plays a decisive role in the consumer decision-making process (Kalaignanam et al., 2018; M. J. Kim et al., 2013), especially in the context of online purchases made through mobile applications (Cho et al., 2019).

Despite the importance of this topic, there is a gap in the literature regarding trust-building in mobile applications within the tourism sector. Most studies focus on mature or emerging destinations or on establishments within those destinations, with little attention given to technology-based travel intermediation processes (Buhalis et al., 2020).

2 Loyalty and satisfaction

In this study, loyalty is defined as the explicit intention to repurchase or recommend through electronic word-of-mouth (Gundlach & Cannon, 2010), as seen in the case of hotel brands (Baloglu et al., 2017). While it is commonly assumed that consumer satisfaction automatically leads to loyalty, the relationship between these two factors is more complex. Consumer satisfaction is often used to assess and enhance the perceived quality of a product or service, but it does not always directly translate into loyalty behaviors, particularly in the tourism sector (Chi & Qu, 2008).

In the tourism sector, consumers tend to place greater trust in peer recommendations rather than in endorsements from the brand or product itself (Filieri, Alguezuai & McLeay, 2015; Wang et al., 2019). Thus, customer satisfaction plays a crucial role, as satisfied customers are more likely to recommend and influence other consumers, regardless of a company's ability to shape these decisions (Cheng & Loi, 2014). This satisfaction can be assessed in different ways—for instance, in relation to the platform, where a higher perception of information quality leads to greater satisfaction (M. J. Kim et al., 2011), or through the importance of memorable experiences in shaping customer satisfaction (J. H. Kim, 2018).

Although the relationship between satisfaction and loyalty (or repurchase) is a widely explored topic in academic literature (Benedicktus et al., 2010; Cheng & Loi, 2014; Su et al., 2020), most studies, as seen above, focus on satisfaction with the destination. In contrast, this article examines how satisfaction manifests in relation to the means of acquiring travel experiences, specifically travel apps.

3 Shared values

Shared values refer to the common beliefs between partners regarding behaviors, goals, and policies, which are fundamental to organizational culture and influence a group's identity and sense of belonging (Morgan & Hunt, 1994).

These values can serve as guiding principles for decision-making and actions and are essential for building trust-based relationships between buyers and suppliers. Identifying shared values with travel app service providers is particularly important for fostering cooperation between users and providers (Guttentag et al., 2018).

4 Perceived Quality

Perceived quality in products and services refers to consumers' overall view of the completeness and accuracy of the information related to the services offered and the financial transaction procedures (Kim et al., 2008). The relationship between information and trust becomes complex when the offering is homogeneous (Bonsón Ponte, Carvajal-Trujillo & Escobar-Rodríguez, 2015; Wang et al., 2019). For tourists to receive personalized offers, it is necessary to voluntarily share information with travel agencies.

The personalization of travel offers and tourism packages has been an emerging topic in academic literature. Personalized offers can help address the paradox between information and trust by providing consumers with offers tailored to their needs (Beer et al., 2017; Darke et al., 2016).

METHOD, DATA COLLECTION AND RESULTS

The goal of this study is to identify the key antecedent constructs of trust and their consequences concerning satisfaction and loyalty, with a focus on user reviews

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shared in travel app stores. We adopt a qualitative approach, which allows for understanding the meanings of events, situations, and actions in which individuals are involved, investigating the phenomenon of consumer trust in travel apps based on the testimonies of reviewers (Skjott Linneberg & Korsgaard, 2019).

To achieve this objective, we employ phenomenological research, a qualitative strategy in which the researcher seeks to identify the essence of human experiences related to a phenomenon based on the participants' testimonies (Creswell, 2003). It is also important to highlight that the proposed approach is widely used in applied social sciences research (Fischer, Castilhos & Fonseca, 2014) and is not limited to primary sources (Monaro et al., 2022), as it is a method with the potential to explore any human experiences or events encountered (Manen, 2020). The use of secondary data allows for a more immediate transition from theory development to its testing, enabling researchers to focus on theoretical objectives and substantive issues, rather than on practical and methodological concerns related to the collection of new data (Smith, 2008).

The sample was purposively selected, with the aim of finding replicable evidence capable of extending existing theories (Drisko, 2020). We collected approximately 5,000 reviews published in travel app stores. The criteria for sample selection were based on choosing tourism apps that were well-ranked in the virtual store (Google) and that were not restricted solely to urban mobility.

Thus, we collected at least 1,000 reviews, adhering to the criterion of the most recent evaluations, recorded in the virtual stores of the following mobile applications: Airbnb (ranked 3rd in the "Travel" category on Google Play); Booking.com (ranked 4th); Hotel Urbano (ranked 5th); 123 Milhas (ranked 7th); and Decolar.com (ranked 11th). These apps were downloaded by users over 5 million times by the end of 2022.

The data collection took place between August and October 2022, with the most recent review dated October 22, 2022, and the oldest from February 25, 2018. At the time of collection, these apps had between 21.8 thousand and 3.5 million user reviews, providing a rich data source for analysis (Lindgren, 2019). The data collection was done manually, following a process of copying the comments from the original sources and pasting them into a spreadsheet for future analysis, a technique known as web scraping (Zhao, 2017).

After data collection, an initial filtering step was conducted, in which reviews with non-identifiable or inferrable usernames were discarded, retaining only those with a recognizable digital pseudonym. According to the proposal by Pfitzmann and Kohntopp (2001), a digital pseudonym is a fragment of information used to authenticate the user and their interest in the review shared in the app store.

A second filtering step involved discarding data that could not be categorized according to the criteria defined in the next section. Blank comments or those predominantly composed of emojis were excluded, as the use of emojis requires specific syntactic, semantic, and pragmatic analysis, which could complicate the analysis (Leung & Chan, 2017). After this second filtering step, the final sample consisted of about 4.6 thousand reviews, maintaining a significant sample size for analysis.

Content analysis

Content analysis is a widely used technique in scientific research in the field of consumer behavior, with the purpose of **interpreting and understanding the meaning** of qualitative data, such as texts, discourses, images, and other forms of communication (Denzin & Lincoln, 2000; Creswell, 2003).

The first step in conducting **content analysis** was briefly described earlier, where the data collection process was explained. In this context, the research defined a **textual corpus** for analysis based on a **theoretical dilemma**. In the specific case of this study, the corpus was composed of **user comments** published in mobile app stores. The collected texts were imported into the **NVivo software** and underwent an intermittent process of **reading, interpretation, and coding**.

NVivo is a tool classified as **CAQDAS** (Computer-Assisted Qualitative Data Analysis Software), meaning it is a computerized software used for analyzing **qualitative textual data**. Additionally, NVivo is capable of generating **dendrograms**, graphical representations that demonstrate the proximity between variables (Veal, 2017). The **coding** was also done in NVivo, where the program created a table in which the **data sources** were listed in the rows, and the **characteristics chosen by the researcher** were grouped in the columns or cells.

The construction of **dendrograms** enabled the visualization of the relationships between the **constructs** coded in the selected texts. However, it is important to note that, according to Macia (2015), the presentation of **content analysis results** through **dendrograms** is still underused due to the lack of familiarity among researchers with the interpretation of these graphical representations.

As highlighted by Lindgren (2019), although the **dichotomous discussion** between **qualitative** and **quantitative approaches** has already been overcome, the proliferation of data can lead to a "**fascination with numbers**," which may compromise applied social research by obscuring theoretical interpretation amid quantitative data and infographics.

After the completion of the **data collection** phase and its subsequent processing, which in this study included **coding** through NVivo software, the authors proceeded with the **organization of items** by identifying common themes. The closer the items were geometrically, the higher the probability that they belonged to the same group. This procedure is known as **clustering** and can be performed based on **words**, **codes**, or **similar attributes**.

This clustering technique is not uncommon in the field of tourism and has already been used in studies such as Marques et al. (2021), who identified attributes for emerging destinations through data mining of travel blogs related to Bulgaria, or in the analysis of content dissemination related to tourism and coverage of COVID-19 news in China (Chen et al., 2022) or sustainable services in "green hotels" (Gupta et al., 2019). Additionally, the clustering technique is also applied in literature reviews on consumer behavior in the tourism sector (L. Wang et al., 2014).

Categories of analysis

The following presents the constructs matrix, as well as examples of evaluations, categorizations, and judgments made by the researchers of the study for the collected comments, as shown in Table 1.

Table 1: Constructs matrix and examples

CONSTRUCTO	Exemplos de Texto codificado
Satisfaction	Rating – 4 or 5 stars
Dissatisfaction	Rating – 1 or 2 stars
Lolayty	"I recommend"; "I will buy again"; "I will purchase again"
Perceived quality	"App is great," "Very intuitive," "Easy interfaces," "Easy navigation," "Super intuitive"
Privacy and data safety	"They erased my data," "Mandatory fields multiple times," "My data doesn't match," "Others' data"
Users' experience	"Whenever I travel," "I always buy," "My family always purchases (tickets)," "Second time that," "Third time that"
App perceived reputation	"I met the company....," "I saw the advertisement/commercial on TV," "I was referred to the company," "I decided to try"
Shared values	"The company cared about me," "It was shown interest in me"
CBC	"Package with all the vouchers," "Functional, intuitive, and super secure app"
CBA	"It seems like the company knows what I need," "They kept their word"
EMERGING CONSTRUCTS	
Personalization	"The city (in the search engine) does not match what I am looking for," "There's only departure from destination X"
Human Assistance	"No one available," "I waited for hours online"

Source: the authors (2024)

Analysis verification

After the initial coding, a second content analysis was conducted to reduce potential biases in the interpretation of the texts (Macke et al., 2018). To achieve this, a lexicometric approach was adopted using the Iramuteq software, which allows the analysis of word frequency and its distribution in different contexts. The application of this tool provided a new perspective on the data, offering both quantitative and qualitative insights, which complement the earlier analysis done with NVivo. The verification with Iramuteq was crucial for ensuring the robustness of the results, identifying patterns and word relationships that might not have been apparent in the first analysis.

This analysis aims to identify representations within a specific corpus of texts by calculating the statistical distribution of lexical elements such as nouns, verbs, adjectives, and adverbs (Reinert, 1990). In a corpus containing texts from multiple authors, the recurrence of two or more lexical elements together suggests that these elements form a conceptual field (Reinert, 1990). In the context of this study, these

conceptual fields can be considered as categories of analysis, contributing to their validation. To achieve this result, a Descending Hierarchical Classification (DHC) analysis was conducted, which identifies similar and representative conceptual classes, or clusters, using the statistical association test Chi-Square (Camargo & Justo, 2013).

It is also worth mentioning that, in addition to avoiding bias, this type of analysis has the advantage of being replicable, as well as processing large amounts of text graphically (Chaney & Séraphin, 2023), as is the case in this study.

RESULTS ANALYSIS

Figure 1 below presents the clustering proposed by the CAQDAS and the constructs used in the research.

Figura 1: Correlation among constructs
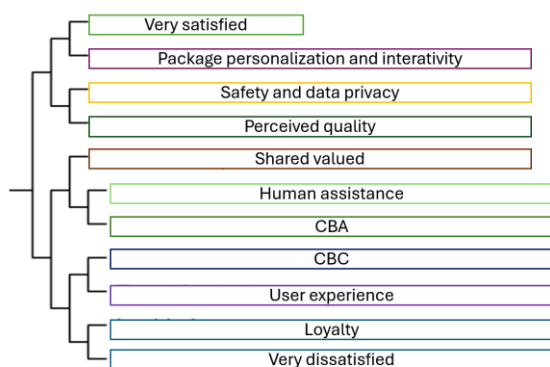
Source: the authors (2024)

Based on the analysis of the relationship between human assistance and other constructs, especially user experience, we can conclude that consumer trust and loyalty tend to be stronger as the user becomes more experienced. A positive experience with the platform, manifested through successive successful interactions, reduces the reliance on human assistance, as the user feels more confident and comfortable resolving issues or making transactions on their own. This decrease in the need for human support is linked to an increase in brand affection and the establishment of a trust-based relationship, leading to consumer loyalty.

The accumulation of good experiences, as observed in the testimonials, suggests that more experienced consumers tend to have a more positive view of the company and engage less with human assistance, as they have already built trust in the brand over time. This trust, in turn, can create a loyalty cycle, where the repetition of positive experiences strengthens the relationship with the brand and motivates users to continue using their services without requiring additional support.

In summary, user experience appears to be a critical determinant for trust and loyalty in the context of online travel purchases, especially when interactions are efficient and problem-free. The brand gains a competitive advantage by providing a smooth and satisfactory user experience, thereby reducing the need for constant human assistance.

This conclusion reinforces the importance of investing in an intuitive user interface and frictionless purchasing processes, as these factors not only increase satisfaction but also contribute to long-term trust and loyalty.

Proposition 1: "The more experienced the traveler, the lower the demand for human interaction in customer service on travel apps."

On opposition, affection-based trust shows relatively low correlation indices with "loyalty" (coefficient = 0.37) and "user experience" (coefficient = 0.43). According to Nguyen, Zhang, and Calantone (2018), low levels of trust have the potential to harm a brand more than increase its value. This evaluation is supported by the high level of dissatisfaction with affection-based trust (coefficient = 0.65), as evidenced by user examples 417: "This shows the integrity of the company" and 294: "Don't use this app, because the cancellation date they give you is a lie! Not trustworthy!!". The innovation of this article lies in the separation of the aspects of trust linked to affection from those linked to cognition.

Cognitive-based trust (CBC) shows slightly higher correlation values in relation to affection-based trust (CBA) for "perceived quality" (coefficients of 0.76 and 0.69, respectively) and "shared values" (coefficients: 0.72 and 0.62, respectively). Based on this analysis, we propose:

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Proposition 2: "The effect of higher perceptions of quality has a greater impact on cognition-based trust than on affection-based trust."

Proposition 3: "The effect of shared values is more influential on cognition-based trust than on affection-based trust."

The data suggest the existence of a high correlation between dissatisfaction and cognition-based trust (coefficient = 0.75). This evidence may appear counterintuitive, as one might expect dissatisfaction to lead to lower trust. However, the results indicate that the reasons leading consumers to trust certain app-based travel service providers less are related to cognitive aspects, as reflected in user testimonials. For instance, user 3513 stated: "It is the most limited of the search engines; it lacks the necessary filters for personalizing the travel experience, as it only allows filtering by star rating (which is old-fashioned) and price." Similarly, user 1890 commented: "They canceled my reservation without informing me. Very disappointing!" To enhance clarity, it might be helpful to rephrase the sentence "as one might expect dissatisfaction to lead to lower trust" to explicitly reflect the expectation and its contradiction. Based on this analysis, we suggest:

Proposition 4: "Tourists' dissatisfaction with travel apps is explained by the breakdown of trust anchored in cognitive aspects."

The relationship between dissatisfaction and negative perception of app quality demonstrates a strong correlation (coefficient = 0.89), reinforcing the link between these two constructs. In addition to the previously mentioned examples, other user testimonials clearly illustrate dissatisfaction with the app. For instance, testimonial 1832 states: "Very dissatisfied. Only use it to search for tickets, never buy anything from XXX. Both times I purchased, it was nothing but a headache. In short, it's rubbish!!!" These statements highlight the impact of quality perception on user experience.

Based on this analysis, we suggest:

Proposition 5: "Users' perception of the quality of a travel app is a predictor of satisfaction."

Data analysis also indicates a strong relationship between quality perception and sensitivity to the possibility of customizing travel packages as demanded by users (coefficient = 0.85). This is corroborated by testimonials such as that of user 4003: "Terrible filters. The idea of filtering is to reduce options. I think the developers didn't understand that" or user 1625: "I'm from the North, and I found it completely disrespectful that there wasn't a single package departing from the North, nor the option to set your location to see personalized packages." Furthermore, dissatisfaction showed an almost perfect correlation with perceived quality (coefficient = 0.97). Based on this strong correlation between "package customization" and perceived quality, we propose:

Proposition 6: "The possibilities for customizing travel packages enhance users' perception of quality in travel apps."

At a secondary level, the relationship between trust and the manifestation of consumer loyalty intention is evident from app user testimonials, with a correlation coefficient of 0.63 for cognition-based trust and 0.35 for affect-based trust. This indicates a sensitivity in consumer loyalty to changes in calculation-based and cognitive trust factors, though affect-based trust shows significantly less intensity. This is evidenced by testimonials such as user 565: "(App) Super smooth (easy to use)! I'll definitely use it again!" or user 34: "(...) it was a true discovery for me. I felt empowered when planning my trip here, and I'll return (to use it) in the future." Thus, we propose:

Proposition 7: "Trust affects consumers' intention of loyalty."

For the variable "very dissatisfied," the correlation coefficient with trust was 0.75, while "very satisfied" showed a correlation coefficient of 0.51. It is possible to suggest, therefore, that trust is sensitive to users' perception of satisfaction. This is also evidenced by comments such as user 73: "My secret weapon to explore the world! Really cool!" or the dissatisfied user 220: "Disappointing, a mess. I can't trust anything I see on the screen." Thus, we propose:

Proposition 8: "User satisfaction influences trust."

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Results   and   Consistency

As previously mentioned, to further strengthen the consistency of the research findings and mitigate potential biases in the interpretation and coding of the analyzed comments, we decided to conduct a new analysis using the Iramuteq software. The choice of this program was intentional, as it allows for a counterpoint to NVivo, given that its method of analysis is a posteriori—that is, it does not require preliminary coding of the text to be analyzed—thus distancing the research from a more interpretivist character (Mazieri, Quoniam, Reymond, & Cunha, 2022). Accordingly, we conducted, as proposed by the aforementioned authors, a Descending Hierarchical Classification (DHC) analysis, which enables the visualization of major semantic fields that emerge from the analyzed corpus (Mazieri, Quoniam, Reymond, & Cunha, 2022). Figure 2 below presents the output generated by the software.

Figure 2: Result DHC

Dendogramme CHD1 - phylogram
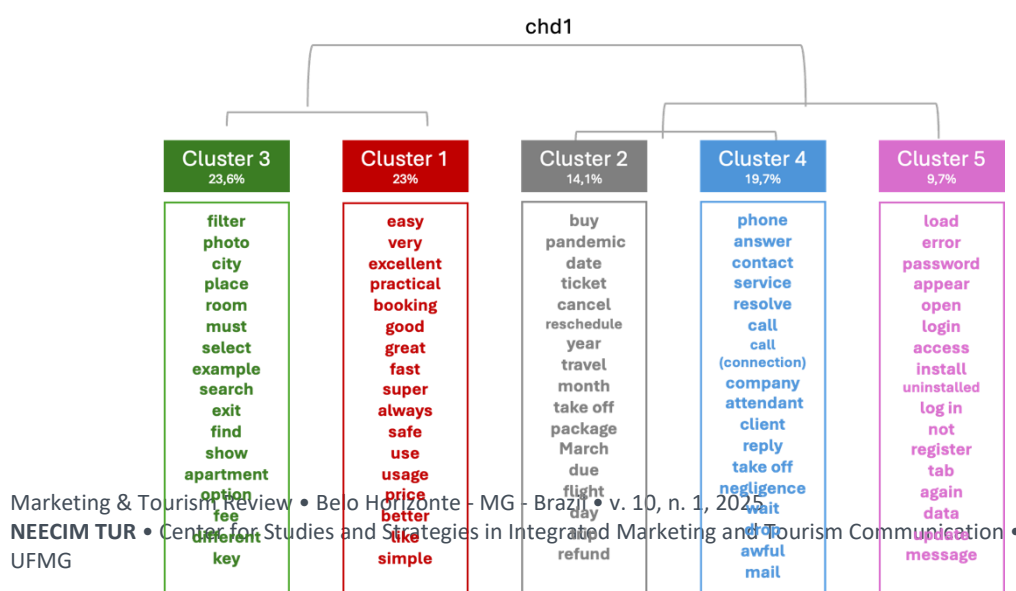
Fonte: os autores (2024)

It can be observed that the a priori interpretation and the a posteriori use of the software demonstrate consistency. Class 3 refers to the construct CBT (Cognition-Based Trust), as it contains more cognitive elements regarding the information available on the evaluated apps. Class 1, on the other hand, is related to the construct ABT (Affect-Based Trust), since it presents more emotional elements and stronger evaluations such as "super," "fast," "excellent," among others. Class 1 also highlights the purchased products and the services provided in each of the apps considered in the research.

Just as the initial analysis revealed issues related to human assistance, Class 4 reinforces this finding and also demonstrates consistency by including human elements and more direct contact with the company. Finally, Class 5 presents the main pain points, which contrast with the perceived quality of the application.

CONCLUSION

This study, based on user testimonials from travel applications and subsequent phenomenological analysis, aimed to identify the main antecedent constructs of trust in digital tourism service providers, specifically within travel apps. Furthermore, we sought to understand the consequences of this trust in relation to tourist satisfaction and loyalty.

Our results revealed that trust is influenced by several factors, such as the quality of the service provided, human support, and the security and privacy of users' personal data. Additionally, through coding, we were able to distinguish cognition-based trust (CBT) from affect-based trust (ABT), as proposed by Legood et al. (2023). In our sample and based on the data collected, we found that CBT holds greater prominence compared to ABT.

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Another significant finding was the confirmation that trust has a positive impact on tourists' satisfaction with their travel experience and on their intention to return or recommend the services provided. This study contributes to understanding the relationship between trust and tourist behavior in the context of mobile technology adoption, offering insights that can help tourism service providers improve the quality of their services and strengthen users' trust in their platforms.

The main contribution of this article lies in the theoretical field, in which trust was considered in two distinct constructs, although with common foundations. This aligns with the argument of Legood et al. (2023). In the same article, the authors also pointed out the lack of empirical evidence for this distinction—a gap that this study aims to address.

Drawing from SDL (Service-Dominant Logic) and its emphasis on placing the customer at the center of the business logic, the importance of humanized service becomes evident, especially for less experienced users. From SDL, we also incorporate the intangibility of services and the intrinsic relationship between perceived quality by customers—a construct emphasized by travel app users (Zeithaml et al., 2019).

The second topic refers to interdependence and value co-creation: SDL acknowledges that value is co-created through the interaction between service providers and customers (Zeithaml et al., 2019). The text discusses how user experience, personalized travel packages, and other factors impact customer trust. This demonstrates how the interaction between users and travel apps is fundamental to the creation of value.

Regarding heterogeneity and variability, SDL recognizes that customer perceptions may vary given that services are often heterogeneous and influenced by factors such as travel season, user experience level, origin, and destination. This highlights the importance of individual testimonials.

Concerning the understanding of emotions, SDL considers customer emotions an integral part of the service experience. The text differentiates between cognition-based trust and affect-based trust, as proposed by McEvily et al. (2017), but following Legood et al. (2023), these constructs should not be viewed as entirely separate

dimensions, but rather as pillars composed of both common and distinct elements. Thus, ABT quantifies and identifies the role of emotions in building customer trust.

In summary, the text addresses several aspects of Service-Dominant Logic, emphasizing the importance of understanding customer needs and perceptions, perceived quality, value co-creation, and trust in building strong relationships with customers in app-based travel services.

However, it is important to highlight the limitations of this study. One limitation concerns the type of data collected. App store reviews can sometimes serve as a kind of complaints channel, where consumers express their demands and dissatisfaction with companies. This raises the need for a deeper investigation into how this human interaction channel is perceived and used by users.

Another limitation refers to the way correlations were calculated, since CAQDAS suggests a correlation that ranges from 0 to 1, making it unfeasible for the researcher to establish other forms of clustering. This analytical bias may affect the results, leading us to suggest that alternative methods of analyzing secondary data sources could yield different findings.

Thus, future research may explore the propositions presented in this study through complementary qualitative methods or transform them into hypotheses to be tested using quantitative techniques, in order to deepen our understanding of trust and its impact on tourist behavior in travel applications.

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