Cultural influences on future transportation technology usage: The role of personal innovativeness, technology anxiety and desire

Kwarteng, M. A., Ntsiful, A., Osakwe, C. N., Jibril, A. B., & Chovancova, M. (2023). Cultural influences on future transportation technology usage: The role of personal innovativeness, technology anxiety and desire. International Journal of Consumer Studies, 47(2), 629-651.

Abstract

This study develops and validates a model, based on personal cultural values theory and psychological research in relation to technology adoption. The model focuses specifically on the future use of on-demand air mobility (ODAM), which is expected to have significant implications for city commuting and personal well-being in the years ahead. We employ a path modelling approach, in addition to recently advanced analytical methods such as the finite mixture partial least squares (FIMIX-PLS), measurement invariance of composite models (MICOM) and multi-group analysis, to validate the model using a dataset of 627 young consumers from the Czech Republic. The research model explains 45.2 percent variation in the future use of ODAM using our global model. This variance explained in the future use of ODAM increases to 62.3 percent and 64.5 percent respectively, when we segment our data set into two groups. The results also show that tradition has significant influence on technological anxiety, personal innovativeness, and desire to use ODAM. Independence positively affects personal innovativeness but not the desire to use ODAM. We also find that technological anxiety influences the desire to use, which in turn influences the future use of ODAM. However, we find group differences in the influence of ambiguity intolerance on technological anxiety, desire and personal innovativeness. Thus, the study also evaluates the existence of significant differences between two groups in our dataset. Overall, the study suggests that individual

cultural values play a particularly important role in influencing the future use of ODAM through psychological characteristics. The research implications of the study are discussed in the article.

Keyword: *Ambiguity intolerance, desire, independence, on-demand air mobility, personal innovativeness, technology anxiety, traditions*

''The flying car is here – and it could change the world'' BBC, 2020

1 INTRODUCTION

It is a well-documented fact that rapid urbanization, especially the influx of people into major cities around the world in search of better economic opportunities and living conditions, has put significant pressure on existing public infrastructure and services such as road transportation. This has ultimately caused gridlock and mental stress. In this context, emerging transportation technologies or services such as on-demand air mobility (ODAM), or more simply air or flying taxis, will play a key role. ODAM is an innovation that researchers, futurists, and practitioners alike believe, may play a prominent role in reducing inefficiencies and stress due to road congestion worldwide (Eker et al., 2020; Rajendran & Srinivas, 2020; World Economic Forum, 2019; Yedavalli & Mooberry, 2019). More so, since the concept of ODAM is highly compatible with the United Nation's Sustainable Development Goal 9 of building resilient infrastructure and fostering innovation, this becomes an interesting area of study with larger social implications. Meanwhile, according to industry sources, it is projected that the use of ODAM services will commence in 2023 (Jones, 2020). Similarly, it has been projected that the value of the ODAM market worldwide will rise from US$ 1.3 billion in 2018 to US $9.4bn by 2026 (Globe Newswire, 2019). It will thus emerge as an important market with strong economic potential for investors and by extension enhance the revenue base of cities and national governments.

Similarly, according to scholars, the use of ODAM and especially electric-powered flying taxis for transporting passengers in cities, in the near future, offers an attractive value proposition for key stakeholders such as investors, policymakers, and consumers (Ahmed et al., 2021; Straubinger et al., 2020; Winter et al., 2020). However, significant concerns remain about the future adoption of this transportation technology by potential users (Al Haddad et al., 2020); Eker et al., 2020; Straubinger et al., 2020). In this context, there is a scant understanding of the drivers or constraints in the future acceptance of ODAM by consumers (Al Haddad et al. 2020; Straubinger et al., 2020). According to the few existing studies in this emerging research area (Al Haddad et al., 2020; Eker et al., 2020; Straubinger et al., 2020; Rincon-Novoa et al, 2021), there is a need for plenty of consumer studies that investigate consumer determinants of future acceptance of ODAM. This is especially important since the future market success of ODAM is largely dependent upon its consumer acceptance and usage.

Besides, studies exploring consumer acceptance of ODAM from a sound theoretical perspective are virtually non-existent (exceptions include Al Haddad et al., 2020; Winter et al., 2020). Al Haddad et al.'s study uses the extended technology acceptance model (TAM) to explore the acceptability of ODAM. It finds that cognitive factors such as value of time, trust, affinity to automation, perceived usefulness and cost are important determinants of ODAM acceptance. This research offers support for the application of TAM in the ODAM context and thereby complementing extant research in TAM (e.g., Davis, 1989; Jamšek & Culiberg, 2020; Venkatesh & Bala, 2008). Finally, research by Winter et al. (2020) generally draws from the broader literatures on trust and emotions, in order to investigate the role of familiarity, wariness towards new technology and affective factors such as fun, fear and happiness, with regard to the willingness to fly in autonomous air taxis. Notably, for businesses and their current and future investors to benefit from their investment in ODAM, it is crucial that they are provided with adequate research and data support. Such support pertains to acceptability of the

technology or service by potential users, and especially to individual-level factors that may impel or impede its use in the coming years.

The chief rationale for the present study, therefore, is advancing emerging research in ODAM, by proposing a theoretical model to provide empirical information on cultural influences in the future use of ODAM. Specifically, our proposed theoretical model is based on the integration of personal cultural values theory (Sharma, 2010) with psychology-based studies on future acceptance of ODAM technology. In so doing, this article also responds to the numerous requests made in the literature (Cruz-Cárdenas et al., 2019; Hoque & Bao, 2015; Huang et al., 2019; McCoy et al., 2005; Pookulangara & Koesler, 2011; Qian & Yin, 2017; Rabayah et al., 2021; Srite et al., 2008) on the need to integrate personal cultural values (also termed by some researchers as individual-level espoused cultural values), into studies on technology acceptance. However, our study differs significantly from previous studies such as Hoque and Bao (2015) that investigate whether Hofstede's cultural dimensions such as uncertainty avoidance, power distance and individualism have a direct and significant influence upon technology adoption. This is especially because our conceptualisation of culture is based on Sharma's (2010) personal cultural values theory. For instance, instead of uncertainty avoidance and individualism vs collectivism, this study, following Sharma's (2010) work, uses ambiguity intolerance, independence, and traditions. Moreover, this study also differs from that of Hoque and Bao (2015), since it is mainly interested in the examination of cultural influences on ODAM acceptability. It does so through psychological mechanisms such as technology anxiety (Hohenberger et al., 2017; Kummer et al., 2017; Meuter et al., 2003; Patil et al., 2020), personal innovativeness (Patil et al., 2020; Steenkamp et al., 1999; Thakur et al., 2016; Truong et al., 2013) and desire to use a technology or service (Bettiga & Lamberti, 2017; Hwang et al., 2019; Yi et al., 2020). Specifically, this article argues that personal or individual cultural values, have an important effect upon technology anxiety, personal innovativeness and the desire to use the

technology. The latter significantly affect intentions towards future use of ODAM. This argument is also in line with research in other technology-based contexts, especially those of Cruz-Cárdenas et al. (2019) and Hoque and Bao (2015), where it was found that individual cultural values play a negligible direct role in technology acceptance. Such research thus suggested an indirect route through which cultural values influence technology acceptance (in this case, via the psychological factors of technology anxiety, personal innovativeness and desire).

Accordingly, through its investigation of the research problem, the proposed theoretical model makes some unique contributions to unfolding research in ODAM acceptability, and by extension to the literature on adoption of technology. It is worth noting that the present study is the first to propose a theoretical model based on cultural influences in ODAM acceptability. It thus provides valuable information to scholars and industry practitioners in ODAM, regarding the specific role of individual cultural values in the future acceptance of ODAM through mechanisms like technology anxiety, personal innovativeness and desire to use the technology/service. Further, an important empirical contribution of this study to scientific knowledge is the finding that ambiguity intolerance and independence significantly influence personal innovativeness, which in turn positively influences the desire to use ODAM, consequently influencing the intention to use ODAM in the future. Other important empirical findings of the study are further highlighted in the concluding part of the article. Furthermore, this study complements previous studies on individual determinants of ODAM acceptability (Al Haddad et al., 2020; Winter et al., 2020), as it enhances understanding of the issues relating to future adoption of ODAM.

Finally, a seminal contribution of this article lies in our rigorous analytical approach. Indeed, recent advances in research indicate that studies which fail to check for unobserved heterogeneity are more likely to report misleading results (Becker et al., 2013; Rigdon et al.,

2011; Sarstedt & Ringle, 2010). Thus, in addition to employing the partial least square structural equation modelling (PLS-SEM), which is considered as a popular, versatile, relevant and innovative tool for empirical research (Carranza et al., 2020), we have used recently recommended advanced analytical tools such as the Finite Mixture Partial Least Squares (FIMIX-PLS), measurement invariance of composite models (MICOM) and multi-group analysis, to detect and treat unobserved heterogeneity.

This article is further divided into the following sections: (2) Theoretical background and hypotheses development, (3) Research methods, (4) Results, and (5) General conclusion.

Remaining part of the paper is organized as follows: Section 2 deals with research hypotheses formulation, section 3 deals with research methods, section 4 deals with Results and section 5 is discussion. Finally, section 6 presents conclusion of the paper

2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1 Personal-cultural values theory

Schwart (1992) proposes individual values theory to describe how people differ in social attitude and behaviour, as well as cultural value orientation, which in turn explains how societies differ. In distinguishing individual values and cultural values, Schwart (1992) explains that the former refers to the broad and cherished goals, which are the basis for assessing actions, events, and people, in order to ascertain whether they are good or bad. Conversely, the latter represents the society-specific goals, which inform society about how to cope with or adapt to individual and group activities and motivate people to perform their expected roles in the society (Schwart, 1992).

Schwart has identified ten individual values, which he categorized into four main groups:

- self-enhancement values (power, achievement, and hedonism)

- conservation values (security, tradition, and conformity)
- self-transcendence (universalism, benevolence)
- openness to change (self-direction, stimulation/hedonism)

It should be noted that hedonism shares characteristics with the first and last categories. The self-enhancement values encourage people to pursue personal interests, contrary to people with self-transcendence values, who are usually selfless and have concern for others (Schwartz & Sortheix, 2018; Schwart, 1992). Moreover, individuals with conservation values are more concerned about security, ready to conform to and preserve the status quo or traditions (Davidov et al, 2020; Sagiv et al, 2017). Finally, according to Schwart, individuals with openness to change values easily accept change and welcome new ideas (Sagiv et al, 2017; Schwart, 1992)

On the cultural values front, Schwart identified seven values, including *harmony*, which stresses unity and peace; *egalitarianism*, which denotes social justice and equity; *intellectual autonomy*, which encourages broadmindedness and curiosity; and *affective autonomy*, the desire for pleasure and exciting life. The rest are *mastery*, *hierarchy*, and *embeddedness*. Schwart explains that while societies with mastery values encourage ambition and daring, those with hierarchy values emphasize the need to respect authority and humility. Finally, an embedded society encourages social order, obedience, and respect for tradition.

Sharma (2010) also put forward the personal cultural values theory. By building on and contextualizing Hofstede's (2001) renowned national-level cultural orientations, Sharma proposes ten cultural values, which he believes, are more appropriate to measure individual cultural orientations and how these affect their attitude and behaviour. This author posits that there are ten cultural values, which are then paired, based on how they are related. These include independence and interdependence, power and social inequality, risk aversion and ambiguity intolerance, masculinity and gender equality, and tradition and prudence (Sharma, 2010).

While it is important to acknowledge the utility of the cultural models propounded by Schwart (1992) and Hofstede (2001) in explaining the role that culture potentially plays in shaping cognitive and affective responses related to emerging technologies use, such as the case of ODAM, the present study, as already highlighted, was primarily interested in the application of Sharma's (2010) cultural model. Especially because, unlike the above two competing cultural models, this model has been hardly tested in the technology adoption research stream, despite the call in Sharma's (2010) paper for studies to extend his cultural model through the investigation of marketing-related phenomena like ODAM acceptability. In this regard, our research focuses mainly on the cultural values of ambiguity intolerance, independence, and tradition, as we consider them to be particularly relevant for the understanding of individuals' perceptions about the use of future technology. It may be important to note also that consumer-based studies utilizing the personal cultural values framework by Sharma (2010) often focus on either two (e.g., Nguyen et al., 2017; Sreen et al., 2019) or a maximum of four of the cultural values in their investigations (e.g., Sharma et al., 2016). This further underlines the reason why we chose to focus on those cultural values that were deemed to be contextually relevant for this investigation. We thus explain the chosen construct of Sharma's theory as follows:

Concerning ambiguity intolerance, this mirrors uncertainty avoidance in Hofstede's (2001) national culture framework, and it represents an individual's inability to sufficiently tolerate uncertain and/or high-risk situations. This also means that individuals with a high level of ambiguity intolerance will tend to feel more emotionally tensed when faced with uncertain and/or unknown situations (Sharma, 2010), and are thus likely to play a negative role in decisions regarding new and future technologies adoption (Hoffmann & Broekhuizen, 2010). In fact, in the broader literature, individuals who were found to be ambiguity intolerant were more likely to display a high level of anxiety and/or worry about a given situation or task (e.g., Dewaele & Shan Ip, 2013; Sadeghi & Soleimani, 2016). Similarly, according to some scholars,

individuals who are intolerant of ambiguity are 'believed to have negative perceptions, evaluations, and feelings towards ambiguity, which would consequently impact their behaviour' (Buhr & Dugas, 2006, p. 224). Referring to previous research, Hoffmann and Broekhuizen (2010: 345) also noted that 'persons less tolerant of ambiguity engage less in exploratory behaviour in general and are less open to try out new products.' Meanwhile, personality-based research undertaken among potential flight passengers has highlighted that tolerance ambiguity is positively related to openness to experience new flight destinations (Jach & Smillie, 2019). This further implies that ambiguity intolerance may impact consumer - and technology-based traits such as personal innovativeness and technology anxiety (as in the case of ODAM) (see also Hoffmann & Broekhuizen, 2010).

Tradition, on the other hand, is the degree to which people have regard for traditional values such as non-materialism, social consciousness, and respect for one's customs and/or heritage, (Sharma, 2010). Respect for traditions certainly has its own merits and could be useful in certain contexts, especially in situations involving adherence to a particular cause and of course social approval. In the literature, for example, respect for traditions was found to be positively associated with social influence in the professional e-learning context and in a country characterised by collectivist values (Mehta et al., 2019). Nevertheless, these authors argue that individuals who are deeply rooted in their customs and traditional beliefs tend to develop a fixed mindset. This, in turn, could have serious implications for individuals' perceptions about the use of future technologies such as ODAM. This research further implies that traditions or old ways of doing things have a consequential effect on perceptions surrounding the future use intention of ODAM, especially since traditionalists tend to be more conservative in nature. In other words, individuals high on traditions tend to exhibit certain conservative tendencies that (negatively) impact their orientation toward ODAM acceptability.

Finally, the cultural value of independence generally connotes a strong self-concept, a sense of freedom, and a generally high level of competence and self-achievement. This according to Sharma (2010) is the polar opposite of interdependence. In this context, independence is akin to Hofstede's conceptualisation of individualism in the corporate context. Although research on the impact of individualism on the use of technology is inconsistent (Bankole et al., 2011; Hoque and Bao, 2015; Srite et al., 2008), we nevertheless reason that individuals' scoring high on independence may be generally more interested in making favourable decisions regarding ODAM acceptability and new technologies. More so, previous research has stressed that individuals who view themselves as highly independent (or individualistic) are goal-driven and ambitious, especially since their primary preoccupation is with self-achievement (Oyserman et al., 2002; Sharma et al., 2016).

In conclusion, we believe that while cultural influences may play a negligible direct role in technology use (see also Cruz-Cárdenas et al., 2019; Hoque & Bao, 2015), they are likely to have an impact on technology use through psychological mechanisms such as technology anxiety, consumer innovativeness, and desire. We discuss these factors below.

2.2 Personal innovativeness

According to past research, personal or consumer innovativeness 'determines one's tendency toward novelty-seeking and risk-taking behavior' (Hirschman, 1980; as cited in Truong, 2013, p. 130). Jackson et al. (2013) described personal innovativeness as a personality trait that almost everyone possesses, and individuals show this trait by either adapting or innovative behaviors. Truong (2013) also explains that innovators, who are typically early adopters of technology, 'are independent decision-makers who are driven by their personality rather than by others' opinions of the new product' (p.131). Further, the conclusion that more innovative-mined individuals are early adopters of new technologies can also be found in earlier research that seeks to explain the innovation diffusion process (cf. Rogers, 2003). There is plenty of research

that documents the positive role of personal innovativeness in determining user attitudes and acceptance of new technologies (Hegner et al., 2019; Hwang et al., 2021; Patil et al., 2020; Roberts et al., 2021; Truong, 2013). In spite of these numerous studies confirming the positive association between personal innovativeness and user attitude and acceptance of new technology, there are still others and more recent articles which have reported contrary results (Ciftci et al., 2020; Melián-González, 2021). Ciftci et al. (2020) explain that these conflict results could be attributed to factors such as demographics, the segment industry that uses it, technology type, and culture. However, the extent to which personal cultural values influences personal innovativeness in the consumer behaviour literature, especially in the literature pertaining to research on technology acceptance remain underexplored. Through the investigation of the role of personal cultural values in personal innovativeness and in relation to ODAM acceptability, this article further addresses the identified gap in empirical research.

2.3 Technology anxiety

Consistent with extant literature (Lee & Yang, 2013; Meuter et al. 2003) technology anxiety represents an individual's negative emotional response that is exhibited through fear or apprehension for using technology. Anxiety is also described as a "characteristic symptom of modern times, including the pressure for social change produced by rapid scientific and technological advances" (May 1950; quoted in Cambre & Cook 1985, p. 38). As a modern terminology for computer anxiety, technology anxiety has attracted the attention of many scholars especially those who seek to understand why individuals sometimes become apprehensive with a tool which is meant to simplify work and lives (Dyck & Smither,1994; Parayitam et al., 2010; Tsai et al., 2020). From this enquiry, it has been found that factors such as gender, age, experience, and self-efficacy could explain technology anxiety (Saadé & Kira, 2006). To this end, Tsai et al. (2020) explain that inexperienced computer users may be anxious as they think they may make some mistakes using it. Therefore, in line with past research and

especially the work of Venkatesh (2000), we formally define technology anxiety, in relation to the research context of ODAM, as the individual's apprehension and/or fear when faced with the possibility of using ODAM. Recent research in the autonomous flight context finds that individuals have strong anxiety concerns about the reliability of autonomous flights (Belton & Dillon, 2021), therefore implying that expressed anxiety about ODAM may be an important barrier to attitudes and desire to use ODAM, especially as and when it becomes commercially available for passengers. Significantly, although scholars have identified technology anxiety as an important predictor of technology acceptance (Chen et al., 2020; Hohenberger et al., 2017; Plötz et al., 2014; Talukder et al., 2020), the factors that may lead to technology anxiety, and especially the extent to which personal cultural values potentially trigger technology anxiety remain largely underexplored in the literature (see also Kummer et al., 2017). A part of the current research efforts seeks to address this gap in knowledge by testing the proposition that the personal cultural values of ambiguity intolerance and tradition predict technology anxiety toward ODAM.

2.4 Desire

Desire can be defined as simply a psychological state of mind involving a feeling or a wish to have something. More broadly, as delineated in the extant literature, desire refers to a 'mental condition in which an individual has strong positive feelings or thoughts about a particular action' (Perugini & Bagozzi, 2001; as cited in Kim et al., 2020). This may therefore imply that desire is an intense form of positive attitude towards an object. However, it must also be emphasised here that, according to scholars, there is a distinction between desire and attitude as well as between desire and intentions (for details, see Perugini & Bagozzi, 2001, 2004). According to studies that employ the model of goal-directed behavior in their investigation, desire, unlike attitude, is more closely related to the individual's adoption intention of a technology (e.g., Hwang et al., 2019; Yi et al., 2020). Hence, this research takes the position

that desire will play an important role in ODAM acceptability. Although recent research has identified factors such as attitude and perceived risk to be significant predictors of desire (Yi et al., 2020) as well as influences on desire (Kim et al., 2020), research that specifically focuses on the direct investigation of cultural values, as well as other factors such as individual innovativeness and technology anxiety on desire, is scarce in the literature on (future) technology acceptance. This article also contributes toward addressing these gaps in the literature.

2.5 Hypotheses development

2.5.1 Ambiguity intolerance in relation to personal innovativeness, technology anxiety, and desire

As previously stated, ambiguity intolerance reflects the degree to which an individual feels uncomfortable and threatened in an uncertain situation (see also Budner, 1962; Hoffmann & Broekhuizen, 2010; Sharma, 2010). Indeed, it is commonly understood in the literature that a lack of information (or clarity) could explain why individuals avoid unfamiliar situations. On the one hand, we argue that consumers may perceive ODAM as a potentially threatening transportation system and may avoid its usage. Given that research in the transportation context has found that tolerance for ambiguity (which is the polar opposite of ambiguity intolerance) positively predicts openness to experience (e.g., Jach & Smillie, 2019), it is plausible therefore that ambiguity intolerance will be closely related to a lack of individual's desire to use ODAM in the future. This, in turn, will further inhibit personal innovativeness towards ODAM. Empirical support for the argument that ambiguity intolerance negatively affects personal innovativeness can be found in Hoffman and Broekhuizen's (2010) research that was undertaken among Dutch consumers and where these researchers found a strong negative relationship between ambiguity intolerance and dispositional innovativeness towards the adoption of new investment products. On the other hand, past research has also found that

individuals with a high level of ambiguity intolerance were most likely to be more anxious than their other colleagues in a given task or situation (e.g., Dewaele & Shan Ip, 2013; Sadeghi & Soleimani, 2016). More so, research applying the individual-level espoused national cultural values, based on Hofstede's work, finds that uncertainty avoidance - closely linked to ambiguity intolerance - positively predicts technology-induced anxiety (for details see Kummer et al., 2017) as well as the tendency to maintain the status quo (Hoffmann & Broekhuizen, 2010; Iversen et al., 2016). Therefore, while we expect ambiguity intolerance to be negatively related to both personal innovativeness and desire, we also expect it to be positively related to technology anxiety about ODAM. The above discussion leads to the formation of the following hypotheses:

H1: Ambiguity intolerance is positively associated with technology anxiety about ODAM.

H2: Ambiguity intolerance is negatively associated with desire toward the use of ODAM.

H3: Ambiguity intolerance is negatively associated with personal innovativeness.

2.5.2 Tradition in relation to personal innovativeness, technology anxiety, and desire

Tradition, which reflects *the extent to which a person has strong regard for traditional values* (Sharma, 2010), has been previously implied by the present authors as being closely related to conservatism. While there is existing research that respect for traditions positively predicts social influence towards e-learning in a collectivist context (Mehta et al., 2019), we argue nevertheless that individuals who are mostly oriented towards their customs, heritage, and traditional beliefs will be more attached to the status quo and consequently less open to exploring new experiences. Further, we believe that individuals scoring high on traditions may tend to have a fixed mindset, which has been found to have a consequential effect on consumer behavior (e.g., Japutra & Song, 2020). In fact, it is known that 'consumers with a fixed mindset conceive that human attributes are stable and hard to change' (Japutra & Song, 2020, p. 2).

Research in the field of psychology has further indicated that 'in societies where people value tradition, security, and conformity (i.e., values of conservation), any innovation may be met with fear, anxiety, or mistrust' (Grigoryan et al., 2018, p. 340). Altogether, this implies that tradition, on the one hand, positively reinforces technology anxieties about ODAM and, on the other hand, negatively impacts personal innovativeness and desire concerning the acceptability of ODAM. Based on the preceding discussion, we formulate the following hypotheses:

H4: Tradition is positively associated with technology anxiety about ODAM.
H5: Tradition is negatively associated with personal innovativeness.
H6: Tradition is negatively associated with the desire for the use of ODAM.

2.5.3 Independence in relation to personal innovativeness, technology anxiety, and desire

Independence, which is analogous to Hofstede's individualism cultural typology, is the degree to which an individual perceives a strong self-concept, a sense of autonomy, and personal achievement (Sharma, 2010). People with a high sense of independence engage in behaviours that are influenced by personal goals and not collective goals (Triandis, 1989). More so, according to past research, individuals who score high on individualistic traits (in this context independence) tend to be more explorative or inventive (Hampden-Turner & Trompenaars, 1993; Srite et al., 2008; Steenkamp et al. 1999), and are less likely to conform to status quo. For instance, Srite et al. (2008) proposed and found support that more individualistic individuals were more innovative with information technology and its perceived usefulness. Altogether, this leads to the formulation of the following hypotheses:

H7: Independence is positively associated with personal innovativeness.

H8: Independence is positively associated with desire toward the use of ODAM.

2.5.4 Personal innovativeness and desire

Personal innovativeness, which denotes an individual's tendency to use and/or try a new product or experience – has been found to be positively associated with perceived usefulness of a

technology (e.g., Srite et al., 2008), attitude towards a technology (Hwang et al., 2019; Hwang et al., 2021; Patil et al., 2020; Yi et al., 2020), perceived product image (e.g., Kim et al., 2020) and by extension desire to use a technology (Hwang et al., 2020; Kim et al., 2020; Yi et al., 2020). We, therefore, investigate the above finding in the ODAM context through the formulation of the following hypothesis:

H9: Personal innovativeness is positively associated with the desire for the use of ODAM.

2.5.5 Technology anxiety and desire

Technology anxiety, which is a form of negative emotions that individuals express in the form of fear, uneasiness, or apprehension (Meuter et al, 2003, Nayak, 2014; Venkatesh, 2020), has been shown in the literature to be a strong predictor of attitudes towards technology, albeit in a negative sense (e.g., Igbaria & Parasuraman, 1989, Patil et al., 2020). Since attitude is known to be closely related to desire (also cf. Yi et al., 2020), we, therefore, extend this link to desire within the ODAM context. Therefore, we formulate the following hypothesis:

H10: Technology anxiety is negatively associated with the desire for the use of ODAM.

2.5.6 Desire and future use intention

As argued previously, desire is a proximate determinant of the intention to use a product (Perugini & Bagozzi, 2001, 2004; Guy, 2009). Recent research has found that consumers' desire to use a product is positively related to both advocacy and use intentions (e.g., Kim et al., 2020; Osakwe et al., 2022; Yi et al., 2020). Taken together, we argue that desire will play a strong role in the individual's intention of using ODAM in the future, and thus arrive at the final hypothesis:

H11: Desire is positively associated with the intention to use ODAM in the future.

In summary, our proposed research hypotheses are contained in Fig.1.

[Insert Fig.1]

3 RESEARCH METHODS

3.1 Research context

The primary focus of this research was the young adult-consumer, whom we defined as those aged between 18-34 years. This is also consistent with past research (Baudier et al., 2020; Nosi et al., 2017). This study focuses on young consumers in a European country, because recent projection by some industry practitioners indicates that this demographic segment is very likely to be initial adopters of ODAM (Yedavalli & Mooberry, 2019) and therefore, a potentially valuable market segment for ODAM. This further reinforces the value of the current investigation for the business community as well as researchers. Moreover, the conclusions by Yedavalli and Moorbery are not entirely surprising, especially because young adult consumers have been found in the literature, to be adventurous and early adopters of new technologies and/or services (Baudier et al., 2020; Lee et al., 2021; Manfreda et al., 2021; Nosi et al., 2017; Rahimi et al., 2020). The authors believe that all these factors make the research context interesting for research on ODAM and other new or future technologies.

3.2 Data collection and participants

The data for this study draws from a large research project geared toward understanding potential individual consumers' perceptions towards the future adoption of ODAM, which for the purpose of simplicity we refer to as 'flying taxis' in the research questionnaire. This research makes use of convenience sampling, the primary reason being that, there is no currently available sampling frame relating to potential users of ODAM. Moreover, the study of a convenience-based sampling approach is consistent with research within the ODAM context (Al Haddad et al., 2020) and related transportation-based studies (e.g., Lee et al., 2021),

although we also acknowledge that the use of a convenience sample has its own limitations as research findings may not be generalizable to the larger population. However, it must be understood that the current research is not aimed at generalizing about the larger population, rather the focus is on analytic generalization (see Polit and Beck 2010). Notably, participation was voluntary and respondents were mostly recruited online and consistent with the research focusing on new and future technologies (Al Haddad et al., 2020; Nosi et al., 2017). We must emphasize that to get a fair representation of the sample size, the questionnaire was distributed with the help of the study department at the first author's University, and the further corporation was solicited from students in other universities in the Czech Republic. Consequently, a general email was sent across with an invitation to partake in the study to potential research participants. Prior to the final questionnaire being dispatched to the participants, the authors of this paper expertly revised some aspects of the questionnaire that were initially unclear, in order to ensure a good comprehension of the final questionnaire.

After a two-week interval, a friendly reminder was sent again by the head of the study department to remind all students about the pending questionnaires. The use of student samples for this kind of research is consistent with recent consumer research in relation to technology acceptance (cf. Baudier et al., 2020). The data collection was undertaken between October 2019 and January 2020. In the end, we received 703 responses, out of which 627 were found valid and useful for the analysis. 57.3% of the respondents were females and the remaining were male participants. Further, 81% of the respondents were between the ages of 21 and 34 years, while 19% were between 18-20 years. Finally, 71.6% of the participants were of Caucasian origin, while those of Asian and African descent were 23.9% and 4.1%, respectively. To sum up, the respondents' demographic profile appears in Appendix A.

3.3 Measures and common method bias

All the measures used in this study were drawn from established scales in the literature. For instance, the measurement items for the three cultural values were adapted from Sharma's (2010) study, while this study adapted the technology anxiety scale from Tsai et al. (2019). The personal innovativeness scale was from Chouk and Mani (2019), while the scales for desire towards the use of flying taxis and future use intention were adapted respectively from Hwang et al. (2019) and Venkatesh et al. (2003). All the measurement items (see Appendix B) were measured based on a five-point Likert scale that ranged from 'strongly disagree to strongly agree or not at all to a large extent. The use of different anchors is justifiable, especially as this is a proactive measure for controlling possible incidences of common method bias (CMB). Additional measures that were used in controlling CMB included the assurance of responses' anonymity as well as a clear description of what a flying taxi is, usually by embedding a YouTube video of the technology inside the online questionnaire. We further assured respondents that there we no right or wrong answers to the questions asked and duly informed them that participation was based on their volition, which is consistent with the recommendations of past research (Podsakoff et al., 2003). In addition to the above CMB control measures, we used the full collinearity approach as a statistical benchmark for evaluating the presence of CMB (Kock, 2015). Our results based on Kock's (2015) recommendation revealed that none of the VIF values, be it at the manifest item or construct level, exceeded the conservative figure of 3.3. This indicates that CMB is not an important concern (see also Osakwe et al., 2021). Further, following prior publications (Alam et al., 2020; Bagozzi et al., 1991; Osakwe, 2019; Pavlou et al., 2007; Rampersad, 2020) we employed the correlational estimation approach as an additional benchmark for the assessment of CMB. Results showed that none of the correlation coefficients exceeded 0.9; further indicating that CMB has an inconsequential influence on the analysis. In sum, we can conclude that the

assumption about CMB, especially in relation to the use of self-report survey data, does not have any significant effect on the relationships studied in this work.

3.4 Statistical analyses

Data analyses were performed by using a path modelling approach (labelled also as PLS-SEM), which is extremely useful for exploratory research such as this (Hair et al., 2017; Shaw, & Shiu, 2002; Hair et al., 2020). An additional reason for using this statistical technique is that the current research investigation is primarily focused on making in-sample predictions, especially regarding the future use intention of ODAM (Hair et al., 2017). Moreover, the use of this statistical approach is well-established in the literature as it has been used by scholars on numerous occasions, especially when investigating technology-based phenomena (Baudier et al., 2020; Featherman et al., 2021; Jibril et al., 2020; Osakwe et al., 2021, 2022; Talukder et al., 2020). Finally, as this remains an exploratory work, PLS-SEM is considered by scholars to be the most appropriate for this kind of research (Hair et al., 2017; Osakwe, 2019). Beyond the use of PLS-SEM, we also used other rigorous analytical techniques such as the FIMIX-PLS, MICOM, and the multi-group analysis to check for the robustness of our model, and detect and treat unobserved heterogeneity which may be present in our dataset. This research uses SmartPLS 3.3.3 software for the estimation and evaluation of the proposed research model.

4 RESULTS

4.1 Measurement model evaluation

This study, following the recommendations by Hair et al. (2020) and Shiau et al. (2019), first assessed the standardized loadings of the measurement items and met the minimum threshold value of 0.60 (see Bagozzi & Yi, 1988; Le-Anh, & Nguyen-To 2020). Moreover, as shown in Table 1, all the loadings were statistically significant at $p<0.01$. Further, the results met the convergent validity criteria especially because of satisfactory composite reliability, average variance extracted and Joreskog rhô scores of the research constructs (Table 1). Finally,

following Fornell and Larcker's (1981) and Henseler et al.'s (2015) recommendations, discriminant validity was assessed. As shown in both Table 1 and Table 2, there is sufficient evidence that the research constructs strongly differ from each other. Again, a quick scan of cross-loadings in Table 4 signifies that all loadings were loaded primarily into their given constructs, thereby indicating that no significant cross-loadings were apparent. Indeed, the measurement model met the required recommendations in the literature. The results from both the Kolmogorov-Smirnova and Shapiro-Wilk tests (see Appendix C) conducted via SPSS indicate our dataset was not normally distributed and, therefore, provide further support for the choice of PLS-SEM for the analysis (Cruz-Jesus et al., 2019). Thus, we can proceed to the evaluation of the model's structural parameters.

[Insert Table 1]

[Insert Table 2]

[Insert Table 3]

[Insert Table 4]

4.2 Structural model evaluation

The results of the structural model, which reflect both the path coefficients and *R*-squared values are contained in Figure 2. Notably, based on the analysis (see Figure 2), hypothesis 1 was not statistically supported, implying that ambiguity intolerance does not exert any substantial positive influence on technology anxiety (estimate = 0.069, $p>0.05$). Hypothesis 2 was also not supported, implying a weak relationship between ambiguity intolerance and desire to use on-demand air mobility (estimate = 0.082, $p > 0.05$). The proposed relationship between ambiguity intolerance and personal innovativeness (H3) was statistically supported (estimate = -0.133, $p = 0.043$). Hypothesis 4 was supported, thus implying that technology anxiety is positively influenced by an individual's respect for traditional values (estimate = 0.219, $p < 0.001$). The individual's respect for traditional values was found to positively influence personal innovativeness towards on-demand air mobility, thus rejecting hypothesis 5 (estimate = 0.140,

p = 0.015). As hypothesised, individual's respect for traditional values negatively influenced desire towards on-demand air mobility (H6) (estimate = 0.172, $p < 0.001$). Hypothesis 7 was statistically supported, implying that independence is positively related to personal innovativeness towards on-demand air mobility (estimate = 0.101, $p = 0.044$). Hypothesis 8 was rejected since it was found that independence was negatively related to desire towards on-demand air mobility, although statistically insignificant (estimate = -0.080, $p > 0.05$). Both hypotheses 9 and 10 were supported, implying that desire toward on-demand air mobility is positively influenced by personal innovativeness (estimate = 0.262, $p < 0.001$) but negatively influenced by technology anxiety (estimate = -0.347, $p < 0.001$). Desire exerted a positive influence on future use intention of on-demand air mobility, thus supporting hypothesis H11(estimate = 0.672, $p < 0.001$).

In sum, most of the hypothesised effects were supported by the proposed model (Figure 2), and the model's predictive relevance (Q^2) is relatively strong since Q^2 values were all positive and greater than zero (Hair et al., 2017). We should also note that the research model explains a 24.4% variation in desire towards the use of flying taxis, while it also accounts for a 45.2% variation in future use intention. However, the model accounts for merely a 5% variance in technology anxiety as well as a 5.6% variance in personal innovativeness. This implies that there could be other strong predictors of both technology anxiety and personal innovativeness that lie beyond the current research scope. Thus, there is plenty of room for additional investigation of these issues in the research context and other technology domains.

[Insert Fig 2.]

4.3 Unobserved heterogeneity test

Unobserved heterogeneity test is a model robustness test used to check whether there are significant differences other than the observed differences, such as demographic characteristics usually seen in the population understudied. Extant studies indicate that researchers using PLS-SEM usually assume that the data set used for structural model analysis comes from a single homogeneous population (Jedidi et al., 1997). However, Sarstedt et al. (2009) contend that such an assumption is unrealistic and may lead to erroneous results, because individuals and organizations used as study samples differ in behavior and structure, respectively. Other studies (Becker et al., 2013; Rigdon et al., 2011; Sarstedt & Ringle, 2010; Rana, & Paul, 2020) have also confirmed that neglecting the heterogeneity test may threaten the validity of the results and produce misleading conclusions. Thus, in order to check the robustness of the research model and be confident in the results, we subject our model to the unobserved heterogeneity test, using the finite mixture partial least squares (FIMIX-PLS) module in the SmartPLS 3.3.3 and by following the steps recommended by Hair Jr, et al. (2016). First, we run the FIMIX-PLS procedure in SMARTPLS, followed by an estimation of the number of clusters (k) which is given as k=sample size/number of sub-samples. Since we knew the sample size (627), we used the G-power software to estimate the number of sub-samples, which yielded 55 subsamples. This suggested that our sample could be partitioned into 11 clusters (i.e. 627/55). FIMIX-PLS iteration results presented in Table 5 counter-suggested that the 11-cluster was an overestimation, as the segment sizes churning out beyond the 4th iteration (i.e. when k=5) were strategically insignificant (Kotler & Keller 2015).

[Insert Table 5]:

Table 5 presents the results of the unobserved heterogeneity test. The Akaike information criterion (AIC) and the minimum description length with factor 5 (MDL5) are not used in deciding the results, because AIC overestimates while MDL5 underestimates the results (Hair et al., 2016b). According to Hair et al. (2016b), in order to arrive at the best solution, the

researcher should check the minimum values of the cluster - on rows of either Akaike information criterion with factor 3 (AIC3) and consistent Akaike information criterion (CAIC), or on either Akaike information criterion with factor 4(AIC4) and Bayesian information criterion (BIC). Our results show that both AIC3 and CAIC and AIC4 and BIC suggest a 5-segment solution. The 5-segment solution shows an Entropy (EN) value of 0.866, suggesting that the segments are well separated. However, a careful analysis of the cluster or segment sizes shows that the majority of the respondents fall under 3 segments (38% (238) 0.36% (224), and 26% (165), while the remaining are bundled in clusters as small as 7% (44). Accordingly, we agreed upon a 3-cluster solution.

The next step in FIMIX-PLS was finding the explanatory variable. In line with Matthew et al. (2016), we employed a simple cross tab to compare the FIMIX-PLS partition with each of our demographic variables, in order to find a possible explanatory variable. Unfortunately, no significant explanatory variable was found. For instance, the cross-tab result of FIMIX-PLS partition and gender is presented in Table 6:

[Insert Table 6]

Manual calculation of overlaps (i.e. [117+93+105]/627=50.2%) from the cross-tab results presented in Table 6 indicates that only 50.2 percent of the respondents match the FIMIX-PLS partition. This overlap ratio is below the recommended threshold of 60 percent (Matthew et al., 2016). Thus, since none of the variables we subjected to explanatory variable analysis could meet the threshold and explain the heterogeneity in our data set, we attribute the cause to some other variables.

Consistent with extant studies (Le et al., 2019), we proceeded to conduct segment-specific PLS-path analysis through the multi-group analysis. Indeed, this step was also necessary because it

helped to know whether our path modelling pattern significantly differs across the three-specified segments. Prior to multi-group analysis using the PLS-SEM, we conducted measurement invariance of composite models (MICOM), as it is essential to avoid misleading results (Henseler et al., 2016). Before the MICOM, we categorized the three segments identified by the FIMIX-PLS into three different groups for comparison (i.e. Segment I vs II; I vs III, and II vs III). The MICOM involves a three-step assessment, namely assessment of (a) configural invariance, (b) compositional invariance, and (c) the equality of composite mean values and variances. Based on qualitative analysis, all the three groups met the requirements of step 1 (see Table 7). However, beyond step 1, only one group (Segment I & III) met the requirements for step 2, indicating a partial measurement invariance (Henseler et al. 2016). None of the three groups met the requirements under step 3, hence full measurement invariance was not fulfilled. We thus proceeded to multi-group analysis (MGA) using two non-parametric methods, namely Henseler's MGA and permutation test (Henseler et al. 2016) for segments I and III, based on partial measurement equivalence. Results of the MGA are displayed in Table 8. Henceforth, segment I and segment III will be referred to as group 1 and group 2.

[Insert Table 7]

[Insert Table 7]

The multi-group analysis results show that the differences in the two groups are only significant for H2, H3, H8, and H9. We could not accept the same assumption for the remaining hypotheses, because they were either not validated by Henseler's MGA test or by both tests. For instance, in the case of H1, H5, H6, and H7, they were validated by Henseler's MGA test but not supported by the permutation test. Thus, we retain the results obtained by the global model, that is, for hypotheses H1, H4, H5, H6, H7, H9, H10, and H11.

5. GENERAL DISCUSSION

Our objective in this study was to explore the role of personal cultural values in future use intentions of ODAM, primarily through the psychological mechanisms of personal innovativeness, technology anxiety, and desire. By utilizing Sharma's (2010) personal cultural values theory and the psychological literature as the research base, we shed new empirical light on research about ODAM acceptability. Thus, this research, along with the recent research efforts of Al Haddad et al. (2020) and Winter et al. (2020), assists in developing a better understanding of the determinants of ODAM acceptability. Contrary to expectation, both the global model and group 1 and 2 models show that ambiguity intolerance does not have significant influence on technological anxiety (H1). Meanwhile, we find differences in the opinions of the two groups of consumers on ambiguity intolerance's relationship with desire to use ODAM, which our global dataset rejects (H2). Similarly, the results also indicate that there are group differences in the negative influence of ambiguity intolerance on personal innovativeness(H3), which was accepted by the global dataset. More importantly, the study finds that some cultural values influence future use of ODAM through the psychological characteristics of consumers. Specifically, we find that tradition has a positive influence on technological anxiety (H4), personal innovativeness (H5), and desire to use ODAM(H6). This means consumers who score high on tradition also score high on technological anxiety but score low on personal innovativeness and desire to use ODAM. Further, the results also indicate that independence positively influences personal innovativeness, suggesting that consumers who score high on independence as a cultural value also score high on personal innovativeness (H7). In addition, the results also indicate that there are group differences in the influence of independence on the desire to use ODAM (H8).

Another finding, which is worth noting, is that the negative effect of tradition on personal innovativeness helps exert negative and positive influences respectively on desire (H9). Likewise, the latter has a negative influence on the desire to use ODAM (H10). Finally, the

results show that these influences on desire lead to a significant positive influence on the desire for future use intention of ODAM(H11). Indeed, these findings have both theoretical and practical implications.

5.1 Theoretical contributions

The proposed and tested theoretical model makes the following important contributions to research in ODAM acceptability, and by extension to the literature on technology acceptance.

First, this article, by empirically demonstrating the predictors of anxieties about technology, contributes to extant research on technology anxiety that was mostly focused on evaluating its role in individuals' attitudes and acceptance of new technologies (Hohenberger et al., 2017; Patil et al., 2020; Talukder et al., 2020). In particular, the current study moves beyond the predominant focus in the literature on the consequences of technology anxiety, to show that respect for traditions and ambiguity intolerance are important predictors of technology anxiety. Though ambiguity intolerance had the correct path coefficient sign, it was nevertheless found to be statistically insignificant. Thus, this research shows that among the cultural values' predictors of technology anxiety, the role of tradition is the strongest, further implying that tradition, which connotes conservative values, reinforces technology anxiety about a (less-familiar) technology.

Another important contribution of the current investigation to extant research is the findings that, while tradition is negatively associated with personal innovativeness, the independence which taps from the individualism concept in Hofstede's national culture work, contributes to fostering personal innovativeness towards the use of a future (transportation) technology. Furthermore, while the research finding that independence has a positive influence on personal innovativeness is indeed pioneering in the research context of ODAM acceptability, it nevertheless supports prior work (Steenkamp et al., 1999) that adopted Hofstede's national

culture lens. The present authors have concluded that in national contexts where individualism is valued, individuals tend to be innately innovative and are thus more willing to try something new. Our work agrees with the above research conclusion. Besides, this research is also congruent with the findings that individuals who exhibit a high level of individualism tend to be more innovative in relation to technology usage (Srite et al., 2008). Contrary to expectations, however, we find that tradition which was initially hypothesised to be a negative predictor of personal innovativeness, rather positively predicts personal innovativeness. As this is the first work to offer evidence on the above relationship, we would like to invite additional research to clarify the link between tradition and personal innovativeness. Finally, it is interesting to highlight that although the proposed model's *R*-squared values of technology anxiety (5%) and personal innovativeness towards ODAM acceptance (5.6%) are small and parallel to those of Srite (2008), in the computer usage context that predicted 3% and 7% variations in personal innovativeness and technology anxiety, respectively, these figures increased when we segmented our dataset into two groups (see Table 8). This is a very interesting finding, which sets the tone for another contribution to the theory next highlighted.

Indeed, our findings may be more reliable compared to previous research findings. Unlike the previous research (Rohlik & Stasch, 2019; Nguyen-Phuoc et al., 2020), we checked and treated for unobservable heterogeneity, neglect of which, according to Sarstedt et al. (2009), could lead to unrealistic and misleading results. For instance, while we could have concluded that ambiguity intolerance negatively influences personal innovativeness using our global dataset, the results from the FIMIX-PLS, MICOM and the multi-group analysis we employed suggested the need to reject this assumption. This reinforces the need for studies using PLS-SEM to go beyond testing for validity of their global model, and apply advanced analytical methods such as those used in our study, in order to avoid the threat to the validity of results and thwart the tendency of making misleading conclusions (Becker et al., 2013).

This article further contributes to recent research that has examined the predictors of the desire to use technology. These predictors, according to the model of goal-directed behavior (Hwang et al., 2019; Perugini & Bagozzi, 2001), are an important concept that must be considered by researchers in the technology acceptance field, especially since this carries more weight in adoption decisions than evaluative appraisals like attitude (see also Bettiga & Lamberti, 2017; Perugini & Bagozzi, 2004; Yi et al., 2020). Specifically, this research reveals that among the personal cultural values believed to impact the desire to use a future (transportation) technology, only tradition represents an important inhibitor to desire. This offers a novel contribution to recent research efforts that have explored the predictors of the desire to use a technology (Hwang et al., 2020; Kim et al., 2020; Yi et al., 2020). In other words, until now, there has been no empirical research exploration on the role that cultural values might play in the desire to use a technology. Thus, the study's findings provide an empirical contribution to research on technology acceptance. Similarly, we further document that, while technology anxiety has a significant direct and negative impact on desire, desire is positively influenced by personal innovativeness, and this agrees with the research postulations. The above findings further contribute to empirical research on the determinants of desire to use a future technology/service. At the same time, the research finding that future use intention is positively and significantly influenced by desire stands in agreement with the literature (Bettiga & Lamberti, 2017; Perugini & Bagozzi, 2001/2004), further reinforcing the notion of the inextricable link between desire and technology/product acceptance (see also Hwang et al., 2019; Kim et al., 2020; Osakwe et al., 2022).

Finally, the last contribution concerns partially reconciling the findings of the direct negligible role that cultural values play in technology use (cf. Cruz-Cárdenas et al., 2019; Hoque & Bao, 2015). This study demonstrates unequivocally that the role of cultural values in technology use is mainly operated through psychological mechanisms such as technology anxiety, personal

innovativeness, and ultimately desire for the technology. The theoretical base that has assisted the researcher in making the above research conclusion is that of the personal-cultural values theory (Sharma, 2010) and the broader psychological literature. Our research has been therefore the first to extend the personal-cultural values theory to research in ODAM, thereby enhancing the understanding of the determinants of future adoption of ODAM.

5.2 Practical contributions

Besides the theoretical contributions that the present study makes, the present study also offers valuable information that can potentially guide managerial decision-making in this area. First, the present study has revealed that managers responsible for the design and future marketing of ODAM must consider idiosyncratic factors, especially individual cultural values when considering deploying the transportation technology in the coming years. In particular, given the study's findings of the significant direct role of tradition in boosting potential consumers' technological anxiety regarding the use of ODAM, managers must ensure that they provide their potential customers with complete information about the workings and safety of ODAM, even prior to the technology being introduced in the market. To potentially downplay the pertinent issue of individuals' anxieties about the foreseeable acceptance of ODAM, managers may need to use opinion leaders in their future advertising, especially when attempting to convince individuals who are more traditionally oriented, to use ODAM for their city commuting. The study further implies that it may be more beneficial for operators of ODAM in the future to target individuals who are more innovative in nature, especially innovative-minded young consumers, as this population segment tends to show a greater inclination towards new experiences as well as the use of new technologies.

Finally, our findings that desire, which is characterized by an intense attitude to use ODAM positively, enhances future use intention, implies that managers will need to emphasize its aspirational benefits as well as the convenience value that ODAM can offer to potential

passengers. In conclusion, given the empirical evidence presented in this study, we believe that such insights can help managers and their firms to build new knowledge about potential consumers' concerns and prospects about ODAM acceptability.

5.3 Implications for consumers

One of the key challenges of ODAM acceptability envisaged ahead of its full implementation in 2023 relates to consumer skepticism (Ahmed et al., 2021; Al Haddad et al., 2020; Winter et al., 2020; Winter et al., 2020). Given this background, our findings provide relevant information for the vendors of ODAM to provide massive marketing communication and education, wherein consumers' concerns relating to cultural values (e.g., traditions, independence, ambiguity intolerance), and psychological characteristics (e.g., technological anxiety) are addressed. Our study shows that tradition and independence will affect the future use of ODAM. Additionally, this study indicates that future consumers of ODAM are anxious and this technological anxiety has a profound effect on their desire and intention to use the technology in the future, suggesting that cultural values and psychological characteristics are very important to ODAM acceptability. We believe that a well-thought-out integrated marketing communications strategy using our study findings will boost consumer confidence toward ODAM use in the near future. In conclusion, the findings of this study implicate our understanding about the espoused cultural values and psychological mechanisms that would be critical to consumers' acceptance of ODAM in the years ahead and by extension suggesting that both cultural and psychological influences matter for individuals' acceptance of emerging and future technologies like ODAM.

5.4 Limitations and future research

Despite our sincere efforts to develop a better understanding of the determinants of future use intention of ODAM, based on a cultural perspective and psychological research, this study suffers from some limitations. One limitation of this study that must be emphasized is that the present study was undertaken using a selected population segment (students) in the Czech

Republic. Hence, there are potential concerns about the research generalization, which calls for further investigation of the proposed research model.

In particular, we call upon researchers to re-examine the proposed model using older generations, typically baby boomers and Gen X age cohorts, in different parts of the world. Given that the proposed research model explains only 45.2% variance in future use intention of ODAM, we further acknowledge that the model only provides a partial understanding of the factors associated with ODAM acceptability. In this context, there is a need, therefore, for future research to expand on the existing model through the consideration of additional psychological or sociocultural factors that may explain ODAM acceptability. Thus, this leads us to acknowledge that the current work may not be theoretically sufficient to explain the future use intention of ODAM, especially in different consumer and territorial contexts (cross-country). Hence, it would be convenient to extend the model to other countries to establish a cross-cultural comparison.

In addition, from a methodological point of view, our study was self-reporting in nature and based on quantitative methods. Therefore, our research may have overlooked important nuances, which can only be addressed using a qualitative research or mixed methods approach. We also acknowledge the fact that this study fails to find an explanatory variable for the heterogeneity in our dataset, even though FIMIX-PLS was employed. An explanatory variable could have provided other important insights, and as such, we recommend that future research should add more variables in similar studies, which could possibly explain differences in our model or its extension.

Finally, COVID 19 has resulted in structural changes in consumer behavior (Gordon-Wilson, 2021; Yap et.al, 2021; Rayburn et.al, 2021: Kursan Milakovic, 2021; Nayal et.al, 2021; Chopdar, Paul & Prodanova, 2022). As an outcome, we need new theories, scales, methods and paradigms to carry research studies in the post-pandemic era to analyze the new processes,

patterns and problems (see also Sharma, Banerjee & Paul, 2022). In the same vein, we concur with the prior calls (e.g., Paul & Bhukya, 2021), for developing new frameworks and models as platforms to carry out future studies in this regard. Specifically, in the context of the ODAM study, we call on future studies to incorporate the new consumer behaviour in their post-pandemic studies. This way, we can enrich the research investigation of ODAM especially from a demand-perspective.

6. CONCLUSIONS

This study proposes a model suitable for the use of on-demand air mobility (ODAM), based on personal cultural values theory and psychological research. It uses a dataset of young consumers from the Czech Republic to empirically examine the effect of both individual cultural influences and psychological characteristics in the future use of (ODAM), which is expected to have some repercussions for city shuttling and personal well-being in the near future. Evidence from the study reveals that independence as a tenet of individual cultural values has a significant effect on personal innovativeness, while positively influencing the desire to use ODAM. Moreover, the tradition was found to have a positive influence on technology anxiety, alternatively, it turned out to have a negative impact on the desire to use ODAM. Taken together, the study elicited that individual cultural values constructs, specifically, independence and traditions, play a crucial role in the debate on the future use of ODAM, through the psychological influences of personal innovativeness, technology anxiety, and desire.

References

Ahmed, S. S., Fountas, G., Eker, U., Still, S. E., & Anastasopoulos, P. C. (2021). An exploratory empirical analysis of willingness to hire and pay for flying taxis and shared flying car services. *Journal of Air Transport Management*, 90, 101963. https://doi.org/10.1016/j.jairtraman.2020.101963

Al Haddad, C., Chaniotakis, E., Straubinger, A., Plötner, K., & Antoniou, C. (2020). Factors affecting the adoption and use of urban air mobility. *Transportation Research Part A: Policy and Practice*, 132, 696–712. https://doi.org/10.1016/j.tra.2019.12.020

Alam, M. Z., Alam, M. M. D., Uddin, M. A., & Mohd Noor, N. A. (2022). Do mobile health (mHealth) services ensure the quality of health life? An integrated approach from a developing country context. Journal of Marketing Communications, 28(2), 152-182. https://doi.org/10.1080/13527266.2020.1848900

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94.

Bagozzi, R.P., Yi, Y., & Phillips, L.W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36 (3), 421–458.

Bankole, F.O., Bankole, O. & Brown, I. (2011). Mobile banking adoption in Nigeria. *Electronic Journal on Information Systems in Developing Countries*, 47, 2, 1-23.

Baudier, P., Kondrateva, G., & Ammi, C. (2020). The future of telemedicine cabin? The case of the French students' acceptability. *Futures*, 122, 102595. https://doi.org/10.1016/j.futures.2020.102595

BBC. (2020). The flying car is here – and it could change the world. https://www.bbc.com/future/article/20201111-the-flying-car-is-here-vtols-jetpacks-and-air-taxis (Accessed 27 Jan., 2021).

Becker, J. M., Rai, A., Ringle, C. M., & Völckner, F. (2013). Discovering unobserved heterogeneity in structural equation models to avert validity threats. *MIS quarterly*, 665-694.

Belton, O., & Dillon, S. (2021). Futures of autonomous flight: Using a collaborative storytelling game to assess anticipatory assumptions. *Futures*, 128, 102688. https://doi.org/10.1016/j.futures.2020.102688

Bettiga, D., & Lamberti, L. (2017). Exploring the adoption process of personal technologies: A cognitive-affective approach. *Journal of High Technology Management Research*, 28(2), 179–187. https://doi.org/10.1016/j.hitech.2017.10.002

Buhr, K., & Dugas, M. J. (2006). Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry. *Journal of Anxiety Disorders*, 20(2), 222–236.

Cambre, M. A., & Cook, D. L. (1985). Computer anxiety: definition, measurement, and correlates. *Journal of Educational Computing Research*, 1, 37–54.

Carranza, R., Díaz, E., Martín-Consuegra, D., & Fernández-Ferrín, P. (2020). PLS–SEM in business promotion strategies. A multigroup analysis of mobile coupon users using MICOM. *Industrial Management & Data Systems*, 120(12), 2349-2374. https://doi.org/10.1108/IMDS-12-2019-0726

Chen, C.-F., White, C., & Hsieh, Y.-E. (2020). The role of consumer participation readiness in automated parcel station usage intentions. *Journal of Retailing and Consumer Services*, 54, 102063. https://doi.org/10.1016/j.jretconser.2020.102063

Chopdar, P. K., Paul, J., & Prodanova, J. (2022). Mobile shoppers' response to Covid-19 phobia, pessimism and smartphone addiction: Does social influence matter?. Technological Forecasting and Social Change, 174, 121249.

Chouk, I., & Mani, Z. (2019). Factors for and against resistance to smart services: role of consumer lifestyle and ecosystem related variables. *Journal of Services Marketing*. 33(4). 449-462. https://doi.org/10.1108/JSM-01-2018-0046

Ciftci, O., Choi, E. K. C., & Berezina, K. (2020). Customer intention to use facial recognition technology at quick-service restaurants. E-review of Tourism Research, 17(5).

Cruz-Cárdenas, J., Zabelina, E., Deyneka, O., Guadalupe-Lanas, J., & Velín-Fárez, M. (2019). Role of demographic factors, attitudes toward technology, and cultural values in the

prediction of technology-based consumer behaviors: A study in developing and emerging countries. *Technological Forecasting and Social Change*, 149, 119768. https://doi.org/10.1016/j.techfore.2019.119768

Cruz-Jesus, F., Pinheiro, A., & Oliveira, T. (2019). Understanding CRM adoption stages: empirical analysis building on the TOE framework. *Computers in Industry*, *109*, 1-13. https://doi.org/10.1016/j.compind.2019.03.007

Davidov, E., Seddig, D., Gorodzeisky, A., Raijman, R., Schmidt, P., & Semyonov, M. (2020). Direct and indirect predictors of opposition to immigration in Europe: individual values, cultural values, and symbolic threat. *Journal of Ethnic and Migration Studies*, *46*(3), 553-573. https://doi.org/10.1080/1369183X.2018.1550152

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-339.

Dewaele, J.-M., & Shan Ip, T. (2013) The link between foreign language classroom anxiety, second language tolerance of ambiguity and self-rated English proficiency among Chinese learners. *Studies in Second Language Learning and Teaching*, 3(1), 47-66.

Dyck, J. L., & Smither, J. A. A. (1994). Age differences in computer anxiety: The role of computer experience, gender and education. Journal of educational computing research, 10(3), 239-248.

Eker, U., Fountas, G., & Anastasopoulos, P. C. (2020). An exploratory empirical analysis of willingness to pay for and use flying cars. Aerospace Science and Technology, 104, 105993. https://doi.org/10.1016/j.ast.2020.105993

El-Masri, M., & Tarhini, A. (2017). Factors affecting the adoption of e-learning systems in Qatar and USA: Extending the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). *Educational Technology Research and Development*, 65(3), 743–763. https://doi.org/10.1007/s11423-016-9508-8

Featherman, M., Jiab, S. J., Califf, C. B., & Hajli, N. (2021). The impact of new technologies on consumers beliefs: Reducing the perceived risks of electric vehicle adoption. *Technological Forecasting and Social Change*, 169, 120847. https://doi.org/10.1016/j.techfore.2021.120847

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. SAGE Publications Sage CA: Los Angeles, CA.

Globe Newswire. (2019). Flying taxi market to reach USD 9.4 billion by 2026: Reports And data.https://www.globenewswire.com/news-release/2019/11/18/1948836/0/en/Flying-Taxi-Market-To-Reach-USD-9-4-Billion-By-2026-Reports-And-Data.html (Retrieved May 2, 2020).

Gordon-Wilson, S. (2021). Consumption practices during the COVID-19 crisis. International Journal of Consumer Studies. https://doi.org/10.1111/ijcs.12701

Grigoryan, L.K., Lebedeva, N. & Breugelmans, S.M. (2018). A cross-cultural study of the mediating role of implicit theories of innovativeness in the relationship between values and attitudes toward innovation. *Journal of Cross-Cultural Psychology*, 49(2), 336–352. https://doi.org/10.1177/0022022116656399

Guy, C. (2009). 'Sustainable transport choices' in consumer shopping: a review of the UK evidence. *International Journal of Consumer Studies*, 33(6), 652-658.

Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101–110. https://doi.org/10.1016/j.jbusres.2019.11.069

Hair Jr, J. F., Sarstedt, M., Matthews, L. M., & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I–method. *European Business Review*, 28(1): 63-76. https://doi.org/10.1108/EBR-09-2015-0094

Hair, J., Hollingsworth, C., Randolph, A, & Chong, A. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management & Data Systems*, 117(3), 442-458. https://doi.org/10.1108/IMDS-04-2016-0130

Hampden-Turner, C., & Trompenaars, F. (1993). The seven cultures of capitalism. New York: Doubleday.

Hegner, S. M., Beldad, A. D., & Brunswick, G. J. (2019). In automatic we trust: Investigating the impact of trust, control, personality characteristics, and extrinsic and intrinsic motivations on the acceptance of autonomous vehicles. *International Journal of Human–Computer Interaction*, 35(19), 1769-1780. https://doi.org/10.1080/10447318.2019.1572353

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. Journal of the academy of marketing science, 43(1), 115-135. https://doi.org/10.1007/s11747-014-0403-8

Hirschman, E.C. (1980). Innovativeness, novelty seeking and consumer creativity. *Journal of Consumer Research*, 7, 283–295.

Hoffmann, A. O. I., & Broekhuizen, T. L. J. (2010). Understanding investors' decisions to purchase innovative products: drivers of adoption timing and range. *International Journal of Research in Marketing*, 27(4), 342–55.

Hofstede, G. (2001). *Culture's Consequences: Comparing values, behaviors, institutions, and organizations across nations (2nd ed.)*. Thousand Oaks, CA: Sage Publications.

Hohenberger, C., Spörrle, M., & Welpe, I. M. (2017). Not fearless, but self-enhanced: The effects of anxiety on the willingness to use autonomous cars depend on individual levels of self-enhancement. Technological Forecasting and Social Change, 116, 40-52.https://doi.org/10.1016/j.techfore.2016.11.011

Hoque, M., & Bao, Y. (2015). Cultural influence on adoption and use of e-Health: Evidence in Bangladesh. *Telemedicine and E-Health*, 21(10), 845–851. https://doi.org/10.1089/tmj.2014.0128

Hsu, C. H., & Huang, S. S. (2016). Reconfiguring Chinese cultural values and their tourism implications. *Tourism Management*, 54, 230-242. https://doi.org/10.1016/j.tourman.2015.11.011

Huang, F., Teo, T., Sánchez-Prieto, J. C., García-Peñalvo, F. J., & Olmos-Migueláñez, S. (2019). Cultural values and technology adoption: A model comparison with university teachers from China and Spain. *Computers & Education*, 133, 69–81. https://doi.org/10.1016/j.compedu.2019.01.012

Hwang J., Kim H., & Kim, W. (2019). Investigating motivated consumer innovativeness in the context of drone food delivery services. *Journal of Hospitality and Tourism Management*, 38, 102-110. https://doi.org/10.1016/j.jhtm.2019.01.004

Hwang, J., Choe, J. Y., Choi,Y. G., Kim, J. J. (2021). A comparative study on the motivated consumer innovativeness of drone food delivery services before and after the outbreak of COVID-19. *Journal of Travel & Tourism Marketing*, 38(4), 368-382. https://doi.org/10.1080/10548408.2021.1921671

Igbaria, M., & Parasuraman, S. (1989). A path analytic study of individual characteristics, computer anxiety and attitudes toward microcomputers. *Journal of Management*, 15(3), 373-388.

Iversen, N. M., Hem, L. E., & Mehmetoglu, M. (2016). Lifestyle segmentation of tourists seeking nature-based experiences: the role of cultural values and travel motives, *Journal of Travel & Tourism Marketing*, 33, 38-66. https://doi.org/10.1080/10548408.2014.998359

Jach, H. K., & Smillie, L. D. (2019). To fear or fly to the unknown: Tolerance for ambiguity and big five personality traits. *Journal of Research in Personality*, 79, 67-78. https://doi.org/10.1016/j.jrp.2019.02.003

Jackson, J. D., Mun, Y. Y., & Park, J. S. (2013). An empirical test of three mediation models for the relationship between personal innovativeness and user acceptance of technology. *Information & Management*, 50(4), 154-161. https://doi.org/10.1016/j.im.2013.02.006

Jamšek, S., & Culiberg, B. (2020). Introducing a three-tier sustainability framework to examine bike-sharing system use: An extension of the Technology Acceptance Model. *International Journal of Consumer Studies*, 44(2), 140–150. https://doi.org/10.1111/ijcs.12553

Japutra, A., & Song, Z. (2020). Mindsets, shopping motivations and compulsive buying: Insights from China. *Journal of Consumer Behaviour*, 1–15. https://doi.org/10.1002/cb.1821

Jedidi, K., Jagpal, H. S., & DeSarbo, W. S. (1997). Finite-mixture structural equation models for response-based segmentation and unobserved heterogeneity. *Marketing Science*, *16*(1), 39-59.

Jibril, A.B., Kwarteng, M. A., Pilik, M., Botha, E, & Osakwe, C. N. (2020). Towards understanding the initial adoption of online retail stores in a low internet penetration context: an exploratory work in Ghana. *Sustainability*, 12(3), 854. http://dx.doi.org/10.3390/su12030854

Jones, M. (2020). Could we see the first flying taxis by 2023? https://techhq.com/2020/12/could-we-see-the-first-flying-taxis-by-2023/

Kim, J. J., Choe, J. Y. J., & Hwang, J. (2020). Application of consumer innovativeness to the context of robotic restaurants. *International Journal of Contemporary Hospitality Management*. https://doi.org/10.1108/IJCHM-06-2020-0602

Kummer, T. F., Recker, J., & Bick, M. (2017). Technology-induced anxiety: manifestations, cultural influences, and its effect on the adoption of sensor-based technology in German and Australian hospitals. *Information & Management*, 54, 73–89. https://doi.org/10.1016/j.im.2016.04.002

Kursan Milaković, I. (2021). Purchase experience during the COVID-19 pandemic and social cognitive theory: The relevance of consumer vulnerability, resilience, and adaptability for purchase satisfaction and repurchase. International Journal of Consumer Studies. https://doi.org/10.1111/ijcs.12672

Lai, C., Wang, Q., Li, X., & Hu, X. (2016). The influence of individual espoused cultural values on self-directed use of technology for language learning beyond the classroom. *Computers in Human Behavior*, 62, 676-688. https://doi.org/10.1016/j.chb.2016.04.039

Le, A. N. H., Tran, M. D., Nguyen, D. P., & Cheng, J. M. S. (2019). Heterogeneity in a dual personal values–dual purchase consequences–green consumption commitment framework. *Asia Pacific Journal of Marketing and Logistics*. 31(2), 480-498. https://doi.org/10.1108/APJML-12-2017-0303

Le, T. D., & Kieu, T. A. (2019). Ethically minded consumer behaviour in Vietnam. *Asia Pacific Journal of Marketing and Logistics*, 31(3), 609-626. https://doi.org/10.1108/APJML-12-2017-0344

Le-Anh, T., & Nguyen-To, T. (2020). Consumer purchasing behaviour of organic food in an emerging market. International Journal of Consumer Studies, 44(6), 563-573. https://doi.org/10.1111/ijcs.12588

Lee, H., & Yang, K. (2013). Interpersonal service quality, self-service technology (SST), service quality and retail patronage. *Journal of Retailing and Consumer Services*, 20(1), 51–57. https://doi.org/10.1016/j.jretconser.2012.10.005

Lee, S., Lee, W., Vogt, C.A., & Zhang, Y. (2021). A comparative analysis of factors influencing millennial travellers' intentions to use ride-hailing. *Information Technology & Tourism*, 23, 133–157. https://doi.org/10.1007/s40558-021-00194-6

Lu, J., Wei, J., Yu, C.-S., & Liu, C. (2017). How do postusage factors and espoused cultural values impact mobile payment continuation? *Behaviour & Information Technology*, 36(2), 140-164. https://doi.org/10.1080/0144929X.2016.1208773

Manfreda, A., Ljubi, K., & Groznik, A. (2021). Autonomous vehicles in the smart city era: An empirical study of adoption factors important for millennials. *International Journal of Information Management*, 58, 102050.https://doi.org/10.1016/j.ijinfomgt.2019.102050

May, R. (1950). *The meaning of anxiety*. New York: Ronald Press.

McCoy, S., Galletta, D. F., & King, W. R. (2005). Integrating national culture into IS research: The need for current individual level measures. *Communications of the Association for Information Systems*, 15, 211-224.

Mehta, A., Morris, N. P., Swinnerton, B., & Homer, M. (2019). The influence of values on E-learning adoption. *Computers & Education*, 141, 103617. https://doi.org/10.1016/j.compedu.2019.103617

Melián-González, S., Gutiérrez-Taño, D., & Bulchand-Gidumal, J. (2021). Predicting the intentions to use chatbots for travel and tourism. Current Issues in Tourism, 24(2), 192-210. https://doi.org/10.1080/13683500.2019.1706457

Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies.

Journal of Business Research, 56(11), 899-906. https://doi.org/10.1016/S0148-2963(01)00276-4

Nayak, R. D. (2014). Anxiety and mental health of software professionals and mechanical professionals. *International Journal of Humanities and Social Science Invention*, 3(2), 52-56.

Nayal, P., Pandey, N., & Paul, J (2021). Covid-19 Pandemic and Consumer-Employee-Organization wellbeing: A dynamic capability theory approach. Journal of Consumer Affairs. https://doi.org/10.1111/joca.12399

Nguyen, T. N., Lobo, A., & Greenland, S. (2017). The influence of cultural values on green purchase behaviour. *Marketing Intelligence & Planning*, 35(3), 377-396. 35(3). https://doi.org/10.1108/MIP-08-2016-0131

Nguyen-Phuoc, D. Q., Su, D. N., Tran, P. T. K., Le, D. T. T., & Johnson, L. W. (2020). Factors influencing customer's loyalty towards ride-hailing taxi services–A case study of Vietnam. *Transportation Research Part A: Policy and Practice*, *134*, 96-112. https://doi.org/10.1016/j.tra.2020.02.008

Nosi, C., Pucci, T., Silvestri, C., & Aquilani, B. (2017). Does value co-creation really matter? An investigation of Italian millennials intention to buy electric cars. *Sustainability*, 9(12), 2159. http://dx.doi.org/10.3390/su9122159

Osakwe, C. N. (2019). Understanding customer-perceived quality in informal stores. *Journal of Services Marketing*, 33(2), 133-147. https://doi.org/10.1108/JSM-05-2018-016

Osakwe, C. N., Okeke, T. C., & Kwarteng, M. A. (2021). Trust building in mobile money and its outcomes. *European Business Review*. 34(2), 244-262. https://doi.org/10.1108/EBR-09-2020-0221

Osakwe, N. C., Marek, H., Riha, D., Stros, M., and Ramayah, T. (2022). Critical factors characterizing consumers' intentions to use drones for last-mile delivery: Does delivery

risk matter? *Journal of Retailing & Consumer Services*, 65, 102865. https://doi.org/10.1016/j.jretconser.2021.102865

Oyserman, D., Coon, H.M. and Kemmelmeier, M. (2002a). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128(1), 3-72. https://doi.org/10.1037//0033-2909.128.1.3

Parayitam, S., Desai, K. J., Desai, M. S., & Eason, M. K. (2010). Computer attitude as a moderator in the relationship between computer anxiety, satisfaction, and stress. *Computers in Human Behavior*, 26(3), 345-352. https://doi.org/10.1016/j.chb.2009.11.005

Patil, P., Tamilmani, K., Rana, N.P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal. *International Journal of Information Management*, 54, 102144. https://doi.org/10.1016/j.ijinfomgt.2020.102144

Paul, J., & Bhukya, R. (2021). Forty-five years of International Journal of Consumer Studies: A bibliometric review and directions for future research. International Journal of Consumer Studies, 45(5), 937-963.

Pavlou, P. A., Liang, H., & Xue, Y. (2007). Understanding and mitigating uncertainty in online exchange relationships: A principal-agent perspective. *MIS Quarterly*, 31(1), 105–136

Perugini, M., and Bagozzi, R. P. (2001). The role of desire and anticipated emotions in goal directed behavior: Broadening and deepening the theory of planned behavior. *British Journal of Social Psychology*, 40(1), 79-98.

Perugini, M., and Bagozzi, R. P. (2004). The distinction between desires and intentions. *European Journal of Social Psychology*, 34, 69-84. https://doi.org/10.1002/ejsp.186

Plötz, P., Schneider, U., Globisch, J., & Dütschke, E. (2014). Who will buy electric vehicles? Identifying early adopters in Germany. *Transportation Research Part A: Policy and Practice*, 67, 96-109. https://doi.org/10.1016/j.tra.2014.06.006

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. https://doi.org/10.1037/0021-9010.88.5.879

Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. International journal of nursing studies, 47(11), 1451-1458. https://doi.org/10.1016/j.ijnurstu.2010.06.004

Pookulangara, S., & Koesler, K. (2011). Cultural influence on consumers' usage of social networks and its' impact on online purchase intentions. *Journal of Retailing and Consumer Services*, 18(4), 348-354. https://doi.org/10.1016/j.jretconser.2011.03.003

Qian, L., & Yin, J. (2017). Linking Chinese cultural values and the adoption of electric vehicles: The mediating role of ethical evaluation. *Transportation Research Part D: Transport and Environment*, 56, 175–188. https://doi.org/10.1016/j.trd.2017.07.029

Rabayah, K.S., Maree, M., & Alhashmi, S. (2021). Cultural factors that influence the adoption of e-commerce: A Palestinian case study. *Information Development*, 1-18. https://doi.org/10.1177/02666669211006887

Rahimi, A., Azimi, G., & Jin, X. (2020). Investigating generational disparities in attitudes toward automated vehicles and other mobility options. Transportation research part C: emerging technologies, 121, 102836. https://doi.org/10.1016/j.trc.2020.102836

Rajendran, S., & Srinivas, S. (2020). Air taxi service for urban mobility: a critical review of recent developments, future challenges, and opportunities. *Transportation Research*

Part E: Logistics Transportation Review, 143, 102090. https://doi.org/10.1016/j.tre.2020.102090

Rampersad, G. (2020). Robot will take your job: Innovation for an era of artificial intelligence. *Journal of Business Research*, 116, 68–74. https://doi.org/10.1016/j.jbusres.2020.05.019

Rana, J., & Paul, J. (2020). Health motive and the purchase of organic food: A meta-analytic review. *International Journal of Consumer Studies*, 44(2), 162-171. https://doi.org/10.1111/ijcs.12556

Rayburn, S. W., McGeorge, A., Anderson, S., & Sierra, J. J. (2021). Crisis-induced behavior: From fear and frugality to the familiar. International Journal of Consumer Studies. https://doi.org/10.1111/ijcs.12698

Rigdon, E.E., Ringle, C.M., Sarstedt, M. and Gudergan, S.P. (2011), "Assessing Heterogeneity in Customer Satisfaction Studies: Across Industry Similarities and within Industry Differences", Sarstedt, M., Schwaiger, M. and Taylor, C.R. (Ed.) Measurement and Research Methods in International Marketing (Advances in International Marketing, Vol. 22), Emerald Group Publishing Limited, Bingley, 169-194. https://doi.org/10.1108/S1474-7979(2011)0000022011

Rincon-Novoa, J., Rojas-Berrio, S., & Robayo-Pinzon, O. (2022). Citizen experience in public transport: A systematic review and future research agenda. *International Journal of Consumer Studies*, 46(2), 540-557. https://doi.org/10.1111/ijcs.12699

Roberts, R., Flin, R., Millar, D., & Corradi, L. (2021). Psychological factors influencing technology adoption: A case study from the oil and gas industry. Technovation, 102, 102219. https://doi.org/10.1016/j.technovation.2020.102219

Rogers, E. M. (2003). *Diffusion of Innovations (4th ed.).* New York: Free Press

Rohlik, L., & Stasch, S. (2019). Analyzing the acceptance of Air Taxis from a potential user perspective: Extending the Technology Acceptance Model towards an Urban Air Mobility Acceptance Model (UAMAM).

Saadé, R. G., & Kira, D. (2006). The emotional state of technology acceptance. Issues in Informing Science & Information Technology, 3.

Sadeghi, K., & Soleimani, M. (2016). The relationship between anxiety, shyness, ambiguity tolerance, and language learning strategies. *International Journal of Pedagogies and Learning*, 11(1), 70–87. https://doi.org/10.1080/22040552.2016.1187652

Sagiv, L., Roccas, S., Cieciuch, J., & Schwartz, S. H. (2017). Personal values in human life. *Nature Human Behaviour*, *1*(9), 630-639. https://doi.org/10.1038/s41562-017-0185-3

Sarstedt, M., & Ringle, C. M. (2010). Treating unobserved heterogeneity in PLS path modeling: a comparison of FIMIX-PLS with different data analysis strategies. *Journal of Applied Statistics*, 37(8), 1299-1318. https://doi.org/10.1080/02664760903030213

Sarstedt, M., Schwaiger, M., & Ringle, C. M. (2009). Do we fully understand the critical success factors of customer satisfaction with industrial goods?-extending Festge and Schwaiger's model to account for unobserved heterogeneity. *Journal of business market management*, *3*(3), 185-206. http://dx.doi.org/10.1007/s12087-009-0023-7

Schwartz, S. H., & Sortheix, F. (2018). Values and subjective well-being. *Handbook of well-being*.

Sharma, P. (2010). Measuring personal cultural orientations: Scale development and validation. *Journal of the Academy of Marketing Science*, 38(6), 787-806. http://dx.doi.org/10.1007/s11747-009-0184-7

Sharma, M., Banerjee, S., & Paul, J. (2022). Role of social media on mobile banking adoption among consumers. *Technological Forecasting and Social Change*, 180, 121720. https://doi.org/10.1016/j.techfore.2022.121720

Sharma, P., Wu, Z., & Su, Y. (2016). Role of personal cultural orientations in intercultural service encounters. *Journal of Services Marketing*, 30(2), 223-237. http://dx.doi.org/10.1108/JSM-01-2015-0034

Shaw, D., & Shiu, E. (2002). An assessment of ethical obligation and self-identity in ethical consumer decision-making: a structural equation modelling approach. *International Journal of Consumer Studies*, 26(4), 286-293.

Shiau, W.-L., Sarstedt, M., & Hair, J. F. (2019). Internet research using partial least squares structural equation modeling (PLS-SEM). *Internet Research*, 29(3), 398-406. https://doi.org/10.1108/IntR-10-2018-0447

Sreen, N., Sadarangani, P. H., Giridhar, V. (2019). A path from cultural values to mobile travel app use. *International Journal of Indian Culture and Business Management*, 18(3), 251-270.

Srite, M., Thatcher, J. B., & Galy, E. (2008). Does Within-Culture Variation Matter? An Empirical Study of Computer Usage. *Journal of Global Information Management* (JGIM), 16(1), 1-25. https://doi.org/10.4018/jgim.2008010101

Stanley Budner, N. Y. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, 30(1), 29-50.

Steenkamp, J.-B. E. M., Hofstede, F. T., Wedel, M. (1999). A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness. *Journal of Marketing*, 63, 55-69.

Straubinger, A., Rothfeld, R., Shamiyeh, M., Büchter, K. D., Kaiser, J., & Plötner, K. O. (2020). An overview of current research and developments in urban air mobility–Setting the

scene for UAM introduction. Journal of Air Transport Management, 87, 101852. https://doi.org/10.1016/j.jairtraman.2020.101852

Talukder, M. S., G. Sorwar, Y., Bao, Ahmed, J. U., & Palash, M. A. S. (2020). Predicting antecedents of wearable healthcare technology acceptance by elderly: A combined SEM-Neural network approach. *Technological Forecasting and Social Change*, 150, 119793. https://doi.org/10.1016/j.techfore.2019.119793

Tarhini, A., Hone, K., Liu, X., & Tarhini, T. (2017). Examining the moderating effect of individual-level cultural values on users' acceptance of E-learning in developing countries: A structural equation modeling of an extended technology acceptance model. *Interactive Learning Environments*, 25(3), 306–328. https://doi.org/10.1080/10494820.2015.1122635

Thakur, R., Angriawan, A., & Summey, J. H. (2016). Technological opinion leadership: The role of personal innovativeness, gadget love, and technological innovativeness. *Journal of Business Research*, 69(8), 2764–2773. https://doi.org/10.1016/j.jbusres.2015.11.012

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological review*, 96(3), 506.

Truong, Y. (2013). A Cross-country study of consumer innovativeness and technological service innovation. *Journal of Retailing and Consumer Services*, 20(1), 130–37. https://doi.org/10.1016/j.jretconser.2012.10.014

Tsai, J.-M., Cheng, M.-J., Tsai, H.-H., Hung, S.-W., & Chen, Y.-L. (2019). Acceptance and resistance of telehealth: The perspective of dual-factor concepts in technology adoption. *International Journal of Information Management*, 49, 34–44. https://doi.org/10.1016/j.ijinfomgt.2019.03.003

Tsai, T. H., Lin, W. Y., Chang, Y. S., Chang, P. C., & Lee, M. Y. (2020). Technology anxiety and resistance to change behavioral study of a wearable cardiac warming system using

an extended TAM for older adults. PloS one, 15(1), e0227270. https://doi.org/10.1371/journal.pone.0227270

Venkatesh, V. & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39, 273–315

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, 11(4), 342-365.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS quarterly, 425-478.

Winter, S.R., Rice, S., and Lamb, T. L. (2020). A prediction model of consumer's willingness to fly in autonomous air taxis. *Journal of Air Transport Management*, 89,101926. https://doi.org/10.1016/j.jairtraman.2020.101926

World Economic Forum (2019). Flying taxis could transform our cities if we set the right rules. https://www.weforum.org/agenda/2019/11/flying-taxis-drones-cities-right-rules/

Yap, S. F., Xu, Y., & Tan, L. (2021). Coping with crisis: The paradox of technology and consumer vulnerability. International Journal of Consumer Studies, 45(6), 1239-1257.

Yedavalli, P., & Mooberry, J. (2019). An Assessment of Public Perception of Urban Air Mobility (UAM). Available online: https://pdfs.semanticscholar.org/f464/1304ae7082a61d9cd82905917ce694a120c4.pdf?_ga=2.146171191.2046738072.1580045281-1681120550.1580045281 (accessed on 27 Jan. 2021).

Yi, J., Yuan, G., & Yoo, C. (2020). The effect of the perceived risk on the adoption of the sharing economy in the tourism industry: The case of Airbnb. *Information Processing and Management*, 57(1), 102108. https://doi.org/10.1016/j.ipm.2019.102108

Tables

Table 1: Item loadings, construct reliability and validity

Construct	Item	Loading	*p*-value (loading)	CR	CA	AVE	rho_A
	AMB1	0.654	0.000				
Ambiguity intolerance	AMB2	0.939	0.000	0.788	0.630	0.562	0.939
	AMB3	0.614	0.003				
	IND1	0.803	0.000				
Independence	IND2	0.844	0.000	0.812	0.662	0.593	0.708
	IND3	0.650	0.000				
	TRD1	0.813	0.000				
Tradition	TRD2	0.794	0.000	0.850	0.738	0.654	0.745
	TRD3	0.818	0.000				
	TAX1	0.942	0.000				
Technology anxiety	TAX2	0.879	0.000	0.918	0.867	0.788	0.937
	TAX3	0.839	0.000				
	PIN1	0.815	0.000				
Personal innovativeness	PIN2	0.943	0.000	0.909	0.869	0.770	1.123
	PIN3	0.871	0.000				
	DES1	0.865	0.000				
Desire	DES2	0.900	0.000	0.904	0.841	0.759	0.841
	DES3	0.848	0.000				
	FUI1	0.951	0.000				
Future use intention	FUI2	0.929	0.000	0.958	0.935	0.885	0.938
	FUI3	0.942	0.000				

Notes: CA = Cronbach alpha; CR = Composite reliability; AVE = Average variance extracted, rho_A= Joreskog rhô.

Table 2: Discriminant validity- Fornell-Lacker criterion

Constructs	1	2	3	4	5	6	7
1. Ambiguity intolerance	**0.750**						
2. Desire	0.010	**0.871**					
3. Technology anxiety	0.087	-0.392	**0.888**				
4. Future use intention	-0.031	0.672	-0.303	**0.941**			
5. Independence	-0.070	-0.205	0.302	-0.050	**0.770**		
6. Personal innovativeness	-0.129	0.197	0.041	0.308	0.156	**0.878**	
7. Tradition	0.080	-0.226	0.224	-0.083	0.324	0.162	**0.809**

Note: The diagonal (in bold) is the square roots of AVEs.

Table 3: Discriminant validity- HTMT criterion

Constructs		1	2	3	4	5	6	7
1	Ambiguity intolerance							
2	Desire	0.094						
3	Future Use Intention	0.07	0.755					
4	Independence	0.245	0.269	0.102				
5	Personal innovativeness	0.154	0.194	0.303	0.155			
6	Technology anxiety	0.137	0.447	0.334	0.39	0.139		
7	Tradition	0.247	0.274	0.149	0.434	0.2	0.252	

Table 4: Discriminant validity- Cross loadings

Constructs	AMB	DES	FUI	IND	PIN	TAX	TRA
AMB1	**0.658**	-0.011	-0.043	-0.01	-0.033	0.09	0.099
AMB2	**0.939**	-0.008	-0.035	-0.09	-0.157	0.067	0.026
AMB3	**0.609**	0.088	0.032	-0.017	-0.021	0.05	0.139
DES1	-0.01	**0.864**	0.595	-0.159	0.212	-0.31	-0.233
DES2	0.038	**0.901**	0.596	-0.15	0.151	-0.353	-0.178
DES3	-0.003	**0.848**	0.564	-0.229	0.152	-0.362	-0.18
FUI1	-0.053	0.587	**0.951**	-0.053	0.332	-0.256	-0.079
FUI2	-0.019	0.634	**0.929**	-0.049	0.207	-0.273	-0.095
FUI3	-0.02	0.669	**0.942**	-0.041	0.331	-0.322	-0.062
IND1	0.019	-0.225	-0.071	**0.804**	0.022	0.266	0.239
IND2	-0.019	-0.152	-0.065	**0.844**	0.204	0.238	0.325
IND3	-0.22	-0.087	0.049	**0.649**	0.115	0.195	0.147
PIN1	0.041	0.081	0.178	0.032	**0.819**	0.068	0.081
PIN2	-0.112	0.227	0.348	0.19	**0.946**	0.025	0.218
PIN3	-0.181	0.135	0.202	0.101	**0.865**	0.045	0.056
TAX1	0.06	-0.409	-0.251	0.349	0.13	**0.942**	0.304
TAX2	0.016	-0.29	-0.186	0.299	0.094	**0.879**	0.09
TAX3	0.151	-0.317	-0.367	0.138	-0.138	**0.839**	0.146

TRD1	-0.028	-0.205	-0.07	0.284	0.185	0.177	**0.814**
TRD2	0.092	-0.242	-0.168	0.255	0.051	0.188	**0.794**
TRD3	0.159	-0.078	0.062	0.238	0.161	0.178	**0.818**

Note: The diagonal (in bold) is the cross loadings. AMB=Ambiguity, DES=Desire; TRD=Tradition FUI=Future Use Intention, IND=Independence, PIN=Personal Innovativeness, TAX=Technology Anxiety.

Table 5: Results for segment retention criteria and segment sizes
Panel A: segment retention criteria

Fit Indices	k=1	k=2	k=3	k=4	k=5
AIC (Akaike's Information Criterion)	6523.964	6167.309	5922.224	5289.96	**5141.385**
AIC3 (Modified AIC with Factor 3)	6538.964	6198.309	5969.224	5352.96	**5220.385**
AIC4 (Modified AIC with Factor 4)	6553.964	6229.309	6016.224	5415.96	**5299.385**
BIC (Bayesian Information Criteria)	6590.579	6304.978	6130.948	5569.739	**5492.22**
CAIC (Consistent AIC)	6605.579	6335.978	6177.948	5632.739	**5571.220**
HQ (Hannan Quinn Criterion)	6549.845	6220.795	6003.315	5398.657	**5277.688**
MDL5 (Minimum Description Length with Factor 5)	**6977.035**	7103.656	7341.846	7192.858	7527.559
LnL (LogLikelihood)	-3246.982	-3052.654	-2914.112	-2581.98	-2491.693
EN (Entropy Statistic (Normed))		0.911	0.704	0.884	0.866

Panel B: Relative Segment sizes

k	Segment1	Segment2	Segment3	Segment4	Segment5
2	0.845(530)	0.155(97)			
3	**0.380 (238)**	**0.357(224)**	**0.263 (165)**		
4	0.586(367)	0.166(104)	0.139(87)	0.11(69)	
5	0.305(191)	0.303(190)	0.226(142)	0.102(64)	0.065(41)

NB: Figures in bracket are the corresponding sample sizes for the segment.

Table 6: Crosstab of FIMIX-PLS Partition and Gender

	FIMIX-PLS Groups			
Gender	1	2	3	Total
Female	**117**	137	**105**	359
Male	88	**93**	87	268
Total	**205**	**230**	**192**	**627**

Table 7 : MICOM results

Panel A : Segment I & II

Composite	Configural Invariance (Step1)	C=1	5% Quintile	Composite Invariance? (Step 2)	MOD=0	95% confident interval	Equal means Value (Step3a)	VOD=0	95% confident interval	Equal Variance? (Step3b)
AMB	Yes	0.991	0.611	Yes	-0.301	[-0.188, 0.179]	No	0.16	[-0.235,0.242]	Yes
DES	Yes	1.000	1.000	Yes	-0.099	[-0.177, 0.180]	Yes	-0.709	[-0.246,0.249]	No
TAX	Yes	0.991	0.995	Yes	-0.209	[-0.187, 0.184]	No	-0.625	[-0.233,0.251]	No
FUI	Yes	1.000	1.000	yes	0.121	[-0.175, 0.181]	Yes	-0.928	[-0.215,0.212]	No
IND	Yes	0.819	0.470	No	-0.155	[-0.185, 0.186]	No	0.14	[-0.190,0.194]	Yes
PIN	Yes	0.952	0.982	No	0.008	[-0.182, 0.183]	Yes	-1.22	[-0.232,0.233]	No
TRD	Yes	0.968	0.913	Yes	-0.288	[-0.180, 0.176]	No	-0.626	[-0.255,0.271]	No

Panel B : Segment I & III

Composite	Configural Invariance (Step1)	C=1	5% Quintile	Composite Invariance? (Step 2)	MOD=0	95% confident interval	Equal means Value (Step3a)	VOD=0	95% confident interval	Equal Variance? (Step3b)
AMB	Yes	0.968	0.986	Yes	0.03	[-0.203,0.203]	Yes	0.097	[-0.236,0.242]	Yes
DES	Yes	1.000	0.999	Yes	-0.205	[-0.203,0.203]	No	0.271	[-0.317,0.338]	Yes
TAX	Yes	0.976	0.994	Yes	-0.027	[-0.201,0.196]	Yes	0.248	[-0.262,0.285]	Yes

FUI	Yes	0.997	1.000	Yes	-0.282	[-0.198,0.201]	No	0.446	[-0.292,0.317]	No
IND	Yes	0.961	0.966	Yes	-0.269	[-0.193,0.194]	No	-0.014	[-0.232,0.244]	Yes
PIN	Yes	0.964	0.992	Yes	-0.029	[-0.196,0.200]	Yes	-0.984	[-0.263,0.282]	No
TRD	Yes	0.990	0.993	Yes	-0.284	[-0.203,0.199]	No	-0.564	[-0.275,0.283]	No

Panel C : Segment II & III

Composite	Configural Invariance (Step1)	C=1	5% Quintile	Composite Invariance? (Step 2)	MOD=0	95% confident interval	Equal means Value (Step3a)	VOD=0	95% confident interval	Equal Variance? (Step3b)
AMB	Yes	0.981	0.978	Yes	0.50	[-0.209,0.201]	No	-0.143	[-0.238,0.252]	Yes
DES	Yes	1.000	0.999	Yes	-0.08	[-0.211,0.209]	Yes	1.066	[-0.248,0.273]	No
TAX	Yes	0.975	0.995	Yes	0.19	[-0.206,0.209]	Yes	0.703	[-0.280,0.289]	No
FUI	Yes	0.998	1.000	Yes	-0.33	[-0.211,0.207]	No	1.414	[-0.254,0.274]	No
IND	Yes	0.570	0.290	No	0.04	[-0.207,0.220]	Yes	-0.523	[-0.241,0.248]	No
PIN	Yes	0.997	0.997	Yes	-0.04	[-0.208,0.209]	Yes	0.191	[-0.210,0.220]	Yes
TRD	Yes	0.987	0.981	Yes	0.03	[-0.210,0.206]	Yes	0.073	[-0.242,0.254]	Yes

C-original correlation; MOD-Mean - Original Difference, VOD-Variance - Original Difference, AMB-Ambiguity intolerance ; DES-Desire ; TAX-Technology anxiety; FUI-Future use intention; IND-Independence; TRD-Tradition; PIN-Personal innovativeness.

Table 8: Results of multi-group analysis

Hypothesis		Path Coefficient: Global data (N=627)	Group1 (N=264)	Group 2 (N=151)	β diff. (Group1,2)	Confidence Interval (95%)	P-value difference Henseler's MGA	(One-Tailed) Permutation test	Supported by Henseler's MGA/ permutation test	Retain global data result?
H1	AMB -> TAX	0.069ns	-0.462***	0.025ns	-0.487	[-0.136, -0.708]	0.014	0.993	Yes/No	Yes
H2	AMB -> DES	0.082ns	0.644***	-0.573***	1.217	[1.266, 1.127]	0.000	0.000	Yes/Yes	No
H3	AMB -> PIN	-0.133*	0.373***	-0.213***	0.585	[0.593, 0.469]	0.001	0.000	Yes/Yes	No
H4	TRD -> TAX	0.219**	0.474***	0.505***	-0.031	[0.007, -0.062]	0.652	0.674	No/No	Yes
H5	TRD -> PIN	0.140*	0.273***	0.833***	-0.560	[-0.599, -0.540]	0.000	1.000	Yes/No	Yes
H6	TRD -> DES	0.172**	0.176***	0.916***	-0.741	[-0.513, -0.898]	0.000	1.000	Yes/No	Yes
H7	IND -> PIN	0.101*	-0.169***	0.018ns	-0.187	[-0.233, -0.116]	0.033	0.984	Yes/No	Yes
H8	IND -> DES	-0.080ns	-0.167***	-0.474***	0.308	[0.384, 0.271]	0.000	0.000	Yes/Yes	No
H9	PIN -> DES	0.262**	-0.024ns	-1.415***	1.391	[1.568, 1.173]	0.000	0.000	Yes/Yes	No
H10	TAX -> DES	-0.347**	-0.328***	0.342***	-0.670	[-0.557, -0.738]	0.000	1.000	Yes/No	Yes
H11	DES -> FUI	0.672**	0.803***	0.796***	0.007	[0.027, -0.010]	0.834	0.417	No/No	Yes
Endogenous construct		R^2	R^2	R^2						
Desire		0.244	0.769	0.919						
Future use intention		0.452	0.645	0.623						
Personal innovativeness		0.056	0.248	0.728						
Technology anxiety		0.055	0.403	0.259						

AMB-Ambiguity intolerance; DES-Desire; TAX-Technology anxiety; FUI-Future use intention; IND-Independence; TRD-Tradition; PIN-Personal innovativeness, ns=non-significant; n=5,000 subsample; ***p<0.001; **p<0.01; *p<0.05.

Appendix A: Demographic profile of respondents

Sample characteristics/items	Percentage
Gender	
Female	57.3
Male	42.7
Age	
18-20	19.0
21-23	55.3
24-34	25.7
Ethnic identity	
Asian	23.9
Black	4.1
White/Caucasian	71.6
Others	0.2
Missing	0.2
Educational status	
Undergraduate	77.6
Postgraduate	22.2
Missing	0.2

Appendix B. Constructs and their equivalent measurement items

Constructs	Manifest items
Ambiguity intolerance	I find it difficult to function without clear directions and instructions. I tend to get anxious easily when I don't know an outcome. I feel stressful when I cannot predict consequences.
Tradition	Respect for tradition is important for me. I value a strong link to my past. Traditional values are important for me.
Independence	I would rather depend on myself than others. My personal identity, independent of others, is important to me. I rely on myself most of the time, rarely on others.
Personal innovativeness	In general, I am among the first in my circle of friends to buy a new technological product when it appears. If I heard that a new technological product was available, I would be interested enough to gather information. In general, I am among the first in my circle of friends to know the newest technological products.
Technology anxiety	I will be scared to use electric-powered flying taxis for my transportation needs. I will feel nervous about using electric-powered flying taxi. I will feel uncomfortable using electric-powered flying taxi.
Desire	I desire to use flying taxi when making trips within my city or nearby cities. My desire to use electric-powered flying taxi when making trips is strong. I want to use electric-powered flying taxi as part of my means of transportation.
Future use intention	I plan to use electric-powered flying taxi in the future. I predict I will use electric-powered flying taxi in the future. Overall, I'm likely to board an electric-powered flying taxi in the future.

Appendix C: Descriptive statistics & normality test

Construct	Descriptive statistics				Normality test			
					Kolmogorov-Smirnova		Shapiro-Wilk	
	Mean	Std. Deviation	Skewness	Kurtosis	statistic	p-value	statistic	p-value
Ambiguity intolerance	-0.00011	1.000812	-0.109	-0.468	.091	.000	.985	.000
Desire	0.00008	1.000809	-0.543	-0.001	.120	.000	.948	.000
Technology anxiety	-0.00008	1.000841	0.056	-0.143	.096	.000	.973	.000
Future use intention	-0.00004	1.00082	-0.461	-0.198	.135	.000	.946	.000
Independence	0.00006	1.000744	-0.181	-0.691	.085	.000	.965	.000
Personal innovativeness	0.00001	1.000858	-0.034	-0.466	.060	.000	.977	.000
Tradition	-0.00001	1.000858	-0.263	-0.168	.111	.000	.976	.000