



Empirical Research Article

Generational Perspectives on Smart Tourism: A Focus on Baby Boomers

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Abstract

This study investigates the adoption of technology in smart tourist destinations, with a focus on the Baby Boomer generation. The objective is to analyze the perceived utility, intention to use, and risk perception of this generation regarding Information and Communication Technologies (ICT) in the context of smart tourist destinations. Data were collected through questionnaires administered to elderly groups belonging to the Baby Boomer generation in two Brazilian cities. Data analysis was conducted using statistical tools such as SPSS and Microsoft Excel, with an emphasis on regression analysis with moderation. The results indicate that when Baby Boomer tourists feel insecure about technology, they tend to not perceive its utility, impacting its acceptance. On the other hand, lower risk perceptions lead to an increase in perceived utility and, consequently, a greater intention to use technology in travel planning. The moderating role of risk perception in the relationship between perceived utility and intention to use is emphasized. The findings highlight the need for managers of smart destinations to consider the risks perceived by tourists, focus on diverse age groups, and implement strategies that address digital exclusion.

Keywords

baby boomers; perceived risk; perceived usefulness; intention to use; smart tourist destinations

1. Introduction

Information and Communication Technologies (ICT) are considered one of the main drivers of social changes in the 21st century (Gretzel, Zhong, & Koo, 2016). This evolution, driven by ICT, has established a conducive environment for the development of new methodologies and approaches for city and destination management (Ivars-Baidal et al., 2019). The term "smart" has gained prominence and has become popular across all sectors as a way to describe the technological, economic, and social developments facilitated by smart technologies (Gretzel, Zhong, & Koo, 2016). According to the authors, smart technology relies on sensors, big data, open APIs, and various forms of connectivity or multiple devices associated with communication between humans and machines. These technological transformations have given rise to concepts such as Smart City, Knowledge City, or Cybercity (Komninos, 2002). The concept of the smart city was then adapted for smart tourist destinations (Sorokina et al., 2022), gaining notoriety as an appropriate approach for managing destinations with the aim of addressing and optimizing digitalization processes in tourism (Jovicic, 2017). Although not solely about technology, smart destinations largely depend on smart technologies to be considered as such (Dysehán & Zoonen, 2022). For these researchers, different destinations implement varied technological solutions based on their needs and resources. Citizens are fundamental in this process, with the idea of human-centered smart places gaining relevance. However, there is limited

research on how citizens interact with the technologies of smart destinations. Some technologies are invisible to the public, while others, such as e-government services, require active citizen participation (Dysehán & Zoonen, 2022).

This progress has also heightened digital inequalities. While those with access and technological skills have benefited, many have been left behind. These disparities are evident both among nations and within them. In Western countries, the elderly often face digital barriers, and the COVID-19 pandemic exacerbated this situation by making the Internet essential for maintaining their routines and social interactions (Lissitsa, Zycglinski & Kagan, 2022). In tech terms, baby boomers are generally portrayed in the literature as the least engaged among generational cohorts (Guerrieri & Bentivegna, 2011). Despite the steady growth in mobile device adoption and information technology, they still lag behind Generation X (born between 1965 and 1980), millennials (born between 1981 and 1995), and Generation Z, also known as iGeneration and digital natives, born after 1995 (Steinfeld & Laor, 2019; Gabrielova & Buchk, 2021; Ince et al., 2023). Thus, it's crucial to better understand how different technologies are adopted and embraced by citizens in smart destinations (Dysehán & Zoonen, 2022).

Considering that smart tourist destinations aim to enhance the tourist experience through the use of a wide array of technologies (Femenia-Serra, Neuhofer, & Ivars-Baidal, 2019), it becomes essential to understand how to make tourists comfortable with their use for a satisfactory experience. To

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achieve widespread acceptance of these tools, researchers have turned to the Technology Acceptance Model (TAM) proposed by Davis (1989). This model suggests that an individual's motivation to use technology is explained by their behavior and intention related to its use, with the user's intention being determined by three primary factors: perceived ease of use, perceived usefulness, and attitude. While perceived ease of use is defined as the degree to which using the technology will be free from physical and mental effort, perceived usefulness is established as the degree to which a person believes that using a particular system would enhance their job performance. Attitude can be defined as the degree to which an individual has positive or negative feelings toward the technology, influencing the intention to use it (Acharya & Mekker, 2022; Wang et al., 2022). Another determining factor for a technology's success is the intention to use it (Pereira et al., 2022). Bhattacharjee (2001) argues that continuous use intention plays a pivotal role in business. Song et al. (2018) assert that use intention drives sustainable growth and the long-term viability of products and/or services.

Investigating the intention to use technologies by the baby boomer generation in smart destinations is crucial to promote digital inclusion and active participation of this age group in the digital era. Understanding how baby boomers plan to use technologies in smart environments allows for the adaptation of services and infrastructure, ensuring a more accessible and user-friendly experience for this generation. However, one of the factors that could hinder the adoption of technology by the baby boomer generation is perceived risk (Rampl et al., 2012). According to Kim and Forsythe (2010), perceived risks can create barriers and, consequently, lead the user to avoid online transactions, which can then influence purchasing behavior, for instance. In the literature, perceived risk encompasses financial, performance, social, psychological, and physical losses (Wang et al., 2020). Although widely accepted, the interpretation of risk varies depending on the product or service (Li et al., 2017). Specifically, financial risk involves potential monetary losses; performance risk refers to product failures; psychological risk is related to discrepancies with self-image or social status; and physical risk concerns safety hazards (Wang et al., 2018).

Thus, this research was motivated by the lack of studies on the intentions of baby boomer consumers regarding technological innovation, especially concerning perceived risk (Doka, 1992; Venkatesh et al., 2012). While perceived risk has been studied in the context of new product purchases (Truong, 2013), there is a shortage of investigations focused on the baby boomer generation concerning the use of technologies in smart tourist destinations, particularly in emerging markets (Badowska, Zamojska & Rogala, 2015; Pereira et al., 2022). Considering the preferences and behavioral characteristics of the baby boomer generation is essential when developing new strategies to identify predictors for technology acceptance and their intention to use it. Moreover, baby boomers represent a significant portion of Western society, contributing to the aging of the population. This generation is also characterized by a very high average disposable income (Chaney et al., 2017). This research aims to analyze the relationship between perceived usefulness and the intention to use technologies for travel planning by baby boomers and the influence of perceived risk on this relationship.

2. Theoretical Foundations

2.1. Smart Tourist Destinations

The aim underlying the concept of a smart city is to cultivate an urban environment capable of delivering advanced and innovative services to its residents, thereby enhancing the overall quality of life (Piro et al., 2014). Vanolo (2014) further defines a smart city as an urban vision where the principles of green cities are harmoniously combined with technological futurism. The initiatives for smart cities have paved the way for the emergence of smart destinations, employing advanced technologies within

the physical infrastructure of a specific geographical area to bolster destination competitiveness (Sorokina et al., 2022). This logical framework seamlessly applies to smart tourist destinations as well. In this context, destinations have tourism as a cornerstone in their socioeconomic development (Sorokina et al., 2022). According to the authors, smart tourist destinations are characterized as complex adaptive systems, exhibiting a high degree of interaction among their constituent elements, encompassing governments, residents, industry players, and destination marketing organizations (DMOs).

Studies suggest that smart tourist destinations may be associated with an improved quality of life for residents, given their potential to decentralize tourism and enhance mobility and urban infrastructure (Capdevilla & Zarlenga, 2015). Consequently, understanding the expectations and technology usage intentions of the baby boomer generation becomes essential for adapting smart tourist destinations to meet the specific needs of this population, ensuring an inclusive and positive experience (Pereira et al., 2022).

The perceived intelligent public administration is related to residents' perception of how the government functions (Yu et al., 2020). How it is perceived can have a positive or negative impact, such as e-governance, where document digitization optimizes work and enables faster services to citizens, or negatively, such as constant control or surveillance (Charmoso et al., 2018). This dimension can affect freedom of expression and its potential for democratic participation. Therefore, residents may form a negative assessment of public administration when perceiving an increase in stress due to this issue (Yu et al., 2020). On the other hand, perceived intelligent public service can positively impact residents' quality of life by reducing bureaucracy in their lives (Lutz, Scheider, & Vorderer, 2020). At the same time, privacy violation can create a sense of powerlessness and lead residents to form a negative assessment (Wu, Sun, & Wu, 2020).

Regarding infrastructure, Pereira et al. (2021) and Berselli et al. (2021) argue that, especially in developing countries like Brazil, tourism overloads the infrastructure of some destinations, leading residents to form a negative assessment of tourism as they believe tourists interfere in their daily lives. In contrast, some destinations in developed countries have utilized smart improvements in their transportation, logistics, and hydroelectric systems (Yu et al., 2020), such as Seattle for its energy efficiency, Amsterdam for its mobility programs and smart grids, and Barcelona for its intelligent management (Cledou, Estevez, & Barborasa, 2018). While these improvements can impact the better quality of life for residents, they may also increase feelings of anxiety and stress due to the constant need to learn new technologies, as many of these improvements require the installation of applications on mobile devices (Yu et al., 2020).

The perception of perceived intelligent environmental protection is related to the intelligence of the methods used for urban environmental protection, including the use of technologies to control and monitor pollutant emissions or damages that may occur to the environment, as well as facilitating waste disposal (Mohanty, Choppali, & Kougiannos, 2016). Although greater environmental preservation, such as improvements in air quality, traffic patterns, and pollution, can improve public health and consequently a better quality of life, it can also impose certain restrictions on individuals' behavior (Yu et al., 2020). Residents, for example, must use devices to control the amount of waste generated or may even face increased fees for waste disposal maintenance.

The concept of a smart tourist destination seeks to optimize urban quality of life through the implementation of innovative technologies (Piro et al., 2014). Vanolo (2014) complements this idea, defining the smart city as an urban scenario that combines principles of green cities with technological futurism. Extending this concept to smart tourist destinations implies the use of advanced technologies to enhance infrastructure and services (Sorokina et al., 2022), making it crucial to understand the technology usage intentions of the baby boomer generation in this

context. Studies indicate that smart tourist destinations may be related to an improved quality of life for residents, decentralizing tourism and improving mobility and urban infrastructure (Capdevilla & Zarlenga, 2015). Therefore, understanding the expectations and technology usage intentions of the baby boomer generation becomes essential for adapting smart tourist destinations to meet the specific needs of this population, ensuring an inclusive and positive experience (Pereira et al., 2022).

2.2. Baby Boomers

The Generational Cohort Theory, as introduced by Ingelhart, segments the populace into generational spans lasting roughly 20-25 years. These age clusters share akin experiences and pivotal events, especially during their young adult years, shaping their perspectives and beliefs on facets such as tolerance, finances, and intimate behaviors. Such perspectives and beliefs forge a consistent generational identity over time. The formative years of childhood and adolescence serve as pivotal junctures in shaping a generation's communication patterns, heavily swayed by the prevalent media of their era. Hence, grasping the nuances and driving forces of each cohort becomes paramount in effectively resonating with distinct audience segments (Lissitsa & Laor, 2021). Generational cohorts tend to maintain similar ideas, values, attitudes, and beliefs, constituting five current generations, including the Baby Boomers. The Baby Boomer generation, born between 1946 and 1964, experienced events such as the Vietnam War, actively participated in political and social activities like the civil rights movement, and witnessed the assassinations of prominent leaders such as John Fitzgerald Kennedy and Martin Luther King. Raised in an era of rapid socioeconomic and educational expansion, they grew up expecting prosperity and satisfaction in their lives (Jurkiewicz & Brown, 1998; Kupperschmidt, 2000; Lyons et al., 2007; Twenge et al., 2010).

Baby Boomers are often characterized as a narcissistic generation, deemed greedy in their use of natural resources, simplistic, idealistic, optimistic, self-confident, individualistic, and communicative (Rosen, 2011; Stewart & Torges, 2014). They are also considered excellent mentors due to their extensive experience (Wong et al., 2008). Despite being the first generation to experience watching television at home as a formative event during their childhood, they are described as the least engaged in technology adoption, trailing behind younger generations (Guerrieri & Bentivegna, 2011; Keller, Leslie, & 2017).

In terms of consumption behavior, Baby Boomers exhibit greater caution than other generations, being prone to negotiating cost reduction strategies, seeking information, and reporting higher levels of smart shopping (Atkins et al., 2016; Valkeneers & Vanhooissen, 2012). Aging has a lesser impact on their behavior compared to previous generations; they remain active, not reducing their propensity for travel and out-of-home activities, and quickly adopting new technologies (Getz & Weissman, 2010). Baby Boomers perceive chronological age merely as a number that does not dictate their lifestyle, with over half of them claiming to feel younger than they actually are (Lehto et al., 2008). Baby boomers exhibit a readiness to explore new products and brands (Bernstein, 2001) and don't perceive themselves as technologically inept. Moreover, they are amassing greater wealth compared to other demographics and show a knack for embracing emerging trends (Haynes, 2004). Hence, market professionals ought not overlook this segment in the mobile age.

2.3. Perceived Utility and Continuance Intention

Davis (1989) proposed the Technology Acceptance Model (TAM), developed to predict and explain the potential user's behavioral intention to use technological innovation. Based on a theoretical analysis of various perspectives, including the expectation theory (Vertinsky et al., 1975), self-efficacy theory (Bandura, 1982), behavioral decision theory (Beach & Mitchell, 1978), innovation diffusion (Roger & Shoemaker, 1971), marketing (Hauser &

Simmie, 1981), human-computer interaction (Branscomb & Thomas, 1984; Card et al., 1983; Gould & Lewis, 1985), TAM involved two main predictors to explain users' intention to use an information system: perceived utility and perceived ease of use.

Perceived utility is conceptualized as the construct that quantifies the extent to which an individual internalizes the belief that the adoption of a particular system will enhance their operational effectiveness, productivity, and time optimization within the workplace context (Davis, 1989). Highlighted as a preeminent motivational variable in the realm of technological adoption, perceived utility not only shapes attitudinal predispositions towards the incorporation of technological innovations but also exerts significant influence over subsequent behavioral intentions and tangible manifestations of technological acceptance (Acharya & Mekker, 2022; Wang et al., 2022). Users' predilections towards the functionality and intrinsic ergonomics of technological products or services are posited as a determinative precursor, amplifying an individual's propensity for adoption (Lim & Zhang, 2022). Regarding the baby boomer cohort, Baidridge (1998) posits that, despite their inclination for experimentation with emerging brands, these individuals prioritize the intrinsic utility of a product over its brand notoriety. Additionally, Venkatesh and Davis (2000) corroborate that perceived utility has consistently emerged as a robust and prominent variable, acting as a direct precursor to behavioral intentions and an intrinsic determinant in the manifestation of technological adoption intentions (Venkatesh & Davis, 1989).

According to Bratman (1987), intention is a cognitive state derived from perceptions and experiences, representing a mental behavior through planning to achieve a deliberate action in the future. The intention of continuance use can be explained from the user satisfaction standpoint. DeLone and McLean (1992) proposed an Information System Success model, considering six independent dimensions: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. McGill et al. (2003) demonstrated that, rather than system quality, user perceptions had considerable effects on user satisfaction. Recognizing the importance of user perceptions, they suggested that behavioral intention theories could be useful in understanding system success. Therefore, system quality is described as the intensity with which users feel that systems are easy to operate, connect, reliable, and user-friendly (Petter & McLean, 2009).

Studies on the continued use of technology were also drawn from the Expectation Confirmation Model (ECM), a cognitive model explaining continuous use behavior in information technology. Driven by instrumentality and cognitive beliefs, ECM consists of four factors: confirmation, perceived utility, satisfaction, and continuance intention.

2.4. Perceived Risk

Consumers adopting new technologies are exposed to the risks and benefits of adoption. Perceived risk denotes the uncertainty consumers confront when unable to foresee the consequences of their decisions (Featherman et al., 2021). In literature, dimensions of perceived risk encompass financial, performance, social, psychological, and physical losses (Wang et al., 2020). While these dimensions are widely acknowledged, the connotation of perceived risk varies across different products and services (Li et al., 2017).

Financial loss risk is associated with the likelihood of a purchase resulting in the loss of money or other resources. Performance risk pertains to the probability of a purchased product failing to function as expected. Psychological risk refers to the likelihood of a product resulting in inconsistency with self-image or social status, potentially harming one's standing within social groups. Lastly, physical risk relates to the probability of a purchased product causing safety-related damage (Wang et al., 2018; Chen & He, 2003). Previous research identifies perceived risk as a critical factor influencing consumers' acceptance of new

technology, potentially diminishing positive perceptions toward adoption (Lee et al., 2017).

The perceived financial cost factor pertains to the price value defined as a cognitive trade-off between perceived benefits and the monetary cost of using mobile services (Venkatesh et al., 2003). The financial cost for technology adoption includes mobile service operators, device purchase costs, and service fees, along with other hidden transaction charges that can further escalate costs (Arfi et al., 2021). This set of barriers gauges users' perceptions of financial costs (Wu & Wang, 2005). Previous research has revealed that the perceived financial cost of information and communication technologies is a barrier to the use and acceptance of mobile services (Chong et al., 2012; Wang et al., 2006). It's crucial to note that, according to generational theory, consumers born in different eras have varied sets of values and beliefs, which subsequently influence their approaches to risk and perceptions of risk when using technology (Bauman et al., 2020). For millennials, digital technology will not only shape their usage of a specific technology, such as an app, but also inform their assessment of associated risks. In contrast, baby boomers might adopt a more cautious or reserved approach towards using a particular technology.

3. Methodology

In this research, the sample consisted of a total of 155 completed questionnaires, utilizing a non-probabilistic method to obtain a sample of convenient elements (Malhotra, 2010). The application took place in-person during meetings of elderly groups comprising participants from the cities of Camboriú and Balneário Camboriú, both located in Santa Catarina, Brazil. Printed, self-administered questionnaires were provided, accompanied by a brief explanation of the research to the respondents. Only Baby Boomer generation participants from elderly groups were considered. According to the Social Development and Assistance Secretariat of the Municipality of Camboriú (2022), the elderly group currently has 130 participants, meeting weekly at the municipality's Multipurpose Use Center or locations provided by partners. According to the Social Development and Inclusion Secretariat of the municipality of Balneário Camboriú (2022), the participant population in elderly groups consists of 650 participants, meeting weekly at the Family House. A pre-test was conducted in-person with a total of 10 respondents to identify potential errors or necessary questionnaire changes, evaluate the questionnaire's reliability and validity for reality, and ensure the questionnaire language aligned with the researched profile. Almost all variables were deemed understandable, with only 2 indicating a need for language improvement. Following the questionnaire validation, the questionnaire application proceeded.

Table 1. Sociodemographic characteristics of the baby boomers generation

Sociodemographic Characteristics		Frequency	Percentage
Gender	Female	110	71%
	Male	45	29%
	Total	155	100%
Education	Up to 4th grade	5	3,2%
	Elementary school completed	7	4,5%
	Incomplete high school	6	3,9%
	High school completed	53	34,4%
	Incomplete college	24	15,1%
	College completed	37	24,0%
	Postgraduate degree	23	14,9%
Total	155	100%	
Average Family Income	Up to 1 minimum wage (R\$ 1.212,00)	5	3,2%
	1 to 3 minimum wages (R\$ 3.636,00)	40	25,8%
	3 to 6 minimum wages (R\$ 7.212,00)	50	32,3%

This research followed the dimensions and variables of studies conducted by Davis et al. (1989) and Yang et al. (2020). The variables used for Perceived Usefulness (Davis et al., 1989) were: Using information and communication technologies would improve performance in travel planning; using information and communication technology would increase efficiency in travel planning; the use of information and communication technologies would allow faster completion of travel planning activities. For the Perceived Risk dimension (Yang et al., 2020), the variables were: Using information and communication technologies in travel planning comes with a significant amount of risk in travel planning; when using information and communication technologies, there is a significant level of unpredictability in travel planning; using information and communication technologies presents a significant level of security risk in travel planning; overall, I believe the acceptance of information and communication technologies has minimal advantage over traditional financial services in travel planning. To analyze the intention of continued use, the following statement was used: I intend to use information and communication technologies in planning my next trip.

The scale was based on the 7-point Likert type standard, ranging from 1 for "strongly disagree" to 7 for "strongly agree." The choice of the 7-point rating was made because the original constructs followed this pattern, providing greater validity to the study. The questionnaire consisted of a filter question and was divided into 3 described blocks: Perceived Usefulness and Perceived Risk (Block 01); Intends to use information and communication technologies (Block 02); Sociodemographic data (Block 03). For the analysis of descriptive data, the software used were Statistical Package for the Social Sciences – SPSS and Microsoft Excel. The chosen statistical technique was moderation regression analysis with the Process package by Hayes (2018).

4. Results

The sample was predominantly composed of responses from females (71%). Concerning educational attainment, the sample is predominantly comprised of individuals with completed high school education (34%), followed by those with completed undergraduate education (24%) and postgraduate degrees (14.9%). Regarding average family income, (32.3%) earn 3 to 6 minimum wages, 1 to 3 minimum wages (25.8%), and 6 to 9 minimum wages (17.4%). As for the city of residence, (63%) reside in Balneário Camboriú, and (37%) in Camboriú. Table 1 below highlights the sociodemographic characteristics, categorized by gender, education, average family income, and city of origin.

	6 to 9 minimum wages (R\$ 10.908,00)	27	17,4%
	10 minimum wages or more (R\$ 12.120,00)	15	9,7%
	Prefer not to answer	18	11,6%
	Total	155	100%
City of Residence	Balneário Camboriú	97	63%
	Camboriú	58	37%
	Total	155	100%

Source: Research Data (2022).

A moderation analysis was conducted to investigate the extent to which perceived risk levels moderated the relationship between perceived utility and the intention to use technologies for travel planning. As shown in Table 2, the interaction between perceived utility and perceived risk had a statistically significant effect, indicating the presence of moderation. To better understand the effect, the moderating variable was divided into three parts, adopting cut-off points: 16% lower, 64% median, and 16% upper (Hayes, 2018).

When perceived risk levels were very low, the relationship between perceived utility and intention to use was significant ($B = 0.7397, p < 0.0001$). For intermediate levels of perceived risk, the relationship remained positive but less strong and statistically significant ($B = 0.4205, p < 0.0005$). At higher levels of perceived risk, the relationship between perceived utility and intention to use was not significant ($B = 0.1811, p = 0.3567$). Figure 1 graphically presents the obtained effects to facilitate visualization.

Table 2. Effects of the moderation model

	Coefficient (b)	Standard Error	t	p
Constant	6,3199	0,0799	79,0717	0,000
Utility of Use (x)	0,4288	0,1139	3,7645	0,002
Perceived Risk (W)	-0,0663	0,0546	1,2142	-0,0416
Interaction * (X*W)	-0,1596	0,0622	-2,5649	0,0113
Conditional Effects (W)				
- 1.4923 (16% Lower)	0,7397	0,0864	8,5579	0,0000
0.000 (64% median)	0,4205	0,1163	3,6170	0,0004
1.4923 (16% higher)	0,1811	0,1959	0,9245	0,3567

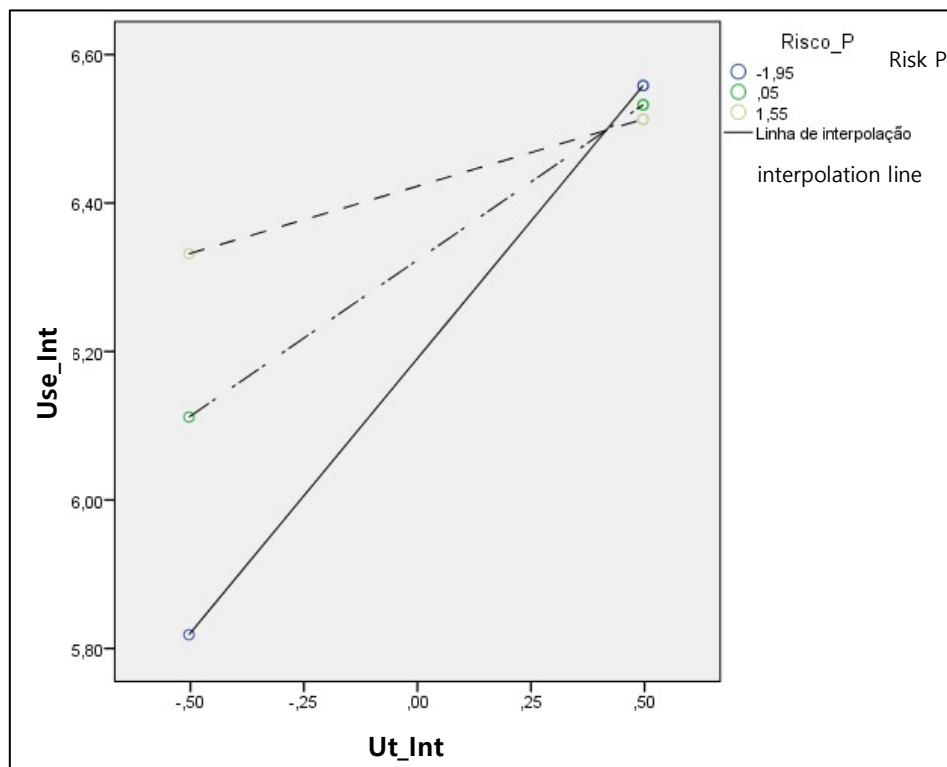


Fig 1. Effects of the moderation model

5. Final Considerations

This study reveals the relationship between perceived usefulness and intention to use technologies for travel planning by baby boomers and the influence of perceived risk on this relationship. The findings of this investigation reveal that tourists belonging to

the Baby Boomer generation, when confronted with a scenario of uncertainties and lack of security in the context of technology utilization, not only tend to disregard the perception of the usefulness of these technologies but also adopt a rejecting stance towards their utilization. This resistance becomes evident when the user needs to anticipate the outcomes of their decisions, as

elucidated by Featherman et al. (2021). In this context, when the risk associated with technology use has a negative impact on the perception of usefulness, it triggers an adverse effect that resonates in one of the fundamental pillars for the adoption of these technological innovations. The relevance of perceived utility as a predictor of technology acceptance is observed, as indicated in the studies by Acharya and Mekker (2022) and Wang et al. (2022). Considering that the intention of use is an intrinsic mental process aimed at taking actions in the near future (Bratman, 1987), the marked presence of high risks emerges as a deterrent factor, discouraging tourists from engaging in the use of these technologies.

On the other hand, when the tourist perceives a significant reduction in the perceived risk associated with technology use, this positive perception translates into an increase in perceived utility. Consequently, this results in an intensification of the intention to use during trip planning. This result aligns with the study by McGill et al. (2003), reinforcing that user perception has an impact on satisfaction with the experience.

The importance of perceived risk cannot be underestimated as an influencing factor in the relationship between perceived utility and intention to use, as presented in Figure 01. The intention to use is much greater when the perceived risk is minimized. This observation highlights the relevance of perceived risk as a critical and determining element in the technology adoption process, corroborating with the conclusions of Lee et al. (2017).

5.1. Theoretical Implications

Theoretical contributions pertain to three primary concerns: (1) advancement in the literature concerning technology adoption intentions among baby boomers; (2) the significance of perceived usefulness; and (3) the role of perceived risk for the baby boomer generation.

Firstly, our contributions further expand upon prior studies that applied the Technology Acceptance Model (TAM), concentrating solely on the baby boomer generation. Previous researchers anticipated positive associations between perceived usefulness and usage intention (Davis, 1989). However, few inquiries have leveraged the Generational Cohort Theory, exclusively focusing on baby boomers. As mentioned previously, this generation, born between 1946 and 1964, experienced significant events and, as a consequence, affected their worldview (Jurkiewicz & Brown, 1998; Kupperschmidt, 2000; Lyons et al., 2007; Twenge et al., 2010). While pioneering significant technological adoptions, such as television, they exhibit lower technological adoption rates compared to younger generations (Guerrieri & Bentivegna, 2011; Keller, Leslie, & 2017). Consequently, our study advances by presenting insights centered on this demographic, paving the way for novel research avenues, given their continued engagement with emerging technologies and wealth accumulation, underscoring their relevance in contemporary markets (Getz & Weissman, 2010; Haynes, 2004). As baby boomers continue to play a crucial role in contemporary markets, especially tourism, understanding their technology adoption trends can significantly influence strategies for Smart Tourism Destinations

Secondly, the study sheds light on the perceived usefulness's importance in the behavioral intention among the baby boomer generation. Perceived usefulness is defined as an individual's belief in a system's capability to enhance efficacy and productivity in a workplace setting (Davis, 1989). This perception holds particular relevance for baby boomers, who, despite navigating a pre-digital era, prioritize efficiency and functionality when considering technological adoption (Baindrige, 1998). Product utility often surpasses brand loyalty in their adoption decisions, underscoring a preference for tools delivering clear, tangible benefits to their professional endeavors (Venkatesh & Davis, 2000). As discerned, perceived usefulness emerges as a predictor of usage intention for baby boomers concerning travel planning.

This aligns with Petter & McLean (2009), asserting that for baby boomers, user satisfaction is significantly shaped by individual perceptions of a system's utility and functionality, rather than intrinsic technical quality. Recognizing this correlation is pivotal as usage intention, as per Bratman (1987), precedes deliberate action cognitively. Given that perceived usefulness directly influences their travel planning intentions, Smart Travel Destinations that aim to serve this audience should emphasize the practical benefits and efficiency improvements of their technological offerings.

Lastly, our findings suggest that a decline in perceived technological adoption risk among baby boomer tourists positively correlates with an upswing in perceived usefulness. Such association bolsters the technological integration intention in travel planning. Existing literature underscores the inherent risks of technological use in specific contexts (Featherman et al., 2021) and its pivotal role in innovation acceptance (Lee et al., 2017). Within this framework, the relevance of perceived risk becomes pronounced, especially among baby boomers, characterized by their post-war era birth and distinct technological adoption dynamics. These individuals, embedded in a unique socioeconomic and technological milieu, may exhibit a more cautious stance towards new technologies compared to subsequent generations. Smart Tourist Destinations must design interfaces and services that alleviate such concerns. Recognizing baby boomers' cautious approach to technology, it is critical that destinations adopt strategies that build trust and deliver seamless user experiences. In alignment with the observations of Bauman et al. (2020), addressing baby boomers' limited familiarity with emerging technologies and their potential resistance to rapid technological change becomes crucial for Smart Tourism Destinations.

5.2. Managerial implications

The findings of this study underscore the need for managers of smart tourist destinations to carefully examine the perceived risks by tourists regarding the technologies employed in tourism activities. This implies not only focusing on experience offerings but also understanding the dynamics of tourist demand. A destination can truly reap the benefits of a smart city when tourists become part of this ecosystem, integrated and active in the various intelligent possibilities available.

The development of strategies to showcase the utility of various technologies should be accompanied by campaigns to instill confidence in their usage. In this case, it is crucial to highlight a special focus on the Baby Boomer generation, who are not digital natives. This group tends to face greater challenges with new technologies, leading to a heightened perception of elevated risks.

Another implication of this research pertains to the assessment of the current technological infrastructure of smart tourist destinations. This means that, in addition to assessing the effectiveness of systems in terms of their utility and ease of use, evaluating users' perceptions of the security afforded by these tools is crucial. Since risk significantly moderates the relationship between utility and usage, there is a need to monitor potential barriers and fears on the part of users.

We also emphasize the attention from operators and managers to the social responsibility of a smart tourist destination. The excessive use of new technologies can be a barrier for a significant portion of society, such as Baby Boomers. Creating initiatives that integrate this group of people into tourism experiences is the responsibility of managers of tourism organizations. This integration will be more successful if this group feels comfortable using technological tools in destinations, and this usage is associated with a lower perception of risk. Finally, it is the responsibility of managers to protect tourists' personal information by conveying security against digital threats. The use of effective data security strategies is fundamental to preserving tourists' trust.

In conclusion, the results of this study indicate the necessity for managers of smart tourist destinations to carefully examine the perceived risks by tourists regarding the technologies employed in tourism activities. The integration and active involvement of tourists in the various intelligent possibilities available are essential for a destination to fully enjoy the benefits of a smart city. The development of strategies to showcase the utility of various technologies must be accompanied by campaigns to instill confidence in their usage, especially among the Baby Boomer generation. The assessment of the current technological infrastructure and the consideration of social responsibility are also crucial aspects for the effective management of smart tourist destinations.

6. Limitations and Future Research

This study, although it contributes to the understanding of perceptions and acceptance of technologies by Baby Boomer tourists in smart tourist destinations, presents some limitations that need to be considered. Firstly, the generalizability of the results is limited to the specific demographic group under study, highlighting the need to investigate other age groups and demographic profiles for a more comprehensive understanding, as perceptions of technology can vary considerably in different cultural and geographical contexts. Diversifying the sample to include participants from multiple regions can improve understanding and provide more region-specific information. The study also did not focus on additional variables that may influence technology acceptance, such as tourists' past experiences and prior knowledge of the tourist destination. The inclusion of these variables in future research can offer a more comprehensive and detailed view of tourist behavior in smart tourist destinations.

Longitudinal research is recommended to capture changes in tourist behavior in response to technological transformations, such as the advancement of artificial intelligence. Furthermore, a deeper analysis of variables such as tourists' past experiences, destination knowledge and social influences will contribute to a more comprehensive understanding of the determinants of technology acceptance. Despite the contributions of this study, it is imperative to recognize its limitations and encourage future research to address these gaps, providing a basis to guide managers of smart tourist destinations in the midst of constant technological advances.

Declaration of competing interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


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None

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