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Analyzing Technology Readiness Level of Tourism Academicians based on Certain Demographic Variables

Selda GÜVEN[1], Bayram ŞAHİN[2]

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ABSTRACT

Recent crises and technological advancements have prompted the integration of technology in education. Nonetheless, for technology to be effectively implemented in the education system, it must be accepted by all stakeholders involved. This study examines the inclination of tourism academicians towards technology based on specific demographic variables, analysed using statistical methods. In this quantitative study, tourism academicians self-identify as explorer, while also considering both face-to-face and hybrid education options, beyond solely distance education. Notably, high scores for optimism and insecurity were observed among the participants. The technology readiness index's discomfort and insecurity dimensions remain unchanged by socio-demographic variables. Optimism regarding technology differs by gender, with female generally having a more positive outlook than male. Both optimism and innovation differ depending on the teaching system employed. Moreover, the innovativeness dimension varies depending on technology clusters. Assisting tourism academics in adopting new technologies could reveal more favourable attitudes towards technology.

Introduction

Institutions are constructed by individuals who are the fundamental catalysts of change. They will be the ones to either accept or reject alterations. Organizations and the people who work there must be ready to embrace such transformation if institutional change is capable of taking hold and flourish (Smith, 2005: 408). Each system, including an organization, a culture, a nation, and an individual, has rules that can effectively diffuse an innovation inside that system (Aydın and Tasci, 2005: 245). A significant component in the effectiveness of technology is the readiness of human resources (Keramati et al., 2011: 1920). Since readiness, which is frequently connected with education, requires human resources that have particular qualifications, individuals constitute an essential component (Harrison, 2014: 42). At this stage, determining the distinct inclinations that surface during technology adoption enables one to evaluate the individual's technological readiness (Lin and Chang, 2011: 425). Individuals with varying tendencies may struggle to grasp the significance of new technologies or develop an emotional attachment to them (Ferreira et al., 2014: 865).

The mental state of readiness precedes either supporting or resisting a transformation initiative (Armenakis et al., 1993: 681). There is evidence to substantiate that an individual's resilience in bouncing back after encountering failure or rejection has an impact on their behaviour. This phenomenon has been referred to as 'resistance' (Magotra et al., 2016: 85). Supporting behaviour happens with the endorsement of change and is marked by a positive and firm

1 Öğr. Gör. Dr.** Çanakkale Onsekiz Mart Üniversitesi Ezine Meslek Yüksekokulu Turizm, Seyahat ve Eğlence Hizmetleri Bölümü seldaegilmezgil@comu.edu.tr ORCID: 0000-0002-4931-7880

2 Prof. Dr. Balıkesir Üniversitesi Turizm Fakültesi Turizm İşletmeciliği Bölümü bsahin@balikesir.edu.tr ORCID: 0000-0002-1911-9066

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attitude towards it (Coetsee, 1999: 210). While resilience behaviour can be the biggest challenge in adopting and using new technologies (Moerschell, 2009: 1), it is essential to create a favourable impression of the modification in order to gain support for the implementation of technology (Schulz-Knappe et al., 2019: 672). New technologies are often viewed as opportunities for a comfortable future, yet, in some cases, they may be perceived as a threat (Martínez-Corcoles et al., 2017: 183). In the end, it's critical to spot specific inclinations while adopting emerging technologies (Gattiker, 1988: 345).

Technology readiness has a wide range of meanings in literature. It is a measure of readiness of individuals, corporations, and nations to adopt and utilize digital technology for greatest possible benefit (Nasution et al., 2018: 95). According to Choucri et al. (2003: 4) readiness refers to the capability to pursue opportunities for value creation by utilizing technology. The tendency of people to embrace and use new technologies is referred to as the technology readiness structure. Construct can be thought of as a broad state of mind that consists of both motivators and inhibitors, and it determines an individual's inclination to utilize new technology (Parasuraman, 2000: 308). High adoption rates of technologically-mediated services, such as internet banking and remote services used both at home and work, have been linked to technology readiness. Technology readiness is an individual difference variable, which evaluates people's overall attitude towards accepting new technologies (Blut and Wang, 2020: 650).

The field of technology-enhanced education is currently undergoing a rapid transformation, both pedagogically and technically (Watkins et al., 2004: 68). Attaining technology usage maturity, which consists of multiple subsystems and components, is a continuous challenge for the development success of all high-tech systems (Mankins, 2009: 1223). Integrating technology into teaching and learning is a challenging process that requires preparation and may present various obstacles, phrased differently (Summak et al., 2010: 2671). These obstacles might be divided into internal and external categories. The internal barrier is tied to the person himself, unlike the external barriers, which are more related to structural impediments (Ertmer et al., 1999: 54). Within the context of internal obstacles, particular tendencies of individuals can be addressed. According to Magotra et al. (2016: 83), personal inclinations play a major role in the adoption of technology. Lai (2008: 19) asserts that there are favourable and unfavourable aspects of people's viewpoints towards technology in this regard. Additionally, Parasuraman and Colby (2015: 60) stress the importance of creating novel technologies that address individuals' anxieties about new technology for them to feel secure.

The majority of academicians think that technology has some promise to improve teaching and learning, but many of them have serious concerns about how this transformation is being supported and implemented (Anderson et al., 1998: 87). However, it is anticipated that academicians' attitudes toward technology and their eagerness to adopt it will have the greatest impact on the effectiveness of technology integration and its successful usage in education (Badri et al., 2013b: 991). In this context, this research assesses of the level of technology readiness of academicians in relation to a number of demographic variables.

Literature

Any technology application must be examined within the context of two interconnected issues: technological tools and investigations into who should accept adopt and use these tools (Perri et al., 2020: 1). Indeed, one of the primary challenges encountered in institutions is the insufficient diffusion of innovations and changes (Lundblad, 2003: 50). Understanding individuals' responses to technology is crucial for the proper operation of systems (Ketikidis et al., 2012: 125). In this context, *Diffusion of Innovation Theory* provides a thorough social and psychological framework intended to anticipate the decision-making process of individuals whilst adopting new technologies (Min et al., 2019: 771). The adoption and diffusion of technology can be understood through technology readiness, which considers the process of adoption in relation to individual factors and technological characteristics (Alhammadi et al., 2023: 3).

The earliest attempt to assess person's technological readiness dates back to NASA studies conducted in the middle of the 1970s (Salazar and Russi-Vigoya, 2021: 25). The research conducted by Sadin et al. (1989: 73) takes into account several "push-pull" technology development strategies, the readiness levels that technology development requires for successful knowledge transfer, and targeted technology initiatives already in place to fulfil the requirements of upcoming space systems. In the paper, the phrase "Technology Readiness Level" is absent (Héder, 2017: 4). In 1990, the system is modified to incorporate nine categories. The nine-level technology readiness level scheme is codified by John Mankins in a white paper in 1995 (Straub, 2015: 312). Concomitantly, Mankins (1995: 1)

states for the general model to be most useful, it should encompass: (a) fundamental research towards novel ideas and technology (focusing on known objectives rather than necessarily specific systems) (b) concentrated technological development addressing particular technologies for a single or more possible applications, (c) prior to the start of the whole system development for each individual application, technological development and demonstration, (d) development of a system (via the production of a first unit), and launch along with operations of the system.

The Technology Readiness Index (TRI), a framework, was designed to gauge people's general attitudes about technology (Lin et al., 2007: 642). The most straightforward way to approach the concept of TR is as a two-dimensional construct that distinguishes between motivators (innovativeness, optimism) and inhibitors (insecurity, discomfort) (Blut and Wang, 2020: 649). These four structures are as follows by Parasuraman (2000: 311) and Parasuraman and Colby (2015: 60): Optimism, a favourable opinion of technology and the conviction that it gives users greater autonomy, efficiency, and control over their life. Innovativeness is a propensity to be an innovator and thought leader in technology. Discomfort is a sense of being outmatched by technology and a lack of control over it. Insecurity is scepticism about technology's ability to function effectively and mistrust of it. This research's variables comprise optimism, innovativeness, discomfort, and insecurity. Below, these four structures will be discussed in turn.

Individual can be categorized into five clusters based on the manner in which they interact with technology (Parasuraman and Colby, 2015: 70). These segments are defined on the basis of users' level of technology usage and a number of psychographic measures. Explorers, for instance, make extensive use of technology and are inquisitive about the world. Pioneers interact intensively with technology, and they are both impulsive and success-driven. Sceptics use technology moderately and are mindful, especially when under pressure. People who hesitate use technology less and lack curiosity. The avoiders are the group that interact the least with technology, and their motivation for technology is low (Ramírez-Correa et al., 2020: 4-5). The characteristic of the technology clusters are shown in the table below:

Table 1. *Technology Clusters*

Segment	Optimism	Innovativeness	Discomfort	Insecurity
Sceptics	Low	Moderate	Low	Low
Explorers	High	High	Low	Low
Avoiders	Low	Low	High	High
Pioneers	High	High	High	High
Hesitators	Moderate	Low	Low	Low

(Mukerje et al., 2019: 9)

The interests and behaviours of an individual in connection to a technology adoption are likely to be influenced by an array of variables, including their demographic profile. Hereby, an in-depth investigation of the demographic characteristics of technology users may offer helpful insight into how these attributes may affect their perception of and adoption to a certain technology (Quazi and Talukder, 2011: 34). According to Lutz and Striessnig (2015: 70), the population's ability to accept new technologies is influenced by its demographic features, particularly by the population's degree of education. Malafe et al. (2017: 71) emphasize technology adoption and utilization is influenced by people's attitudes toward it as well as their demographic characteristics. In other words, personal traits like gender and education level are among the factors determining the way individuals use technology. Agarwal and Prasad (1999: 362) assert that individual variations have a significant role in how well technology is received. Gender, age, education level, professional seniority, preferences of instructional approach and technology clusters were all considered, each dimension of the technology readiness index was examined within the scope of the related variables, and research hypotheses were formulated in the research's context.

Technology Readiness

Adoption necessitates participants being prepared for the multiple stages of adopting (Uren and Edwards, 2023: 3). Numerous theories have been proposed to elucidate why people are inclined to adopt technological innovations.

The Technology Readiness Index is one of the most recognised theories in this area (Şekkeli, 2022: 80). It has been successfully employed to scrutinise user behaviour in relation to embracing new technologies (Li et al., 2023: 3). Technology readiness can be described as a cognitive state that emerges from a combination of factors that impact an individual's willingness to adopt and integrate novel technologies. Those who possess higher levels of technology readiness are more likely to adopt new technologies. Furthermore, these individuals tend to exhibit more frequent use and greater ease in operating technological devices (Silva et al., 2022: 5). There are four components to technology readiness. The initial two components are about positive sentiments namely, optimism and innovativeness whereas the remaining two are associated with negative sentiments, namely, discomfort and insecurity (Parasuraman, 2000: 311; Parasuraman and Colby, 2015: 60). Even though these beliefs represent different personality traits, they together determine the propensity to adopt modern technologies (Mahmood et al., 2023: 3).

Optimism

Optimism is a personality trait that gauges an individual's positive outlook on the future. The evidence indicates that individuals with higher levels of optimism experience better subjective well-being during challenging times (Carver et al., 2010: 879). Peterson (2000: 44) concluded that optimism is an individual difference that is linked to improved psychological well-being. A technology-based definition of optimism pertains to an individual's favourable perspective on technology (Godoe and Johansen, 2012: 40).

Taşkın and Şıngır (2022: 477) indicate that female individuals may have a more optimistic outlook compared to males. However, contrary conclusions were reached by Jacobsen et al. (2014: 630) and Bjuggren and Elert (2019: 5160), whose research suggests that males are relatively more optimistic. Patton et al. (2004: 201) posit that there were barely any differences in optimism levels between males and females.

Cabras and Mondo (2018: 643) suggest that age has a noteworthy influence on an individual's level of optimism. Durbin et al. (2019: 565) note that compared to older adults, younger ones expressed more optimism. Flavian et al. (2022: 298) argue that the utilization of technology necessitates fluid cognitive skills, which tend to diminish with advancing age.

Research suggests a positive correlation between optimism and high levels of education (Pareek and Sharma, 2020: 79). While there exist only a few studies on the associations between optimism and socioeconomic resources, the current evidence implies that there is a correlation between optimism and education – one of the key marker of socioeconomic standing (Carver et al., 2010: 884). Furthermore, Niva and Mäkelä (2007: 41) suggest that the less educated have fewer positive experiences compared to the educated.

The association between a person's level of optimism and their professional seniority is said to be seen from two separate angles. The first viewpoint suggests that as employees gain more seniority, their perception of self-efficacy decreases. They may struggle to keep up with changes in technology, and their level of optimism may decrease (Üzüm and Ünal, 2023: 23). According to Mohamed et al., (2012: 45-46), there are suggestions of a negative correlation between optimism and tenure. However, as the duration of tenure increases, individuals gain more familiarity with their organization and more experience. This demonstrates the positive association between optimism and professional seniority.

Academicians' willingness to adopt technology and their attitudes towards it are crucial to the success of technology integration and the effective use of it in education (Yıldırım, 2007: 172-173; Summak et al., 2010: 2672). It is likely that academicians with a more optimistic view towards technology will demonstrate a more positive outlook on distance education. The hypothesis formulated within the context of the aforementioned literature is outlined below.

H1: The demographics among academicians who display optimistic attributes are significantly different

Innovativeness

Innovativeness constitutes a personality trait that endures as a characteristic or disposition distinguishing one individual from another (Midgley and Dowling, 1978: 229; Goldsmith and Foxall, 2003: 324). Innovative individuals tend to welcome risks and explore novel technological ideas. They are also capable of effectively managing high levels of uncertainty (Thakur et al., 2016: 2765). Innovative individuals can proficiently acquire new technologies independently with minimal reliance on external support (Ismail et al., 2011: 12270). According to Wang and Lee

(2020: 3), the level of innovativeness is subject to socio-demographic features. Lin C. A. (2004: 447), however, posits that demographic factors may only partially influence innovation.

It is suggested that there may be disparities in the use of technology between genders (Kupangwa and Dubihlela, 2016: 43). According to Kim et al. (2011: 717), males have a greater tendency than females to use high-tech products, which may lead to a higher level of innovation. However, Wang and Lee's (2020: 9) study suggests that gender does not have an impact on innovativeness, whereas Ha and Im (2014: 452) claim that gender differences only partially influence the different components of innovation. The findings of other studies indicate that males are more disposed towards experimenting with new technology (Elliott and Hall, 2005: 98). Shukla et al. (2015: 7) observe that from a gender perspective, technology is often linked to maleness because men are more prevalent in the technology industry than women.

Age is believed to be associated with technological innovation. It seems that younger men are more inclined towards novelty and innovation (Tsourela and Roumeliotis, 2015: 129). It is noteworthy that elderly individuals may find it challenging to adapt to the contemporary technological environment (Muster, 2020: 182). Jokisch et al. (2020: 2) suggest that the current senior generation may have decreased levels of self-efficacy concerning modern technologies such as the Internet and computers due to lack of adequate training and learning experiences. However, Yilmaz and Bayraktar (2014: 3458) found no significant correlation between the attitudes of academicians towards educational technologies and their age.

According to Ji et al. (2023: 3), a higher education level corresponds to higher innovativeness. Education is thought to positively affect innovation (Papadakis and Bourantas, 1998: 103; Bulut et al., 2013: 129; Shetu et al., 2022: 6). Conversely, the findings of Lin C. A. (2004: 454) indicate the opposite situation. Kitchell (1997: 113) suggests that insufficient technological education leads to a lower inclination to adopt new technologies, rather than a low level of education.

Individuals with greater professional seniority possess more authority, expertise, experience and abilities which are likely to encourage organizations to implement innovations (Paré et al., 2010: 29). As Kitchell (1997: 113-114) suggested, those who specialize in their field tend to be the drivers of change. Korsching et al. (2001: 82) found a positive correlation between professional seniority and innovativeness.

Identifying the suitable levels and factors of innovativeness for distance education is vital to achieving optimized preparedness for embracing new technologies (Ismail et al., 2011: 12773). According to Videgor (2023: 11), distance learning influences innovation. Additionally, greater levels of innovation lead to more effective educational practices. There is a clear, positive and significant relationship between innovativeness and distance education (Bubou and Job, 2022: 14). The hypothesis developed within the mentioned literature is presented below.

H2: The demographics among academicians who display innovativeness attributes are significantly different

Discomfort

When considering the implementation of technology, it is crucial to consider the physical and emotional wellbeing of the users (Gani, et al., 2022: 91). Discomfort is linked to users' anxiety regarding their use of technology. People experiencing high levels of discomfort often find it unpleasant and overwhelming to use technology, and as a result, they try to avoid it (Barachi, et al., 2022: 4). Astuti and Nasution (2014: 82) argue that certain individuals experience discomfort and perceive technology as being exclusively for the technologically inclined. Additionaly, some high-end products are only obtainable with instructions in a foreign language, which can make them appear challenging to comprehend.

Singh (2001: 395) posits that once women become accustomed to technology, they view it as a tool rather than a technological device. However, literature research commonly suggests a gender disparity, wherein women report higher levels of discomfort with technology than men (Brosnan, 1998: 63; Schumacher and Morahan-Martin, 2001: 95; Elliott and Hall, 2005: 98). The technology differences between genders can be attributed to men's inclination towards problem-solving and overcoming obstacles to achieve their objectives, while women tend to place more emphasis on the process of attaining their goals (Tsourela and Roumeliotis, 2015: 128).

The potential hindrance for elders in adopting technology may be linked to their discomfort (Flavian et al., 2022: 298). However, Gilly et al. (2012: 65) contend that the adoption of technology is more reliant on how individuals perceive the technology, not on demographic factors such as age. Astuti and Nasution (2014: 81) and Badri et al. (2013a: 4) observe that the degree of discomfort varies with age.

Inadequate education is linked to discomfort with technology (Gani et al., 2022: 92). Furthermore, education attainment has been deemed a crucial indicator of an individual's inclination towards adopting new technology. Studies show that individuals with lower education are likely to possess fewer cognitive skills necessary for learning new technology, resulting in a higher prevalence of discomfort among them (Ali et al., 2021: 16).

Stock and Groß (2016: 2172) argue that technology adoption is significantly impeded by employee tenure. However, Hemans (2020: i) has reported that employee tenure is not a factor in resistance to change or the mitigation of discomfort among individuals. Similarly, Antón-Sancho et al (2023: 12) suggest that tenure in universities does not lead to any discomfort in relation to technology.

In distance education, it is likely that participants have various levels of discomfort with the notion that their data can be archived and shared (Dennen, 2015: 45). The discomfort faced in distance education is brought about by issues with personal technical skills, worsened by the unaccustomed e-learning environment and the feeling of isolation from others (Ismail et al., 2012: 39). Mayzer and Dejong (2003: 40) state feeling of physical or emotional discomfort can be a barrier to participation in class activities. The hypothesis derived from the literature above is outlined below.

H3: The demographics among academicians who display discomfort attributes are significantly different

Insecurity

Individuals who experience insecurity are less inclined to take risks and are preoccupied with present and future issues (Castanier et al., 2010: 482). The dimension of insecurity focuses on specific aspects of technology-based transactions, rather than the lack of control over new technology as a whole. In other words, those who feel insecure are skeptical of new technologies and feel uneasy using them. As a result, they develop a lack of trust in new processes and functionalities leading to a reluctance to experiment with and adopt those (Badri et al., 2013a: 1).

Women often have lower levels of confidence when it comes to properly operating new technology and a greater need for assurance regarding its reliability and accuracy (Elliott and Hall, 2005: 98). While Rojas-Méndez et al. (2017: 29) reported that men exhibit lower scores than women in the insecurity dimension of the technology readiness index, Badri et al. (2013a: 5) argues that men tend to score higher in this domain.

For older adults, technological insecurity could present a fundamental challenge (Flavian et al., 2022: 298). According to Badri et al. (2013a: 6), the level of insecurity remains constant regardless of age, likewise Ling and Moi (2007: 93) report that there is no notable disparity in the insecurity dimension relative to age. At this stage, particularly beyond certain ages, the diminishing mental and physical abilities, coupled with the stress of potentially making mistakes, can induce a sense of insecurity in seniors.

Individuals with higher educational qualifications have a lower level of technological insecurity compared to those with lower qualifications (Rojas-Méndez et al., 2017: 29). This suggests that education has a positive impact on an individual's technological confidence. Hmielowski et al. (2019: 195) argue that convincing those who are skeptical about the advantages of new technology is a challenge. There is a correlation between technological insecurity and skepticism as pointed out by Ling and Moi (2007: 87). Individuals who are not familiar with essential technological functions may find it challenging to adapt to new technologies. Consequently, incorporating these technologies into the curriculum may present academic challenges (Caison et al., 2008: 291). According to Badri et al. (2013a: 2), individuals with a master's degree experience less insecurity compared to those in a lower educational group.

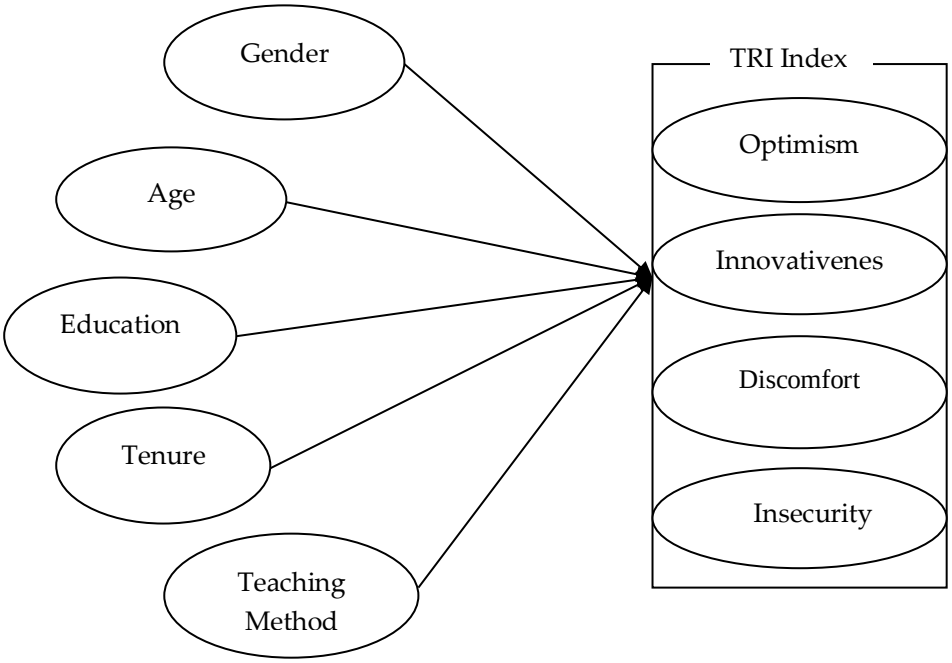
Innovation and technological adoption have a tendency to decline over time, and experienced professionals may find it challenging to adapt to and utilize new teaching, web-based, and online learning technologies (Kibici and Sarıkaya, 2021: 510). Similarly, Peled and Perzon (2022: 2664) observe that seniority influences the integration of technology in education, with technology integration tending to decrease with age. It could be posited that mental and physical abilities decline with age. Moreover, with greater experience, individuals might acquire cautious views regarding new technological approaches to carrying out business.

Distance education transforms the academic experience from the conventional teacher-centric to a more learner-centric approach. Educators take on a different role, which of a facilitator or intermediary, bridging the gap between students and the resources required for their self-directed study. These changes present a challenge to faculty and may evoke feelings of insecurity (Bower, 2001: 4). Distance education has raised various predictions, fears, and concerns. Numerous scholars have expressed skepticism concerning the long-term negative impacts of distance education on teaching. Moreover, other scholars are concerned about the shifting roles of students and teachers (Blakelock and Smith, 2006: 139). The hypothesis developed within the scope of the aforementioned literature is presented below.

H4: The demographics among academicians who display insecurity attributes are significantly different.

In this context, the research model is presented below.

Figure1. *Research Model*



Method

According to data from higher education institutions, the number of academicians in tourism-related fields at universities is reported as 1433 (YÖK, 2023). The email addresses of the academics were obtained and the survey link was sent via email. 252 individuals participated in the survey. The research sample comprises 252 academicians in the tourism field. No prior study has investigated the relationship between demographic factors and the technological readiness of tourism scholars. A four-dimensional scale, measured via a 5-point Likert scale (1 indicating lowest and 5 indicating highest agreement), was used to evaluate respondent agreement with the survey items. The latter part of the questionnaire included enquiries into the respondents' demographic attributes. There was no request for respondents' identity, nor were they given a time restriction and convenience sampling was used to collect the data.

Scales

Despite the immense potential of technology, institutions frequently fall short in maximizing its utilization. As a consequence, scholars have recognized key dimensions to explore the intention to use advanced technologies within educational institutions. These dimensions comprise personality and technology traits that impact technology readiness (Kaushik and Agrawal, 2021: 483-484). Academicians are willing to utilize teaching technologies, yet they

may also experience discomfort with the use of advanced technology that hinders its implementation. Parasuraman and Colby (2015), Parlak (2019) and Cimbaljević et al. (2023) conducted studies to identify dimensions for the technology readiness scale, a frequently used tool that assesses an individual's ability to adopt a new technology (Acheampong et al. 2017: 174). Furthermore, while other models and theories exist for determining technology adoption (Verkantesh et al., 2003, Meng et al., 2010), it is suggested that the optimal approach is to conceptualize technology readiness by differentiating between factors that motivate and those that inhibit (Blut and Wang, 2020: 649). The scale's items have been rearranged according to the advice given by four experts.

Finding

252 tourism academicians participated in this research. 44.2% (111) of the participants were female and 56% (141) were male as observed. The distribution of participants according to age group was 32 aged from 19-30 years (12.7%), 172 from 31-50 years (68.3%), 45 from 51-64 years (17.9%) and 3 aged over 65 years (1.2%). Upon examining the sample in terms of educational status, it is evident that 2.4% (6) of the participants are undergraduates, 21.8% (55) are postgraduates, and 75.8% (191) are doctoral graduates. Tourism academicians' professional seniority is distributed as follows: 65 (25.8%) have 1-5 years of experience, 57 (22.6%) have 6-10 years of experience, 39 (15.5%) have 11-15 years of experience, 30 (11.9%) have 16-20 years of experience and 61 (24.2%) have more than 20 years' experience. Tourism academicians' preferences of instructional approach are 118 (46.8%) face-to-face teaching, 4 (1.6%) distance teaching and 130 (51.6%) hybrid modes. The respondents were prompted to define their identities regarding technology. Table 2 displays how the data obtained is distributed among the technology clusters.

Table 2. *Technology Clusters* of Tourism Academicians

	Sceptics	**Avoiders**	**Hesitators**	**Explorers**	**Pioneers**
f	27	8	39	151	27
%	10.7%	3.2%	15.5%	59.9%	10.7%

Data Analysis

An exploratory factor analysis was conducted to evaluate the construct validity of the scale utilized in this research. To assess the suitability of the data for factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's test results are presented initially. According to the result obtained and displayed in Table 3, the data were appropriate for factor analysis.

Table 3. *KMO and Bartlett's Test Results*

KMO Measure of Sampling Adequacy		0.862
Bartlett's Test of Sphericity	Mean chi-square	5631.688
	Df	990
	Sig.	.000

Following factor analysis, twelve items were excluded from the scale. Specifically, these items were distributed across different dimensions, had overlapping features, reduced the scale's reliability, and possessed eigenvalues lower than 30% on the scoring table. The factors optimism, innovativeness, discomfort and insecurity were all attempted to be assessed with 33 items. The variables, items that reflect the variables, and factor loads are listed in Table 4.

Table 4. *Factor Loads*

Dimensions	Items representing the variables	Factors			
		1	2	3	4
OPTIMISM	New technologies contribute to a better quality of life	0.828			
	Technology makes me more efficient in my occupation	0.796			

	Technology gives me more freedom of mobility	0.738			
	Products and services that use the newest technologies are much more convenient to use	0.731			
	I rely on technology to keep up to date on topics I care about	0.690			
	I like technologies that allow me to tailor things to fit my own needs	0.678			
	I feel confident that technology-based systems will follow through with what I instruct them to do	0.674			
	Technology gives people more control over their daily lives	0.669			
	Technology makes me more productive in my personal life	0.668			
	Technology gives people more freedom to live and work where they please	0.661			
	I like the idea of doing business online because I am not limited to regular business hours	0.515			
INSECURITY	Whenever something gets automated, you need to check carefully that the system is not making mistakes		0.760		
	I worry that information I make available over the Internet may be misused by others		0.708		
	The human touch is very important when doing business with a company		0.693		
	When I call a business, I prefer talking to a person rather than interacting with an automated system		0.691		
	I do not consider it safe to provide personal information over the Internet		0.673		
	Any business transaction you do electronically should be confirmed later with a separate communication		0.604		
	New technology makes it too easy for governments and companies to spy on people		0.565		
	I do not feel confident doing business with a place that can only be reached online		0.559		
INNOVATIVENESS	Other people come to me for advice on new technologies			0.811	
	I enjoy the challenge of figuring out high-tech gadgets			0.811	
	In general, I am among the first in my circle of friends to acquire new technology when it appears			0.802	
	I can usually figure out new high-tech products and services without help from others			0.798	
	I find I have fewer problems than other people in making technology work for me			0.764	
DISCOMFORT	Sometimes, I think that technology systems are not designed for use by ordinary people				0.715
	There is no such thing as a manual for a high-tech product or service that's written in plain language				0.704
	It is embarrassing when I have trouble with a high-tech gadget while people are watching				0.655
	If you provide information to a technology-based system, you can never be sure it really gets to the right place				0.606
	When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do				0.603
	Technology always seems to fail at the worst possible time				0.580

	Technical support lines are not helpful because they don't explain things in terms I understand				0.552
	I do not consider it safe to do business online				0.491
	Many new technologies have health or safety risks that are not discovered until after people have used them				0.461

Reliability, which is a fundamental trait of the scale, indicates the stability of measurement values obtained through recurrent measurements taken under the same conditions using a measuring instrument (Kılıç, 2016: 47). Cronbach's alpha coefficient is one of the criteria that evaluate reliability. According to the values displayed in Table 5, the scale has internal consistency.

Table 5. *Cronbach's, Mean and Standard Deviation Values for Subscale*

Factors	**Item number**	**Cronbach's Alpha (α)**	**M**	**SD**
Optimism	11	0.901	4.215	0.8814
Innovativeness	5	0.896	3.345	1.1298
Discomfort	9	0.800	2.637	1.1098
Insecurity	8	0.833	3.672	1.0783

In order to utilize parametric tests on the dataset, normality assumptions must hold for the variables. Skewness and kurtosis coefficients can aid in determining normal distribution. These coefficients suggests that values falling between -1 and +1 are considered normal in some studies, -2 and +2 in others, and -3 and +3 in other cases (Çakır, 2019: 128). It is noted that data with a sample size exceeding 30 is considered to be distributed normally (Şencan, 2005: 193). The skewness and kurtosis coefficients for the scale are shown in Table 6.

Table 6. *Skewness and Kurtosis for Technology Readiness Scale*

Scale		Value	SE
Technology Readiness Scale	Skewness	-0.374	0.153
	Kurtosis	1.895	0.306

Subsequently, a t-test was employed for binary variables and ANOVA test was utilised for variables with over two groups to determine differences. Firstly, the Levene test was used to check whether the variances were homogenously distributed for ANOVA test. If the variances were homogeneous, the Sheffe test was applied. However, if the variances were non-homogeneous, the Tamhane test was used.

No significant difference was identified in terms of the optimism dimension of the index of readiness for technology, age, education, professional seniority and the technology cluster in which the participants defined themselves, apart from gender and teaching approach. Table 7 presents the gender-based differences in optimism.

Table 7. *T Test Result for Optimism*

Optimism								
Variables			n	$\bar{X}$	se	t/F	p	Difference
Gender	1	Female	111	4.3079	0.6030	2.116	0.035	1>2
	2	Male	141	4.1425	0.6263			

Table 8 presents the teaching approach-based differences in optimism.

Table 8. *ANOVA Test Result for Optimism*

OPTIMISM								
Variables			n	$\bar{X}$	se	t/F	p	Difference
Teaching Approach	1	Face to face	118	4.0855	0.7201	5.105	0.007	1<3
	2	Distance	4	4.4545	0.3149			
	3	Face to face + Distance	130	4.3259	0,4969			

The innovativeness dimension of the technology readiness index varied solely concerning the teaching approach and the technology cluster. The statistics relating to these results are respectively illustrated in Table 9 and Table 10.

Table 9. *ANOVA Test Results of Innovativeness Dimension*

INNOVATIVENESS								
Variables			n	$\bar{X}$	se	t/F	p	Difference
Teaching Approach	1	Face to face	118	3.1610	0.9396	5.625	0.004	1<3
	2	Distance	4	4.2500	0.9000			
	3	Face to face + Distance	130	3.4846	0.9287			

Table 10. *ANOVA Test Results of Innovativeness Dimension*

INNOVATIVENESS							
Variables		n	$\bar{X}$	se	t/F	p	Difference
Technology Clusters	Sceptics	27	3.0444	0.9549	9,485	0.000	2<4,5 3<4
	Avoiders	8	1.9750	0.3454			
	Hesitators	39	2.9590	0.8146			
	Explorers	151	3.5179	0.9108			
	Pioneers	16	3.6444	0.9287			

Neither the discomfort nor the insecurity dimension of the technology readiness index change with regards to socio-demographic variables.

Discussion

Distance education has become a preferred medium for universities around the globe following recent developments (Tartavulea et al., 2020: 921). Academic institutions worldwide are experiencing difficulties due to global crises. To tackle this, they have utilized various teaching approaches, such as online, hybrid and blended learning methods (Singh et al., 2021: 140). Despite the lack of preparedness and difficulties faced by academics, educational administrators and institutions, there is now a greater openness towards innovation and new learning opportunities (Rapanta et al., 2021: 715). Yet, the implementation and approval of novel educational technologies ought not to rely solely on students but also on academicians.

The study aimed to examine how academicians' individual tendencies towards new technologies differ based on socio-demographic factors. The study utilized the technology readiness index. According to Pozas et al. (2022: 3) technology readiness is not only determined by the frequency of technology use but also by the user's emotional experience. People's predominance of positive or negative feelings about technology may differ and result in corresponding disparities in their inclination to adopt and utilize novel technologies (Parasuraman and Colby, 2015: 60).

Tourism academicians' preferences of instructional approach are as follows: face-to-face (46.8%), hybrid (51.6%), and distance (1.6%). As evidenced by the findings, academicians in the tourism field do not favour solely distance education. Aksoğan and Duman (2020: 38) states that academicians hold varying opinions about distance education, including both positive and negative views. Many academicians do not consider distance education alone to be adequate, but rather believe that it can be more effective when combined with formal education. Çelik et al. (2022: 148) observe that the conventional formal education model has several advantages, such as the opportunity to work closely with individual students, establishing eye contact and face-to-face communication, interpreting and responding to body language, providing typical classroom management, promoting active participation, prompt feedback, and maintaining motivation continuity.

The research's findings demonstrate that 59.6% of the academicians described themselves as explorer. Explorers are individuals who display high levels of innovation and optimism, exhibit a high degree of readiness to adopt technology, and are motivated to try out new technologies without fear (Ling and Muhammad, 2006: 151). According to Akgün, (2017: 292) academicians held positive views on the acceptance, usage, and usefulness of instructional technologies. However, Kurnaz and Serçemeli state (2020: 263) the adoption of the distance education system by academicians was found to be limited. The crisis may have allowed academicians to adapt more easily to distance education technologies due to their sudden and intense exposure to technology. Moreover, over time, individuals tend to adjust to the new standards in the aftermath of a crisis.

The dimension with the highest score in the Technology Readiness Index is optimism (mean = 4.215), whereas discomfort scored the lowest (mean = 2.637). It is worthy of note that the mean score for the dimension of insecurity is also relatively high (mean = 3.672). The dimension of insecurity encompasses concerns regarding safety, apprehensions about negative consequences, and a desire for reassurance. When individuals possess inherent suspicion and skepticism towards technology, they are more likely to perceive potential risks rather than benefits, subsequently leading to avoidance of said technology (Blut and Wang, 2020: 654). Jain (2013: 56) argues that individuals desire to utilize new technologies and acknowledge their potential for delivering fast and high-quality services on time. Nonetheless, apprehension towards the safety, reliability, and privacy of online technology might also exist. In this context, scholars of tourism may adopt an optimistic stance towards technology and forthcoming advancements, while concurrently exhibiting a doubtful outlook towards technology in relation to unpredictability.

The research identified a gender difference in the optimism dimension. According to the findings, studies in the literature have either confirmed or disputed the claim women are more optimistic than men (Taşkın and Şıngır, 2022; Na et al., 2021; Bjuggren and Elert, 2019; Jacobsen et al., 2014; Summak et al., 2010). Tavera-Mesías et al. (2023: 1017) explains that technology readiness for women is linked to the usability of a device. Women who hold a positive view are more likely to believe that less effort is required to learn how to use new technologies. Demirci and Ersoy (2008) argue that men exhibit greater interest in technology than women and have more self-confidence in working with technological tools. Furthermore, investigations into the determinants of technology adoption and usage behavior reveal a male bias in attitudes towards technology use. However, the research's findings demonstrate greater optimism among women compared to men.

Distance education is the subject of positive and negative debates (Sulisworo et al., 2020: 2252). When examining the study's findings, a noteworthy divergence based on optimism was observed between academics who favoured hybrid education and those who preferred face-to-face education. According to Kaushik and Agrawal (2021: 483), optimism has a significant impact on the adoption of educational technologies. Similarly, it is evident that face-to-face and hybrid education demonstrate variances in terms of innovation. Individuals who possess optimism and innovativeness with regards to learning technologies are more inclined to adopt distance education (Geng et al., 2019: 8). As an element that enhances technology readiness, innovation is linked to a favourable outlook on technology and the boldness to adopt new technologies (Negm, 2023: 62). However, it should be noted that hybrid education combines face to face and online learning. Additionally, it may be inadequate for certain tourism departments and courses with a practical focus to rely solely on distance education opportunities.

Innovativeness dimension varies among tourism clusters. Avoiders are those who score the least on the innovativeness dimension. In this context, this cluster differs from skeptics, explorers, and pioneers group and hesitators and explorers group. Wiese and Humbani (2020: 133) argue that addressing the concerns of skeptical clusters is crucial for fully realizing the value of technology implementations. Aldahdouh, et al. (2023: 13) observes that avoiders typically shun new and innovative ideas are less receptive to changes, and react cautiously when exposed to something novel. Such individuals made only minimal changes to their teaching practices when compelled to switch to distance learning. According to Wiese and Humbani (2020: 137), hesitant individuals are typically optimistic and mildly apprehensive about discomfort and insecurity. However, they are not particularly innovative in their approach. In this context, it may be deemed typical for avoiders to exhibit a low inclination towards innovation. Conversely, assuaging the skeptic's apprehensions about technology could foster a favourable outlook towards technological implementations in higher education institutions. Golan et al. (2023: 327) argue the initial hesitation towards technological advancements is linked to the uptake of said technology as well as potential drawbacks or obstacles. If the technological concerns are eliminated, it is probable that technology will become prevalent in the education sector, and academics will exhibit a favourable disposition. In other words of saying academicians who are willing to embrace new technologies are more inclined to adopt it (Haron et al, 2012: 180).

The research reveals no significant gender, age, education, professional seniority, or teaching approach differences in the discomfort and insecurity dimensions. The study examines the level of acceptance of instructional technologies among tourism academics, using the technology readiness index. Additionally, it explores how demographic variables influence the readiness to use instructional technologies.

Conclusion and Recommendation

Technology has made a significant impact on all aspects of life, including education. The current era and the fast-paced advancement of technology have brought about transformations in the field of education, sparking debates about teaching methods. Currently, this situation evokes debates around teaching methods. Certain academics appraise distance education systems unfavourably, whilst others champion face-to-face education and some propose a combination of both systems. This issue is interrelated with the technological proclivities of academicians.

Rapid technological development does not guarantee uniform adoption across individuals. Thus, trends towards adopting technology are emerging as crucial factors in its use, with age, gender, and education level often determining technology acceptance. Identifying the individual technology trends of academicians in relation to socio demographic variables can be an effective way to integrate technology into the education system. As individuals are the users who facilitate the spread of technology, their skepticism and discomfort towards said technologies can hinder successful integration, regardless of their usefulness.

In this context, to enhance the effectiveness of educational technologies and embed them within the system, it is crucial to provide support for academicians who are insecure about technology. Delivering training on new technological applications can also alter negative attitudes towards technology. Systems should be structured in a user-friendly manner and be devoid of technical issues. If a user encounters difficulties with fundamental aspects such as internet connection, system language, or usage information, it may provoke unfavourable sentiments towards technology.

Initially a necessity, distance learning has become increasingly entrenched. A pivotal consideration is to optimize the efficacy of distance learning platforms. Encouraging student involvement and supplementing courses with

advanced technological innovations is imperative, given the inescapable technological evolution. Failing to adapt and resistance to change could have dire future implications.

This study is confined to tourism academicians solely in Türkiye. It should be noted that this study is limited by the electronic collection of data. These points constitute limitations of the research. To undertake more thorough investigations, it may be preferable to utilize qualitative research methods in future studies. Trends towards technology can be addressed through consideration of variables such as risk perception, value perception, and the theory of diffusion of innovation.

Ethics Statement

During the writing process of this study titled "Analyzing Technology Readiness Level of Tourism Academicians based on Certain Demographic Variables", scientific rules, ethics and quotation rules were followed; No falsification has been made on the data collection and this study has not been sent to any other journal for evaluation

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