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The Effect of Airport Servicescape Features on Traveler Anxiety and Enjoyment

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ABSTRACT

The physical attributes of the service setting are critical differentiators among service providers that significantly influence customers' emotional responses. Following the changes in the airport industry and addressing the gap in the existing research, this study aims to investigate the relationship between physical servicescape elements, emotional responses of enjoyment and anxiety and word-of-mouth in the context of airport environment.

This study was conducted in three phases. The first phase incorporated an EFA conducted on a pilot study sample of 174 respondents that proposed a six-factor structure of airport service environment. In the second phase of the study, a self-administered online questionnaire was sent to an online marketing agency, resulting in 311 valid responses. This phase included a CFA that confirmed the validity of the instrument proposed in the pilot study, recommending the following six airport servicescape factors: design, scent, functional organization, air/lighting conditions, seating and cleanliness. Finally, an SEM testing suggested that airport design features and pleasant scent have a positive influence on traveler enjoyment, further generating positive WOM. Nevertheless, poor functional organization and inadequate air and lighting conditions are major predictors of traveler anxiety that leads to negative recommendations.

According to the findings, this study offers several implications for the airport practitioners and developers. Based on the service environment frameworks established in the previous research, this study developed a valid instrument for examining travelers' perceptions of the airport environment. As a result, emphasizing hedonic attributes of the airport

environment such as aroma, colors and décor would enhance traveler enjoyment and experience. In addition, airport practitioners are advised to provide successful wayfinding through the facility, appropriate luminosity, air conditioning, and temperature that would reduce travelers' stress and anxiety during their stay. Finally, design was showed to be the most influential environmental stimuli, justifying the need for of airport modernizations and renovations.

CHAPTER ONE: INTRODUCTION

Being aware of the recent technology advancements, contemporary air travelers are becoming more demanding in every way. Aside from expecting to receive the highest value for money, passengers also evaluate airport service attributes and airport environment. With the aim to increase the overall level of service, airports focused on modernization investment and terminal renovations. A new trend in airport industry is to "treat passengers as customers" and to design the airport environment so that its atmosphere offers "a sense of place" (Gee, 2013).

First, Kotler (1973) proposed that service establishment atmosphere could help service providers differentiate themselves from the competition. This idea led to the development of new theories about environment of service settings. According to Baker's (1987) theory, the retail environment is comprised of three groups of stimuli including *ambient factors*, *design factors* and *social* factors, which strongly influence customers' perceptions of the provider's image. Later, Bitner (1992) proposed that the "servicescape" framework had a holistic view on the service environment, emphasizing influences of service environment on both employees and customers. The servicescape framework incorporates three environmental dimensions: *ambient conditions, spatial layout and functionality* and *signs, symbols and artifacts*. Additionally, Bitner (1992) distinguished between "lean" servicescapes that are "simple, with few elements, few spaces and few forms" (p.58) and complex or "elaborated" servicescapes. The servicescape framework has been extensively applied in various retail or leisure service environments. However, existing research mainly focused on the empirical examination of a single ambient cue

effect (Milliman, 1982; Yalch & Spangeberg, 1990), the interaction between service encounter and conditions in the environment (Grewal, Baker, Levy & Voss, 2003; Spangenberg, Sprott, Grohmann & Tracy, 2006) or the joint effect of two environmental attributes (Mattila & Wirtz, 2001; McDonell, 2007, Morrin & Chebat, 2005; Morrison, Gan, Dubelaar & Oppewal, 2011; Spangenberg, Grohmann, & Sprott, 2005).

Even though Bitner (1992) observed the airport as an "elaborate servicescape", travelers' perceptions of the airport servicescape have been vaguely incorporated in service quality and passenger satisfaction questionnaires (Chen & Chang, 2005; Correia, Wirasanghe & De Barros, 2008; De Barros, Somasundaraswaran & Wirasanghe, 2007). Only few studies approached the investigation of the airport environment through Bitner's framework (Fodness & Murray, 2007; Jeon & Kim, 2012; van Oel & Van den Berkhof, 2013). For instance, Fodness and Murray (2007) incorporated spatial layout and sign and symbols dimensions into a single factor named *effectiveness*, failing to capture contribution of ambient and aesthetic attributes to the perceptions of airport service quality. Furthermore, Jeon and Kim (2012) applied Baker's (1987) retail environment variables on the environment of an international airport, relating them to travelers' emotional responses and behavioral intentions. As a result, previous studies clearly depicted that passengers perceive the airport as a versatile service setting where the servicescape elements contribute to functionality, comfort and the attractiveness of the building.

Customer behavior research proposed that customers react emotionally to aesthetic characteristics of the service environments such as color, materials, décor and style, experiencing enjoyable emotions (Baker, 1987). The state of enjoyment is often associated with a reduction in perceived risk and stress (Chaudhuri, 2012). Previous studies on the airport environment proved that air travel can be a stressful experience (McIntosh, Swanson, Power, Raeside & Dempster,

1998). This anxiety is not only related to flight but also to poor airport organization and procedures (McIntosh, 1990). Therefore, the adequately designed airport environment should have the potential to reduce a traveler's anxiety and contribute to a traveler's enjoyment. In addition, opposite customer emotional responses were shown to have a different effect on word-of-mouth (Hennig-Thurau, Gwinner, Walsh & Gremler, 2004) as a logical post-purchase behavior that happens after service/product consumption (Richins, 1983). Therefore, it is vital to reexamine the relationship between the emotional responses of enjoyment and anxiety and word-of-mouth in the context of the airport servicescape.

Problem Statement

The influence of the physical environment on customer behavior has often been neglected in service related research, where numerous aspects of the service environment have commonly fallen under a single construct, known as “tangibles” (Brady & Cronin, 2001). Measuring the effect of the service environment on customer behavior with a limited uniform instrument does not provide objective parameters of the environment perceptions. Service environments differ in complexity, average time spent and service offered, which makes it more difficult to generalize the results. Addressing the gap in the existing airport research and changes in the air traveler perceptions, this study aims to investigate the physical evidence of the airport servicescape. In addition, recognizing hedonic and utilitarian environmental features and examining their effect on customer emotional responses and WOM communications would provide valuable guidelines for service environment improvement and marketing message design (Rintamaki, Kanto, Kuusela & Spence, 2006).

Purpose of the Study

This study has several objectives:

- To develop an instrument to measure different attributes of the airport servicescape.
- To develop a model that tests the relationship among airport attributes, emotional responses and customer behavior regarding the airport servicescape.

CHAPTER TWO: LITERATURE REVIEW

Air Transport Industry

Due to the latest technology achievements and improvements in global transport, the tourism industry has been changing rapidly, with a noticeable increase in the international travel sector. As a matter of fact, efficient air transportation is paramount for the development of international tourism (Duval, 2007). In its 2012 World report, the Airport Council International (2013) brought up some interesting trends in the air transport industry. Apparently, the increase in passenger transport in 2012 was 4.2% in contrast to the previous year. The fastest growing market was the Asia-Pacific market, while the European market experienced depreciation and the North-American market remained fairly stable. As the number of travelers increase each year, airport revenues are growing. According to Samadi's (2012) report, the total airport industry revenue for 2012 was around$1.0 billion, while profit increased to $266.9 million. Nevertheless, almost 30% of that revenue share was generated in the Asia-Pacific market (International Civil Aviation Organization, 2012). However, five out of ten of the busiest airports in the world operate on the North American continent (e.g. Hartsfield Jackson Atlanta International Airport, Chicago O'Hare International Airport, Los Angeles International Airport, Dallas/ Fort Worth International Airport and Denver International Airport) (Airport Council International-North America, 2012).

Although the overall growth of the air transport industry is a desirable change, it is arguable whether airports are ready to operate on such a demanding level. Carney and Mew

(2003) noticed that the majority of airports worldwide were not prepared for the intensified growth of air traffic. Faced with limited physical and employee capacity, airports became congested, which negatively affected traveler satisfaction. Therefore, the Airport Council International (2013) established an Airport Service Quality (ASQ) initiative to measure service quality levels at airports to provide guidelines for service and security standards, schedule coordination, functional organization of the passenger areas and successful navigation. In order to increase the overall service quality, airports invested in modernization and terminal expansion. Some airports that went through recent constructions were Vegas McCarran International Airport, San Francisco International Airport, Los Angeles International Airport, Hartsfield-Jackson Atlanta International Airport, and future projects are planned for Denver International Airport and John F. Kennedy International Airport (Mouawad, 2012). Due to limited empirical studies on this topic, it is important to further examine the principles of efficient airport environment.

Airport Design and Technology Initiatives

When building a new airport terminal facility, it is important to execute a design that is both efficient and cost-effective (Odoni & de Neufville, 1992). Odoni and de Neufville (1992) first argued that the typical design procedures built on theoretical formulas were obsolete because they do not capture unique problems that occur during building construction. As a result, airports fail to facilitate passenger and baggage traffic in the fastest and most efficient manner possible (Odoni & de Neufville, 1992). Many airports are switching from the "public utility" approach towards a businesslike management strategy, implementing commercially successful operations that improve their performance (Graham, 2005). Such initiatives positively affect

airport architecture, gearing it more towards experiential design, compared to a utilitarian orientation.

Edwards (2005) identified two general facets in terminal building and organization: *technological change* and *management change*. Technological change comprises building structure, infrastructure, services and exterior "skin", while management change incorporates interior space, furniture, finishes and retail area. Management teams recognized the importance of attractive interior design, thus more airports are hiring well-established architect teams to come up with inspiring design of international terminals (Gee, 2013). According to the interview with Curtis Fentress, the head architect of *Fentress Architects*, Gee (2013) reported that airport design benefits from technology advances where the major of future breakthroughs for airports will be self-repairing and self-cleaning materials. Furthermore, such advances also impact project development.

As a result, the leading principle of contemporary terminal design is flexibility (Chambers, 2007; Shuchi, 2012). Shuchi (2012) perceives flexibility as an essential factor for the successful design of an extremely unpredictable environment, such as an airport. Compared to historically incorrect forecasting strategies, flexibility allows for easier future expansions of airports, congruent with the constant growth of air traffic (Chambers, 2007). Aside from facilitating the future design process, the flexible design approach provides a more convenient and enjoyable travelling experience (Shuchi, 2012).

Physical Environment

The impact of the physical environment on people in service settings was shown to be a noteworthy topic amongst scholars (Baker, 1987; Bitner, 1990; Ha & Jang, 2010; Hul, Dube, &

Chebat, 1997; Reimer & Kuehn, 2005; Ryu & Han, 2010; Ryu & Jang, 2007; Turley & Milliman, 2000; Wakefield & Blodgett, 1996; Wall & Berry, 2007). Early research in the retail experience domain introduced the idea of service setting in the physical environment as an important aspect of the customer experience (Kotler, 1973). Kotler (1973) anticipated that the atmosphere of the service setting may become a critical differentiator amongst service providers that would influence the customer's purchase process. Unfortunately, service- related studies frequently integrated various aspects of the physical environment into a solitary service quality dimension, "tangibles" (Brady & Cronin, 2001). Before proceeding to the empirical evidence of the impact that the physical surrounding has on customer behavior, relevant theories and frameworks that explain the physical surrounding and its dimensions will be introduced.

Theoretical Concepts of Physical Environment

As the first to recognize the physical component of the retail environment, Kotler (1973, p.50) came up with the term "atmospherics," defined as "the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability." In his study, Kotler (1973) focused on relating environmental attributes to corresponding sensory channels (e.g. sight, touch, scent and sound). As a result, he grouped elements of atmosphere into the following categories: *visual* (color, size, shape, and brightness), *tactile* (temperature, softness and smoothness), *olfactory* (scent and freshness) and *aural* dimensions (music/sound volume and pitch). Therefore, sensory attributes are marketing tools service developers and designers utilize in order to achieve *intended atmosphere,* while customer's reactions to sensory attributes, and thus, perceptions of atmosphere can be very diverse.

The theoretical concept proposed by Baker (1987) took a further step in the classification of retail environment attributes by introducing social elements that cohere with physical surrounding. According to Baker's (1987) research, the retail environment consists of three groups of stimuli:

(1) Ambient factors;

(2) Functional/Aesthetic design factors;

(3) Social factors.

Ambient factors include background conditions such as air quality, scent, noise, music and cleanliness. These factors can also be explained as the factors that are not object of customers' immediate awareness. Contrary to ambient factors, design factors refer to conspicuous stimuli that are in the sphere of customers' awareness, such as architectural style, shape, material characteristics and colors. Additionally, social factors include number, appearance and the behavior of customers and service personnel in the environment. Therefore, Baker (1987) considered the retail store as a service environment where physical attributes are inseparable from the human factor. As Bitner (1990) further agreed, both physical evidence and social evidence of the store environment and may have impact on the perceived performance.

Servicescape Framework

The most exploited concept in service environment research, "servicescape" framework, emphasizes that physical surroundings in any service industry strongly influence both employees and customers. The term "servicescape" is used to refer to the environment where the service delivery process takes place (Bitner, 1992). Compared to the "natural environment" Bitner

(1992) defined “servicescape” as “built or man-made environment” (p. 58). The servicescape framework proposes three groups of physical evidence factors:

(1) Ambient conditions (air quality, temperature, music, noise, odor, etc.);

(2) Spatial layout and functionality (building layout, furniture or equipment arrangement);

(3) Signs, symbols and artifacts (signage, décor, artifacts).

These three dimensions have become generally accepted guidelines for the successful design of elaborate servicescapes such as hotels, restaurants, hospitals, airports, schools, etc. However, in her conceptual framework, Bitner (1992) did not directly incorporate the social aspect of the physical environment. According to the framework, both employees and customers perceive objective physical factors that trigger their internal cognitive, emotional and physiological responses. Building on the stimulus-organism-response theory from environmental psychology that individuals react to environmental stimuli in two opposite responses, approach and avoidance (Mehrabian & Russell, 1974), Bitner (1992) suggested that individual internal responses to the service environment lead to either positive (approach) or negative (avoidance) behavior. Moreover, service customers’ internal responses to the service environment have the power to shape their judgments of the company’s appearance and expected service quality. In addition, Zeithaml et al. (1993) agreed that tangible cues are often responsible for the expected level of quality in the pre-consumption phase.

Service Environment Frameworks Applications

Even though Bitner’s servicescape framework has been widely accepted in service related research, the majority of studies focused on examining particular ambient cue (Milliman,

1982; Yalch & Spangeberg, 1990), the joint effect between environment cues and service encounter (Grewal, Baker, Levy & Voss, 2003; Spangenberg, Sprott, Grohmann & Tracy, 2006) or the interaction between two environment cues (Mattila & Wirtz, 2001; McDonell, 2007, Morrin & Chebat, 2005; Morrison, Gan, Dubelaar & Oppewaal, 2010; Spangenberg, Grohmann, & Sprott, 2005). For instance, Matilla and Wirtz (2001) and later Namasivayam and Mattila, (2007) indicated that ambient attributes of the retail setting, such as music and scent influence customers' mood while they are waiting for the service to be delivered. Furthermore, Lin & Mattila (2010) reported that colors and music that suit the theme of the hotel bar enhance customer arousal with the atmosphere and consequently influence overall satisfaction. Other researchers embraced the holistic approach to examine servicescape, studying the impact of servicescape dimensions as a whole (Baker, Parasuraman, Grewal & Voss, 2002; Harris & Ezeh; 2008). Baker et al. (2002) performed an empirical examination of their 3-dimensional model, demonstrating that store design elements have a higher impact on customer choice criteria compared to employee attributes. Haris and Ezeh (2008) tested physical and social servicescape cues in a restaurant setting, associating environment attributes to customers' loyalty intentions. Their findings resulted in a new servicescape model that incorporates physical and social aspects of the servicescape, described through the following six variables: cleanliness, aroma, furnishing, implicit communicators, employees' attractiveness and customer orientation.

The application of the servicescape framework in specific retail, sports and hospitality environments opened a new perspective on the framework structure and servicescape variables (Baker & Cameron, 1996; Countryman & Jang, 2005; Greenland & McGoldrick, 2005; Lucas, 2012; Hoffman, Kelley, & Chung, 2003; Wall & Berry, 2007; Wakefield & Blodgett, 1996). Aside from general environmental cues, each service setting possess uniqueness, thus relative

importance of dimensions and their structure may significantly vary. With the aim to extend Bitner's (1992) study into leisure settings, Wakefield and Blodgett (1996) expanded the "servicescape" framework, customizing it to examine leisure environments, such as sports venues and casinos. They left out Bitner's (1992) *signs, symbols and artifacts* and *ambient condition* dimensions and introduced *facility aesthetics*. Based on their assumption, the aesthetics dimension incorporated facility architecture, interior design and decoration. Furthermore, because of the inability to manipulate ambient conditions in outdoor leisure settings, ambient conditions were not considered to be a relevant dimension of the physical environment for this study. Finally, it was confirmed that the following physical environment attributes: *layout accessibility, seating comfort, electronic equipment* and *facility aesthetics* influence the perceived quality of the servicescape.

In order to evaluate the design of financial service environments, Greenland & McGoldrick (2005) established a radically different model for the physical environment. They developed an eight core factor model for the specific bank branch environment based on previous literature and a previously conducted exploratory study. Their model for environment design incorporates the *physical conditions* adapted from Kotler (1973): *facilitative elements, spaciousness, scale/grandeur, personal conditions (e.g. security and privacy), design potency, individuality, and modernity.* Furthermore, environment design dimensions were related to customers' perceptions of design/ service, their emotional responses and behavioral outcomes. The results demonstrated that while some factors trigger positive emotional responses, they may be related to lower ratings of another factor and lower behavioral intentions. For example, large windows are perceived positively in the context of modernity, but negatively in the context of privacy and security, causing lower visit intention.

Related Airport Environment Research

Considering that the current study focuses on the airport environment, previous research conducted in the domain of the airport service setting has been explored. With the aim to address the efficiency of the airport environment, airport management personnel have commonly analyzed airports' performance through measures of workload unit expenses and revenues or comparisons of daily operations and the physical environment to official standards and regulations (Francis et al., 2002; Humphreys & Francis, 2002). Even though such measures were crucial benchmarks of airport efficiency, they frequently neglected passengers' opinions. Furthermore, travelers' perceptions of airport servicescape elements have been vaguely incorporated in service quality and passenger satisfaction questionnaires.

Among the six attributes of service quality identified by Yeh and Kuo (2003), which include processing time, convenience, staff courtesy, security, information visibility and comfort, only two factors, comfort and information visibility, were used to describe servicescape elements. The construct of comfort is one of the elements of the *functionality* dimension and information visibility could represent under the *signs, symbols and artifacts* dimension. Noticeably, service quality research has emphasized the importance of the human factor in airport setting (De Barross et al., 2008). For example, De Barros et al. (2008) argued that staff courtesy during screening procedures has an exceptional influence on passengers' perceived level of service. On the other hand, Correia et al. (2008) calculated the level of service at airports by measuring the following variables: orientation/information, walking time, walking distance, space availability and number of seats in seating areas. As a result, the proposed instrument was founded on functional aspects of the airport's physical evidence.

Another relevant aspect in the research of the airport service package was additional amenities, such as retail and hospitality services (Fodness & Murray, 2007; Han, Ham, Yang & Baek, 2012; Mikulic & Prebezac, 2008; Rendeiro Martín-Cejas, 2006; Rowley & Slack, 1999). In the Asia-Pacific and Middle East market around 37% of non-aeronautical revenues consist of retail sales (American Council International, 2013). Rowley and Slack (1999) observed the environment of retail enterprises within terminal commercial lounges. As a result, they concluded that passengers appreciate well lit, clean and spatial lounges with famous brand outlets. Further studies suggested that travelers prefer shorter waiting times and efficient check-in and security screening procedures in order to explore commercial amenities at departure lounges (Rendeiro Martín-Cejas, 2006). Additionally, Mikulic & Prebezac (2008) confirmed that restaurant/retail options and building physical comfort are crucial antecendents of passenger satisfaction at terminals. To sumarize, extant research demonstrated that passengers are concerned with the terminal physical environment.

Although Bitner (1992) categorized airports under “elaborate servicescapes”, a limited number of studies empirically tested her framework in the airport context (Fodness & Murray, 2007; Jeon & Kim, 2012; van Oel & Van den Berkhof, 2013). Fodness and Murray (2007) incorporated servicescape in their comprehensive airport service quality instrument tested on a large sample of U.S. frequent flyers. Based on the survey results, they incorporated spatial layout and sign and symbols dimensions into a single factor, *effectiveness*. In addition, a second factor, *efficiency*, was included with the aim to acquire travelers' movement and waiting times through the airport. Even though Fodness and Murray's (2007) study recognized the significance of the intuitive functional organization of airports, it failed to capture contribution of ambient and aesthetic attributes to the perceptions of airport service quality. On the other hand, Jeon and Kim

(2012) focused on testing Baker's (1987) physical environment variables in the international airport setting. In addition to three well established factors of service environment, ambient, design and social factors, Jeon and Kim (2012) introduced the safety factor. As a result, their findings showed that design and safety factors generate positive emotional responses from travelers' that lead to positive behavioral intentions. Moreover, ambient factors are identified as antecedents of negative emotions, which do not have a significant effect on behavioral outcomes. Finally, the social servicescape elicited both positive and negative emotions. Van Oel and Van den Berkhof 's (2013) study on traveler design preferences of airports examines the physical environment factors through a conjoint analysis approach. The researchers created a virtual 3D model of passenger area where they manipulated eight design and ambient factors (layout, scale, form, color, lighting, signage, greenery, distinctiveness of Holland).The results indicated that travelers' preferences toward wider, curved areas materialized in light wood with warm lighting. Interestingly, passengers preferred the presence of vegetation compared to Dutch national symbols.

To summarize, previous research clearly depicted that passengers recognize the airport as a versatile service setting where adequate design contributes to functionality, comfort and attractiveness of the building. Moreover, passengers perceive the airport lounges as the luxurious relaxation areas that are designed to annihilate the existence of time and place (Rowley & Slack, 1999). Nevertheless, there is a need for establishing a comprehensive instrument in order to measure the effect of service environment on customer emotional responses and customer behavior. Following the growth of the air transport industry and recognizing the gap in previous research, this study emphasizes examining environmental cues in an airport service setting.

Hedonic vs. Utilitarian Features

The concept of hedonism/utilitarianism was originally explored in the context of hedonic and utilitarian shopping value. According to Holbrook (1986) "shopping value' is a demanded benefit the customer expects when purchasing a product. Marketing research recognizes various typologies of the value concept (Westbrook & Black, 1985), however, the majority of typologies distinguished between utilitarian and hedonic motivations that are essential drivers of consumer shopping behavior (Babin, Darden & Griffin, 1994). In essence, pleasure, entertainment and aesthetic appeal of consumers' experience shape hedonic shopping value, while utilitarian value is a judgment based on the accomplishment of a particular objective e.g. product purchase (Babin et al., 1994; Fischer & Arnold, 1990; Hirschman & Holbrook, 1982). Research on consumer behavior reported that consumer's attitude toward products is expressed through hedonic and utilitarian dimensions (Crowley, Spangenberg & Hughes, 1992; Hirschman & Holbrook, 1982; Voss, Spangenberg, & Grohmann, 2003). Therefore, it is possible to differentiate between hedonic and utilitarian goods (Wertenbroch & Dahr, 2000; Okada, 2005). Wertenbroch and Dahr (2000) examined consumers' behavioral outcomes (forfeit vs. acquire) of goods when they are perceived as either utilitarian or hedonic. Okada (2005) explored the ways consumers justify their hedonic consumption choices. In addition, consumers are willing to spend more money on utilitarian choices and more time on hedonic choices. Such findings are congruent with Childers, Carr, Peck and Carlson's (2002) conclusion that utilitarian consumption is executed in a timely manner in order to avoid irritation.

Hedonic vs. utilitarian dimensions were not only explored in the context of products, but also in the experiential context of retail environments. Previous research suggested that experiential retail outlets that incorporate various events, competitions, catering, an interesting

theme or pleasing atmosphere are being perceived as amusing environments that favor hedonic value (Babin & Attaway, 2000; Ballantine, Jack & Parsons, 2010; Chandon et al., 2000; Holbrook, 1999; Schmitt, 1999; Turley and Milliman, 2000). Apparently, being in an entertaining store elicits positive emotions and therefore provides hedonic value as a response to aesthetic stimuli (Rintamaki et al., 2006). Babin and Attaway (2000) concluded that a store's atmosphere contributes to either a positive or negative affect that modifies perceived utilitarian and hedonic value. Furthermore, positive perceptions of retail atmosphere cause an increase in customer share, while negative perceptions may reduce customer share. Similar research conducted on the tourism destination environment demonstrated that a hedonic value-generated positive shopping environment has an impact on shopping enjoyment and behavioral intentions, such as willingness to pay more time and money and revisit intentions (Yüksel, 2007).

However, previous studies took a holistic approach toward examining perceptions of environment, without establishing what environmental cues contribute to hedonic and which add to utilitarian value. An exploratory study by Ballantine et al. (2010), tried to identify atmospheric cues that respond to customers' hedonic or utilitarian motivation in the retail environment. Environmental attributes that elicited positive emotions and were especially important for hedonic motivations included, *attractive stimuli* such as layout and product display, spaciousness, lighting, color and sound. Moreover, a second group of factors, which had a stronger influence on utilitarian motivation, were recognized as *facilitating stimuli* and incorporated crowding, employees, comfort, product display and lighting. Two features, lighting and product display, belong to both categories implying on their dichotomous character. Apparently, there is a solid concept in marketing research that some physical environment attributes can be classified as *hedonic*, while others have more *utilitarian* characteristics.

Therefore, identifying hedonic and utilitarian dimensions that affect customer emotional responses can become a useful tool for manipulation of service environment and development of an effective marketing plan (Rintamaki et al., 2006)

Travelers' Anxiety and Enjoyment

Reisinger and Mavondo (2005) defined anxiety as "a subjective feeling that occurs as a consequence of being exposed to actual or potential risk" (p. 214). In addition, anxiety is perceived as a feeling of being disturbed, stressed, apprehensive, nervous, scared, uncomfortable, vulnerable, or panicked (McIntyre & Roggenbuck 1998). Other authors have described anxiety as a feeling of awkwardness and frustration (Hullett & Witte, 2001). The main source of anxiety is a fear of negative consequences of any behavior (Gudykunst & Hammer, 1988). In customer behavior research, anxiety is associated with the fear of unknown consequences that follow a purchase (Dowling & Staelin 1994). For this reason, customers evaluate the risk of purchase behavior and potential consequences. The objective of the service provider is to provide as much information as possible about the potential purchase that could result in reduced customer anxiety (Reisinger & Mavondo, 2005). Additionally, social psychology research proposed that the physical environment may generate negative outcomes (Evans & McCoy, 1998; Stokols, 1992). As a consequence, some attributes of physical environment could be predictors of anxiety.

McIntosh et al. (1996) examined anxieties and fears associated with travelling. Similarly, Locke and Feinsod (1982) noticed that travel enjoyment and travel anxiety are mutually exclusive. Furthermore, they claimed that transportation providers need to minimize the psychological and physical stress travelers endure in order to reduce anxiety and improve travel enjoyment. Travel may cause anxiety from several sources. First, relocation is a well-known

cause of psychological stress (Lucas, 1987). Second, transfers, delays, crowdedness, physical accessibility and navigation are some of the major causes of anxiety associated with train travel (Cheng, 2010). Nevertheless, the mode of transportation may cause both psychological and physical stress (McIntosh, 1990). The waiting time for the transportation vehicle is an additional source of anxiety (Stradling, Carreno, Rye & Noble, 2007). Finally, the fear of the unknown consequences of travel outcome may cause anxiety.

Even though it is one of the safest modes of transportation, air travel is perceived by travelers as the most dangerous (McIntosh et al., 1998). The anxiety with air travel is not only limited to the flight segment of the trip (e.g. being in enclosed spaces, fear of heights) but also to "delays, airport congestion, airline and security procedures create anxiety" (McIntosh et al., 1998, p. 198). However, only a small number of previous studies focused on examining the "ground segment" of air-travel anxiety generators (Hill & Behrens, 1996). In addition, the air travel industry, travel agents and airport management rarely addressed potential ways to reduce the anxiety associated with airports (Gorman & Smith, 1992). The results of McIntosh et al.'s (1998) study indicate that flight delays were the most frequently rated source of anxiety. This result is important considering that even “take off’ and “landing” segments of flight were less frequently mentioned as potential sources of anxiety. However, some travelers might experience anxiety towards the unfamiliar airport environment (Fewings, 2001). In that situation confusing building layout and unclear signage would not help to reduce travel anxiety but could actually increase it. Similarly, it is reported that depending on the effectiveness of way-finding related attributes, passengers may have either a stressful or enjoyable airport experience (Cave, Blackler, Popovic, Kraal, 2013).

A number of e-commerce studies have shown a connection between enjoyment and a positive shopping experience (Chen & Dubinski, 2003; Sun & Zhang, 2006). Expressed as an affective appraisal of the buying process, shopping enjoyment presents the level of enjoyment in the shopping experience itself, aside from the evaluation of the shopping outcome in the form of a product (Cai & Xu, 2006). Unlike anxiety, the emotional state of enjoyment has an effect on increased purchase intention and, therefore, is beneficial for the company (Davis, Bagozzi & Warshaw, 1992; Huang, 2003). Additionally, enjoyment is associated with a reduction in perceived risk (Chaudhuri, 2012) and an improvement in perceived quality (Chen & Dubinski, 2003; Mattila & Wirtz, 2001).

Building on Mehrabian and Russel's model (1974) Donovan and Rossiter (1984) related physical environment perceptions and emotional states, suggesting that pleasant perception of the retail store environment leads to shopping enjoyment. Further research proposed that customers react emotionally to aesthetic characteristics of the service environment, such as color, materials, décor and style, perceiving these attributes as "the extras that contribute to a customer's sense of pleasure in experiencing a service" (Baker, 1987, p. 81). Additionally, a number of studies confirmed that various ambient cues in service environment, such as scent (Spangenberg, Crowley & Henderson; 1996) or music (Dube & Morin, 2001) have an effect on the intensity of customer enjoyment. Such results suggest that environmental cues are essential for the emotional outcomes in the service environment. Furthermore, an enjoyable environment can potentially attract people and make them willing to spend more money and time (Donovan & Rossiter, 1982). Considering that the air travel industry assures passengers that it is the fastest means of transport, passengers may often be aggravated when experiencing lengthy waits at terminal departure lounges (Han et. al, 2012; Rowley & Slack, 1999). Therefore, creating a

pleasant environment where travelers enjoy spending time is particularly relevant for the airport setting.

Word-of-Mouth

Word-of-mouth (WOM) can be explained as an oral statement that communicates consumers' level of satisfaction or dissatisfaction among their acquaintances (Arndt, 1967; Blodgett et al., 1993; Söderlund, 1998). In addition, Richins (1983) recognized word-of-mouth as a logical post-purchase behavior that happens after service or product consumption. For instance, a customer who perceived service highly positively is more willing to exchange a pleasant experience to prospect customers (Westbrook, 1987). In the contemporary world of internet media and communication, word-of-mouth has reached its advancement as a form of online recommendation, better known as electronic word-of-mouth (eWOM) (Cheung & Thadani, 2012). Hennig-Thurau et al. (2004, p. 39) defined eWOM as a "statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet." Contrary to oral WOM, eWOM overcomes boundaries of social familiarity and geographical proximity, providing a virtual setting where the message can be conveyed not only to friends and family, but to any interested consumer (Cheung & Thadani, 2012).

Previous research on WOM in the tourism and hospitality context showed that tourist expectation increases after reviewing positive recommendations (Diaz, Martin, Iglesias, Vazquez & Ruiz, 2000). On the other hand, tourist destinations and service providers may experience difficulties to meet such expectations. Similarly, negative WOM tends to severely damage a destination's image. Nevertheless, few studies have promoted the influence of design attributes

on customer behavior in the servicescape (e.g., Bellizzi & Hite, 1992; Bitner, 1992; Crowley, 1993; Iyer, 1989; Smith & Burns, 1996). Therefore, it is expected that WOM is a noteworthy customer behavior in the airport servicescape.

Hypotheses Development

Previous research demonstrated that the physical environment strongly affects customer emotional responses (Bitner, 1990; Mehrabian & Russell, 1974), and consequently customer behavior (Sayed, Farrag & Belk, 2003). Donovan & Rossiter (1982) argued that servicescapes with pleasurable characteristics attract customers. According to Aubert-Gamet (1997), customers evaluate their physical surrounding based on the aesthetic environmental dimension that encourages sensory pleasure and emotional fulfillment. Some of the aesthetic environmental dimensions are design style, colors, materials and artwork. Han and Ryu (2009) suggested that effective interior design is an essential component of a positive restaurant image. Furthermore, a pleasant interior, high quality materials, artwork, and decoration contribute to the aesthetic impression creating a hedonic experience for the customers. Similar results have been found in the context of website design. The aesthetic aspect of the website has been reflected in hedonic visual features, such as graphics, media, and color, which contribute to the website attractiveness (Bjork, 2010; Wang, Minor & Wei, 2011). Moreover, these recreational features establish a hedonic quality of the website, which positively affects users' emotional response (Wang et al., 2011).

Ambient cues, such as music and odor may elicit pleasant emotions of the retail customers (Baker & Cameron, 1996; Dube, Chebat & Morin, 1995). Various service outlets are applying aromatherapy ideas to their environments order to improve the feelings of their patrons.

Aroma diffusion systems are installed in healthcare facilities, hotels, resorts and even theme parks (Chebat & Michon, 2003). For example, bakeries in Walt Disney theme parks release the aroma of freshly-baked cookies to enhance the relaxation of visitors. Moreover, Mattila and Wirtz (2001) reported that pleasant ambient scent and music enhance the customer retail experience.

Customers perceive a hedonic environment as an environment that evokes the feeling of enjoyment (Babin & Attaway, 2000). As a result, customers who seek pleasure and enjoyment care about environment attractive stimuli, such as design features, color or sound, which create a hedonic experience (Ballantine et al., 2010). Moreover, it was noticed that the passenger perception of airport terminal design features was higher for passengers that expressed higher levels of pleasure (van Oel & Van den Berkhof, 2013). Therefore, the following hypotheses are proposed:

H1: Airport design features have a positive effect on traveler enjoyment.

H2: Pleasant background scent has a positive effect on traveler enjoyment.

H3: Background music has a positive effect on traveler enjoyment.

Taking into account that functional factors of the service environment should facilitate service procedures and customer behavior (Aubert-Gamet, 1997), it is expected that poor functionality of the servicescape can be a potential source of customer stress and anxiety. Facilitating servicescape is particularly important for utilitarian-oriented customers who care more about the efficiency of the environment than atmospherics (Lunardo & Mbengue, 2009). Based on their perception of the servicescape, facilitating environmental stimuli reduces stress during the shopping process (Batra & Ahtola, 1990; Kaltcheva & Weitz, 2006). Ballantine (2010) argued that the negative effect of the store facilitating or utilitarian stimuli diminishes the

enjoyment generated by hedonic stimuli. For example, store customers predominately perceive lighting as a means that facilitates products observation. Therefore, the utilitarian character of lighting surpasses its hedonic value. Another ambient attribute with a clear utilitarian purpose is air quality reflected in temperature, humidity and ventilation. Furthermore, store cleanliness is an important service environment attribute for utilitarian-based customers (Teller, Reutterer & Schnedlitz, 2008).

According to Hightower & Shariat (2009) layout and comfort are known as functional environmental cues. Layout, defined as plan configuration (Fewings, 2001) or the arrangement of furniture and equipment (Bitner, 1992), provides fulfillment of utilitarian needs (Baker, Grewal & Parasuraman, 1994). Efficient building layout accompanied with directional signs is essential for a successful functional organization and navigation (Fewings, 2001; Cave et al., 2013). Furniture ergonomic characteristics, the number and distance between seats are core components of seating comfort that are particularly relevant for service environments where customers spend lengthy amounts of time (Wakefield & Blodgett, 1996).

Knowing that anxiety is an emotional response to an unknown environment (James, 1999) and that the travelling environment brings uncertainty and feelings of discomfort, prior research in the travelling context examined reasons for traveler anxiety (Cheng, 2010; Li, 2003; McIntosh et al. 1998, Reisinger & Mavondo, 2005). Poor evaluation of utilitarian environmental cues, such as spatial layout, air-conditioning, cleanliness and comfort has been recognized as a major predictor of traveler anxiety in the train transportation environment (Li, 2003). Considering that airports are complex service settings where efficiency and effectiveness of the environment are mandatory for travelers (Fodness & Murray, 2007) it is suggested that:

H4: Airport functional organization has a negative effect on traveler anxiety.

H5: Airport air and lighting conditions have a negative effect on traveler anxiety.

H6: Airport cleanliness has a negative effect on traveler anxiety.

H7: Airport seating comfort has a negative effect on traveler anxiety.

The emotional state of enjoyment or pleasure has been primarily researched in retail and restaurant settings and its relationship with customer behavior has been recognized. For instance, positive emotional responses in customers, such as enjoyment or pleasure evoked by shopping environment would generate affirmative behavioral intentions (Yüksel & Yüksel, 2007). Moreover, restaurant facility dimensions, such as aesthetics, ambiance and layout positively affected pleasure and further influenced patrons' behavioral intentions (Ryu & Jang, 2008). Furthermore, several studies examined the relationship between customer emotional responses and word-of-mouth (Ladhari, 2007; Soderlund & Rosengren, 2007, Westbrook, 1987). Based on the findings from previous research, positive WOM is a consequence of expressing positive emotional responses, while releasing negative emotions results in negative WOM in both online and offline context (Hennig-Thurau et al., 2004; Verhagen, Nauta & Felberg, 2013). Based on the previous research it is expected that enjoyment has a positive effect on word-of-mouth (Claycomb & Martin, 2002; Harris, Baron & Ratcliffe, 1995; Jeong & Jang, 2011). Similarly, it was shown that anxiety and negative emotions have a negative effect on word-of-mouth (De Matos & Rossi, 2008; Sundaram, Mitra & Webster, 1998; Yin, Bond & Zhang, 2011). Thus, following hypotheses are proposed.

H8: Traveler enjoyment has a positive effect on word-of-mouth.

H9: Traveler anxiety has a negative effect on word-of-mouth.

Theoretical Model

Based on the previous hypotheses, a model that presents the relationship between 8 variables has been created. The model incorporates the following variables: airport servicescape features (hedonic servicescape features and utilitarian servicescape features), travelers' emotional responses (enjoyment and anxiety), and word-of mouth as a behavioral intention. The proposed theoretical model is displayed in Figure 1.

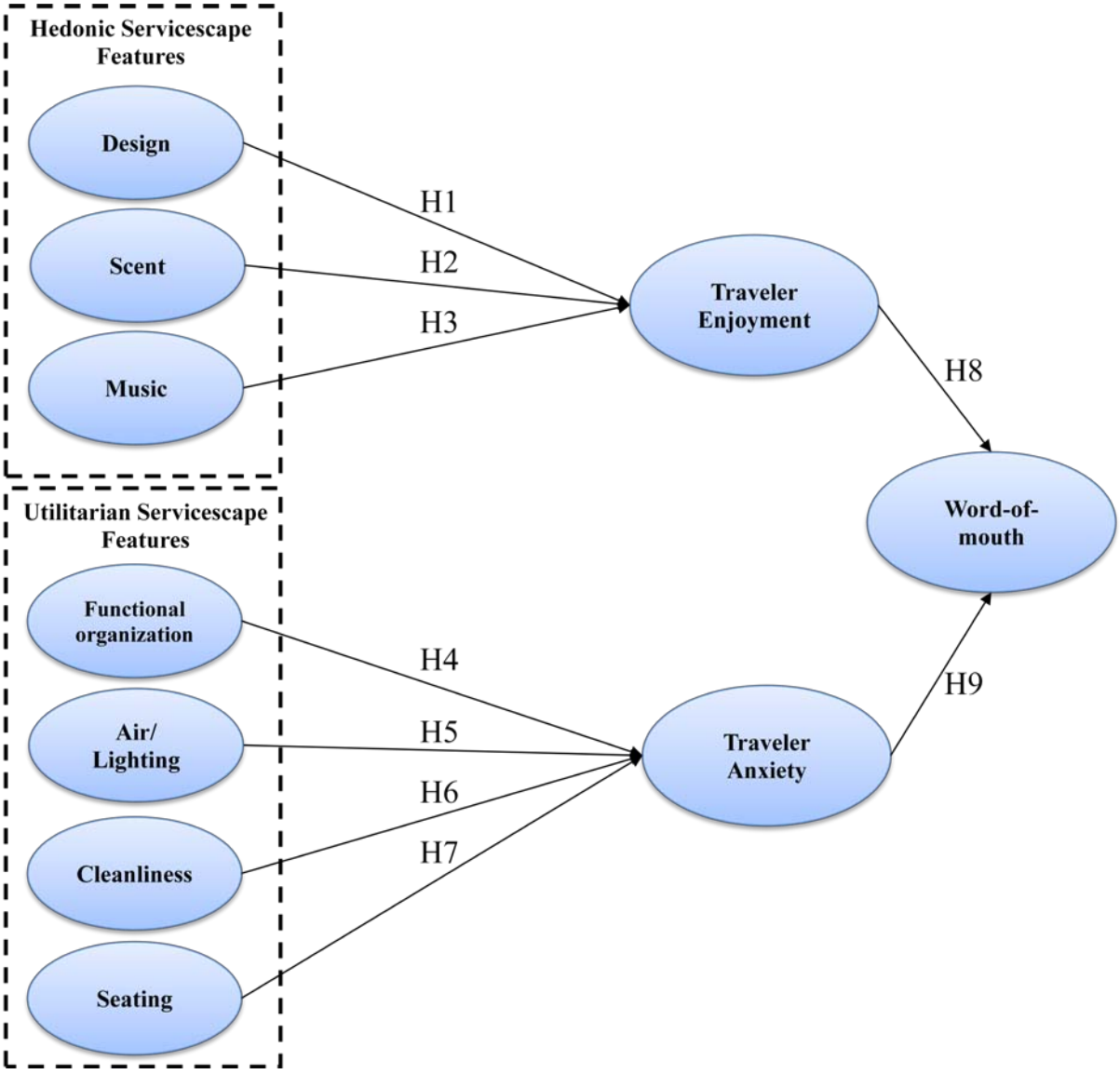

Figure 1. Proposed theoretical model

CHAPTER THREE: METHODOLOGY

Overview

With the aim to contribute to the research field of travel and airport servicescape, this study is conducted as a sequential exploratory survey design (Creswell, 2009; Creswell & Clark, 2007; Creswell, Plano Clark, Gutmann & Hanson, 2003; Hanson, Creswell, Clark, Petska & Creswell, 2005). Accordingly, the study is executed in three phases:

1) Pilot study- exploratory factor analysis
2) Main study -confirmatory factor analysis
3) Main study - model testing

The first two parts of the study are based on the scale development procedures (Anderson & Gerbing, 1988; Arnold & Reynolds, 2003; Bentler & Bonnet, 1980; Churchill, 1979; Gerbing & Anderson, 1988; Nunnally & Bernstein, 1994; Peter, 1981) conducted in 4 steps (Figure 2).

Pilot Study Methods

Design and Procedures

The first phase in the research process was a pilot study, based on survey design. The pilot study incorporated data collection through a survey questionnaire with questions regarding an airport layover that occurred in the last 6 months. This phase of study utilized a convenient sample. The link to the online-based questionnaire was provided to students from a large South-

East American university who acted as recruiters during ten day period in February 2013. Therefore, the pilot study respondents included students, as well as their families and friends.

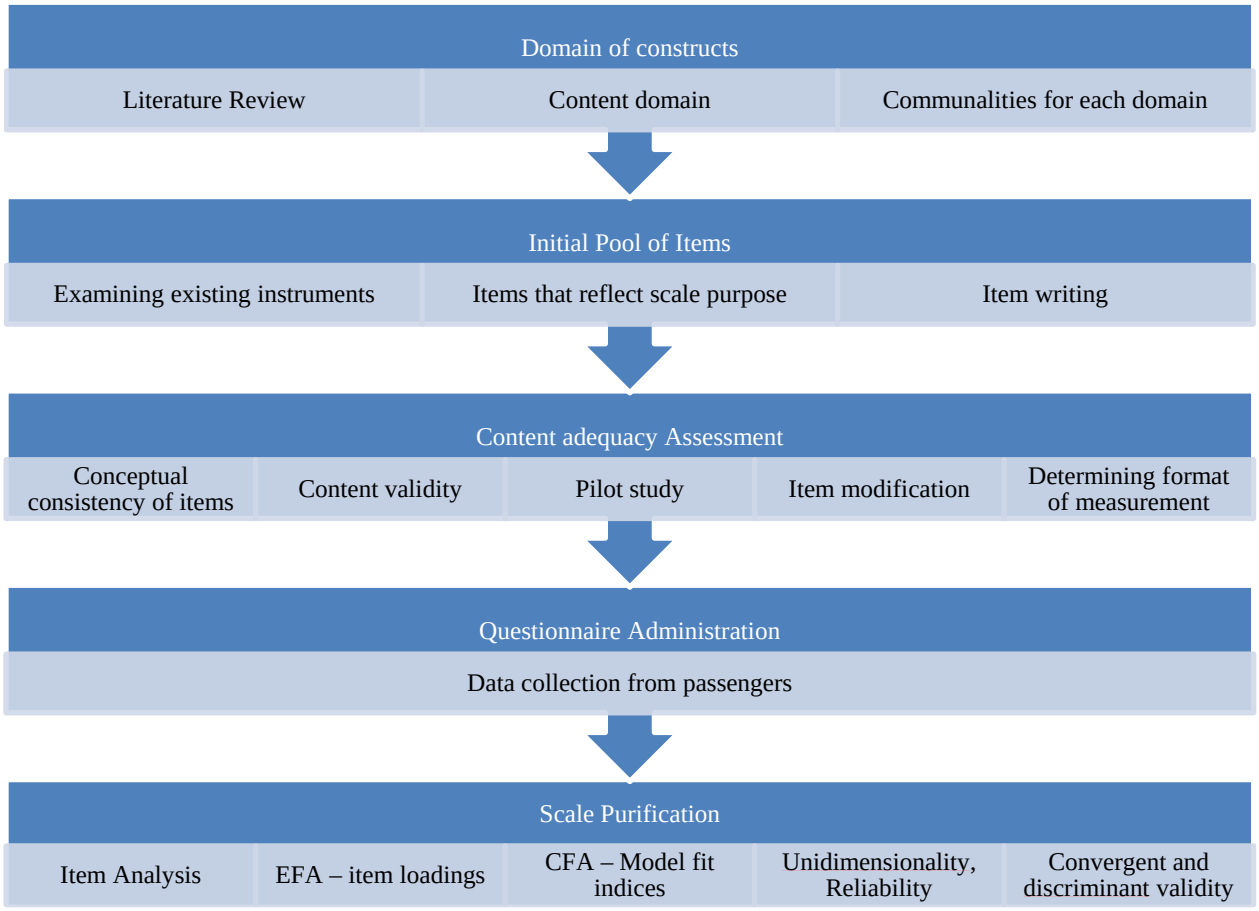

Figure 2. Scale development procedure

The obtained sample size was 174 participants. Contrast opinions related to the usage of a student sample in the hospitality related research have been developed. Even though some of the researchers strongly criticize the student sample arguing about the low generalizability of the results (Barr & Hitt, 1986; Guion, 1983), certain researchers do not find obstacles of using student sample (Bernstein, Hakel & Harlan, 1975). Moreover, student samples have proved to be

an inexpensive way to perform a manipulation check and to examine causal relationship between variables and social behaviors (Shapiro, 2002).

Measurements

Utilizing the measures from the previous literature, this study developed a self-administered questionnaire. After passing the selection criteria questions, the participants agreed to answer a 61 items questionnaire that incorporated different sets of questions. The first set included questions that aimed to refresh participants' memory about their airport experience. The participants were asked to remember the chosen airline company, airport location, length of the layover, the reason for travel, any purchases they had during the layover, etc. The second set of questions measured participants' perceptions of the airport environmental cues such as distinct ambient, aesthetic, functional and technology cues. The purpose of these measures was to perceive participants general impressions of the airport environment. The measures for the study variables were adapted from the several studies. Various measures of servicescape features such as design, scent, music, air/lighting conditions, spatial layout, signage, seating and cleanliness were adapted from Wakefield and Blodgett (1996), Hightower, Brady and Baker (2002), Ryu and Jang (2008), Harris and Ezeh (2008) and Lyn and Mattila (2010). Additionally, two items that specifically captured airport spatial layout and signage and two airport technology items were adapted from Fodness and Murray (2007). Moreover, six new technology measures were newly created. Three items from Hightower et al. (2002) measured general perception of airport physical environment as a control variable. Finally, the participants answered several demographic questions such as gender, education, ethnicity, frequency of flying and income. All

variables were measured on a 7-point Likert scale. The introduction questions and demographics were multiple-choice questions.

The completed questionnaires were used to check for face validity (Hair, Black, Babin, Anderson & Tatham, 2010) to (a) identify potential questionnaire design issues, (b) imply on spelling or grammar mistakes and (c) check whether the questions are understandable to participants. Based on the results of these steps, minor revisions were made before distributing the final questionnaire for this phase of the study. The data retrieved in the pilot study were imported into SPSS Version 22 to check for errors, ensure that scores are not missing, and identify outliers. Additional procedures were used to verify that the data does not violate any statistical assumptions (e.g., normality, homogeneity, or linearity). Following, the data were analyzed using exploratory factor analysis (EFA). EFA was performed with the aim to identify various constructs and leverage the number of items in the questionnaire (Gorsuch, 1988; Mulaik, 1987). The goal of this phase was to reduce the number of survey items and to execute the initial testing of the discriminatory and convergent validity of the quality attributes scale (Campbell, 1986).

Pilot Study Findings

The first round of data collection through an online survey resulted in 429 submitted surveys. After eliminating respondents who did not qualify for the survey and incomplete surveys, the final sample resulted in 174 responses. The demographic characteristics of the respondents are displayed in Table 1, 2 and 3.The age range of the respondents was between 18 and 73 years, with the average age of 27.10 years (See Table 1).

Table 1. Pilot study respondents age

Age Descriptives	N	Minimum	Maximum	Mean	Std. Deviation
Total Valid	167	18	73	27.10	11.145
Missing	7				

Based on the gender structure there was a larger portion of females with 70.2% respondents compared to 29.8% male respondents (See Table 3). The highest percentage of respondents (44.0%) reported to have annual income less than $30,000 which can be explained by 37.5% of the respondents who were unemployed at the time of taking the survey. Considering that the sample mainly consisted of university students and their friends, most of the respondents had some college degree (56.8%) followed by the ones with Bachelor's Degree (27.8%) and Master's Degree (8.3%). The participants were also asked to report how many times they utilized air transportation in the past 12 months (See Table 2). Majority of the respondents, 51.2% of them travelled once or twice, followed by 26.5% of those who had 3-4 flights and 14.7% of the respondents who were flying 5-6 times a year. The percentages of more frequent flyers were relatively low ranging from 2.4% to 2.9%.

Table 2. Number of trips taken in the past 12 months

Number of trips taken in the past 12 months	Frequency	Valid Percent (%)
1-2	87	51.2
3-4	45	26.5
5-6	25	14.7
7-8	4	2.4
9-10	4	2.4
11 or more	5	2.9
Total Valid	170	100.0
Missing	4	

Table 3. Pilot study respondents profile

		Frequency	Valid Percent (%)
Gender	Male	50	29.8
	Female	118	70.2
	Total Valid	168	100.0
	Missing	6	
Ethnicity	Caucasian	146	85.9
	Native American	1	.6
	Hispanic	14	8.2
	African American	2	1.2
	Asian	5	2.9
	Other	2	1.2
	Total Valid	170	100.0
	Missing	4	
Income	Less than $30,000	74	44.0
	$30,000 to $49,999	19	11.3
	$50,000 to $74,999	23	13.7
	$75,000 to $99,999	18	10.7
	$100,000 to $149,999	14	8.3
	$150,000 to $199,999	12	7.1
	$200,000 +	8	4.8
	Total Valid	168	100.0
	Missing	6	
Education	High school or less	7	4.1
	Some college	96	56.8
	Bachelor's Degree	47	27.8
	Masters/some graduate school	14	8.3
	Doctoral and/or Professional Degree (e.g. Ph.D., JD, MD)	5	3.0
	Total Valid	169	100.0
	Missing	5	
Occupation	Professional (medicine, law, etc.)	20	11.9
	Teaching educational	20	11.9
	Managerial executive	11	6.5
	Administrative clerical	9	5.4
	Engineering technical	8	4.8
	Marketing sales	12	7.1
	Skilled craft or trade	12	7.1
	Entrepreneurial Self-Employed	13	7.7
	Not currently employed (e.g. homemaker, retired, job hunting, etc.)	63	37.5
	Total Valid	168	100.0
	Missing	6	

Exploratory Factor Analysis

In this phase of study, exploratory factor analysis (EFA) was utilized to identify the proposed factors of airport servicescape. 32 items captured various airport servicescape factors. Besides evaluating items on a 7-point Likert scale, participants were also able to select "not applicable" option if the item did not refer to the visited airport or they could not evaluate the item with certainty. As a result, the following 3 items were found to be missing with high number of responses: '*The background music at the airport was relaxing to me'*, '*The music at the airport was played at an appropriate volume*' with 9.2% of missing responses and '*Terminal shuttle between the gates was excellent*' with 17.2% of missing responses. Therefore, these items were removed from the further analysis. The analysis of additional missing data indicated that the data was MCAR (missing completely at random). Imputation was deemed appropriate, and linear regression method was selected.

In the following step, EFA with principle axis factoring and Oblimin rotation was conducted on the remaining 29 items. The Layout 3 item did not load into any of the identified factors, thus it was removed from the further analysis, thus a second step EFA was conducted on 28 items in total. The Kaiser-Meyer-Olkin measure of sampling adequacy with value of 0.90 was higher than recommended value of 0.60. Bartlett's test of sphericity was significant ($\chi 2(378) = 4950$, $p < .01$). The diagonals of the anti-image correlation matrix were all over .50, supporting the inclusion of each item in the factor analyses. Principle axis factoring was selected as the method of extraction. Because of the violation of normality of the observed variables, maximum likelihood was not deemed appropriate since it is more sensitive to normality violations (Hair et al., 2010). Oblimin rotation was selected because it was expected that latent factor are not

orthogonal but related to a certain degree to each other. The rotated component matrix of the remaining items summarizes the constructs that emerged in factor analysis (See Table 4).

Table 4. Rotated component matrix for 6 servicescape factors

	Factor					
	1	2	3	4	5	6
Design2	.942					
Design4	.909					
Design1	.903					
Design3	.898					
Colors_materials2	.876					
Colors_materials3	.837					
Design5	.834					
Colors_materials1	.797					
Air3		.874				
Lighting1		.818				
Lighting2		.810				
Air2		.748				
Air1		.644				
Layout4			-.883			
Layout1			-.793			
Signage3			-.731			
Layout2			-.714			
Signage1			-.710			
Signage2			-.685			
Seating1				.941		
Seating2				.848		
Seating3				.625		
Aroma2					.921	
Aroma1					.856	
Cleanliness4						-.696
Cleanliness2						-.598
Cleanliness1						-.584
Cleanliness3						-.576

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 12 iterations.

EFA resulted in six factors with eigenvalues higher than 1.0 that together explain 75.8% of the entire variance. Communalities for the remaining 28 items were acceptable with range from 0.526 to 0.877. Items' factor loadings ranged from 0.576 to 0.942 suggesting the high correlation of the items with the suitable factors. Based on the characteristics of the items in the component matrix, the six factors were assigned the following names: design, air/lighting, functional organization, seating, scent and cleanliness. *Design* as the first factor that captures 43.6% of variance consists of eight items that depict facility architecture, interior design, colors, materials and décor. The second, five-item factor *air/lighting* explains temperature, ventilation and lighting conditions of the airport facilities. This factor captures 12.2% of variance. Six items that described terminal layout and signage usefulness loaded into a single factor named *functional organization* that accounts for 7.7% of variance. The remaining three factors were seating consisting of three items, scent with two items and cleanliness with four items. To meet the three items per variable rule, one additional item capturing passenger perceptions of the airport scent was included in the main study survey. Factor correlation matrix is displayed in Table 5.

Table 5. Factor correlation matrix

Factor	1	2	3	4	5	6
1	1.000	.333	-.332	.429	.464	-.274
2	.333	1.000	-.331	.384	.384	-.398
3	-.332	-.331	1.000	-.393	-.335	.372
4	.429	.384	-.393	1.000	.410	-.109
5	.464	.384	-.335	.410	1.000	-.282
6	-.274	-.398	.372	-.109	-.282	1.000

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

Main Study Methods

Design and Sample

The second data collection was executed in a similar way, only this time a survey with 59 items questionnaire was distributed to a random sample of participants from Amazon Mechanical Turk (MTurk) online marketing agency. As an online labor market, MTurk connects "requesters" who post various job tasks and "workers" who receive compensation for tasks completion. Several studies argued about the advantages and disadvantages of using MTurk samples in behavioral research (Buhrmester, Kwang & Gosling, 2011; Goodman, Cryder & Cheema, 2013; Mason & Suri, 2012; Paolacci, Chandler & Ipeirotis, 2010). MTurk database includes participants from the entire U.S. with very diverse demographic characteristic such as age, gender, ethnicity, and socio-economic status (Mason & Suri, 2012). Generally, MTurk samples are more diverse compared to student samples and other online samples, thus representing more accurately general population (Buhrmester et al., 2011). Although MTurk sample shows slight disparity compared to the random sample recruited from a U.S. community, the reliability of the responses is still high (Goodman et al., 2012). Moreover, the reliability can be improved with the implementation of adequate attention check and trial questions in the survey (Crump, McDonnell & Gureckis, 2013).

The targeted main study population was adult travelers in the U.S. who took a flight with a layover in the past 6 months. Modified online-based questionnaire was distributed through Amazon MTurk during a three day period in February 2013. In order to take part in this study, the participants had to be the U.S. residents of 18 years of age or older who traveled minimum once in the past 6 months and had a transfer flight with a layover at an airport. The respondents

were offered financial incentives that motivated their participation in the survey. The obtained sample for the main study was 311 respondents.

Measurements

The main study instrument was developed based on the results of exploratory factor analysis from the pilot study. First, the participants responded to the same introduction questions related to their airport stay. The study instrument included items that measured each of the airport servicescape factors obtained in the EFA and three dependent variables proposed in the model. Again, the participants answered some general demographic information questions. After removing the items that did not load in the EFA, adding the items that measured dependent variables and two attention check questions, the final questionnaire included 65 items in total. Four items that measured respondents' level of enjoyment experienced during the airport stay were adapted from Childers, Carr, Peck and Carson (2001). Anxiety was measured with 3 items adapted from Meuter, Ostrom and Bitner (2003) and one item from Saade and Kira (2005). Furthermore, respondents' word-of-mouth intentions were measured by items adapted from Maxham III and Netemayer (2002), Harris and Ezeh (2008) and three newly constructed items. All items were measured on a 7-point Likert scale.

Data Analysis Technique

In the first step of the main study data were analyzed using confirmatory factor analysis (CFA). CFA was performed on the data to confirm appropriate measurements of airport servicescape (Hoyle, 2000; Mulaik, 1988). Data were tested with SPSS AMOS 22 software package, used for structural equation modeling (Blunch, 2008; Jöreskog & Sörbom, 1996; Kline,

2010). The final step was of data analysis was to test the hypotheses and the proposed framework using structural equation modeling (SEM) in SPSS AMOS 22. SEM uses various types of models to depict both latent and observed relationships among variables to provide a quantitative test for a theoretical model (Schumacker & Lomax, 2004). The major benefit of this technique is simultaneous testing of several interrelated hypotheses that is based on the structural model dependent and independent variables relationship estimates (Gefen, Straub, & Boudreau, 2000).

CHAPTER FOUR: FINDINGS

Main Study Findings

The identified airport servicescape factors obtained from pilot study were used as a foundation for the main study. Considering that EFA proposed multiple factor structure, confirmatory factor analysis (CFA) was utilized to confirm to which extent measured variables explained recognized constructs (Hair et al., 2010). According to Hair et al.'s (2010) recommendations, a modified online survey was distributed to provide a separate data set for CFA. Although several items were removed from the survey after EFA, the final survey included additional item for scent construct and two attention-check questions that were not used for the analysis. The second round of data collection resulted in 409 submitted surveys. The respondents who did not qualify for the survey and failed to provide correct responses on attention check questions were eliminated, resulting in the final sample of 311 responses.

Demographics

According to the demographic characteristic, although the respondents' age ranged from 18 to 69, the average age of 32.43 years was slightly higher compared to the pilot study sample (See Table 6).

Table 6. Respondents age

	N	Minimum	Maximum	Mean	Std. Deviation
Total Valid	311	18	69	32.43	10.944
Missing	0				

Further demographics are presented in Table 8. Compared to the gender structure of the pilot study sample, the main study sample comprised 63.5% of male respondents and 36.5% of female respondents. It was expected that gender structure would be somewhat skewed towards male population considering the ratio of 56% male frequent flyers to 44% of women frequent flyers (Frequentflier, 2014). Majority of the respondents (51.2%) reported to fit into income range between $30,000 and $75,000 which is consistent with the median household of $51,371 (Noss, 2013). In addition, the respondents reported how many flights they took from their airport of choice in the last12 months (See Table 7). The results were relatively similar to the pilot study data. 46.6% of respondents have flown 1-2 times, 33.4% had 3-4 flights and the percentage of those who had 5-6 flights was 10.9.

Table 7. Flying frequency in the past 12 months

Number of trips taken in the past 12 months	Frequency	Valid Percent (%)
1-2	145	46.6
3-4	104	33.4
5-6	34	10.9
7-8	13	4.2
9-10	7	2.3
11 or more	8	2.6
Total Valid	311	100.0
Missing	0	

Table 8. Respondents demographic characteristics

		Frequency	Valid Percent (%)
Gender	Male	197	63.5
	Female	113	36.5
	Total Valid	310	100.0
	Missing	1	
Ethnicity	Caucasian	246	79.4
	Native American	1	.3
	Hispanic	12	3.9
	African American	14	4.5
	Asian	34	11.0
	Other	3	1.0
	Total Valid	310	100.0
	Missing	1	
Income	Less than $30,000	63	20.3
	$30,000 to $49,999	76	24.5
	$50,000 to $74,999	83	26.8
	$75,000 to $99,999	44	14.2
	$100,000 to $149,999	36	11.6
	$150,000 to $199,999	5	1.6
	$200,000 +	3	1.0
	Total Valid	310	100.0
	Missing	1	
Education	High school or less	18	5.8
	Some college	109	35.0
	Bachelor's Degree	131	42.1
	Masters/some graduate school	47	15.1
	Doctoral and/or Professional Degree (e.g. Ph.D., JD, MD)	6	1.9
	Total Valid	311	100.00
	Missing	0	
Occupation	Professional (medicine, law, etc.)	46	14.8
	Teaching educational	24	7.7
	Managerial executive	27	8.7
	Administrative clerical	34	10.9
	Engineering technical	32	10.3
	Marketing sales	30	9.6
	Skilled craft or trade	29	9.3
	Entrepreneurial Self-Employed	35	11.3
	Not currently employed (e.g. homemaker, retired, job hunting, etc.)	54	17.4
	Total Valid	311	100.0
	Missing	0	

Aside from reporting basic demographics, participants also stated whether they were flying within the states or internationally, what their transfer airport was, how long they stayed at the airport and whether they waited for flight transfer in the airline departure lounge (See Table 9). 78.8% of flights were domestic flights with a layover at one of the largest hubs in the U.S. such as Chicago, Dallas and Atlanta airport. However, 30.5% of the respondents had a layover at other domestic airports such as Charlotte, Las Vegas, Nashville, Minneapolis and few international such as Charles de Gaulle, Heathrow, Incheon ,Abu Dhabi , etc. Based on the survey qualifications, the ratio between the passengers who had short and long layover was relatively even. 51.1% of participants had a layover longer than 3 hours, while 48.9% of them had a layover shorter than an hour. Interestingly, the percentage of respondents who stayed at an airline departure lounge was relatively high (32.5%).

Table 9. Respondents profile

		Frequency	**Valid Percent (%)**
Flight type	Domestic	245	78.8
	International	66	21.2
Layover length	Less than 1:00 hour	152	48.9
	Between 3:00 and 4:55 hours	130	41.8
	5:00 hours or more	29	9.3
Airport	Chicago O'Hare International Airport	55	17.7
	Hartsfield Jackson Atlanta International Airport	28	9.0
	John F. Kennedy International Airport	22	7.1
	Miami International Airport	5	1.6
	Los Angeles International Airport	24	7.7
	San Francisco International Airport	13	4.2
	Dallas/ Fort Worth International Airport	48	15.4
	Denver International Airport	21	6.8
	Other	95	30.5
Airline departure lounge	Yes	101	32.5
	No	210	67.5

Confirmatory Factor Analysis

CFA was used to estimate construct reliability and convergent and discriminant validity of the six airport servicescape factors established in the EFA (See Table 10). Maximum likelihood method of extraction (MLE) was used in the analysis, considering that normality assumption was not violated. Moreover, the data did not contain outliers, missing values, and continuous variables that suggested the appropriateness of MLE technique (Hair et al., 2010). As suggested by the modification indices, some of the error terms in the same latent construct were correlated.

Convergent validity, the extent to which items of a specific construct should converge or share a high proportion of common variance (Hair et al., 2010), was assessed using three methods. These include factor loadings, average variance extracted (AVE), and construct reliability (CR). High factor loadings indicate that the items are converging on a common point, the latent construct. Two rules of thumb generally apply to factor loadings: indication of statistical significance and having standardized loading estimates of .50 or higher (Hair et al., 2010). The AVE is the average percentage of variation extracted (or explained) among the items of a latent construct (Hair et al., 2010). An AVE of .50 or higher suggests adequate coverage. Another indicator of convergent validity is construct reliability (CR). CR is a measure of reliability and internal consistency of the measured variables representing a latent construct (Hair et al., 2010). Reliability scores greater than .70 suggest good reliability (Hair et al., 2010).

Construct reliability coefficients (CR) of all six factors were above the 0.70 threshold (Chen & Hitt, 2002). Ranging from 0.56 to 0.96 standardized factor loadings of the items within the six factors were highly above the minimum value of 0.40 (Ford et al., 1986). According to the AVE values that ranged from 0.56 to 0.88, the convergent validity of the established factors

was satisfactory (Garbarino & Johnson, 1999). Comparing AVE with the squared correlation between pairs of constructs, it can be observed that the MSV values were less than AVE implying on the good discriminant validity (Fornell & Larcker, 1981).

Table 10. Item loadings, reliabilities and validities

Construct	Items	Standardized Loadings	Construct Reliability	AVE	MSV	ASV
Design	The artwork at the terminal was interesting.	.786	0.946	0.687	0.352	0.224
	Wall decor at the terminal was visually appealing.	.846				
	The style of the interior accessories at the airport was fashionable.	.901				
	The airport was decorated in an attractive fashion.	.894				
	The terminal architecture gave it an attractive character.	.842				
	Materials used inside the airport were pleasing and of high quality.	.809				
	The interior wall and floor color schemes at the airport were attractive.	.790				
	This airport was painted in attractive colors.	.749				
Air/ lighting	The lighting at the airport was adequate.	.679	0.863	0.560	0.289	0.171
	The lighting at the airport created a comfortable atmosphere.	.639				
	Air humidity at the airport was acceptable.	.822				
	Air circulation at the airport was appropriate.	.862				
	The temperature at the airport was comfortable.	.717				
Seating	The airport provided sufficient number of comfortable seats.	.920	0.891	0.733	0.352	0.201
	The furniture at the terminal was appropriately designed.	.779				
	The seat arrangements at the airport gates provided plenty of space.	.864				

Table 10. (Continued)

Construct	Items	Standardized Loadings	Construct Reliability	AVE	MSV	ASV
Functional organization	Overall, the airport signs & symbols made it easy to get where I wanted to go.	.640	0.898	0.606	0.194	0.145
	Clarity of the airport terminal signs and symbols was adequate.	.599				
	The signs used at the airport were helpful to me.	.557				
	Overall, the airport layout made it easy to get where I wanted to go.	.959				
	The airport layout made it easy for me to move around.	.918				
	The airport layout made it easy to walk to my gate.	.890				
Cleanliness	The airport maintained clean food service areas.	.775	0.896	0.684	0.262	0.217
	The airport maintained clean walkways and gates.	.901				
	Overall, that airport was kept clean.	.839				
	The airport maintained clean restrooms.	.787				
Scent	The airport had a pleasant smell.	.871	0.937	0.833	0.289	0.216
	The aroma at the airport was fitting.	.930				
	The aroma at the airport was adequate.	.935				

Based on the recommendation of Hair et al. (2010) and Schumacker and Lomax (2004), the appropriateness of model fit was assessed using χ^2/df, CFI, GFI, AGFI, RMSEA, PCLOSE. Generally, having a χ^2-to-df ratio of less than 3; CFI greater than .90, GFI greater than .95, AGFI greater than .80, RMSEA less than .08 and PCLOSE greater than 0.05 indicate a good model fit. According to the several indices observed in the model fit statistics (See Table 11), the proposed model demonstrated a good data fit. χ^2-to-df index with value of 1.8 was less than 3, CFI with value of 0.963 crossed a threshold indicating a good model fit. Additionally, GFI was 0.879, AGFI was 0.851, RMSEA was 0.050 and PCLOSE was 0.454. EFA model is shown in Figure 3.

Table 11. CFA model fit indicators

Measure	Threshold	Value
Chi-Square/df	< 3	1.787
p-value	> 0.05	0.000
CFI	> 0.9	0.963
GFI	> 0.95	0.879
AGFI	> 0.8	0.851
RMSEA	< 0.08	0.050
PCLOSE	> 0.05	0.454

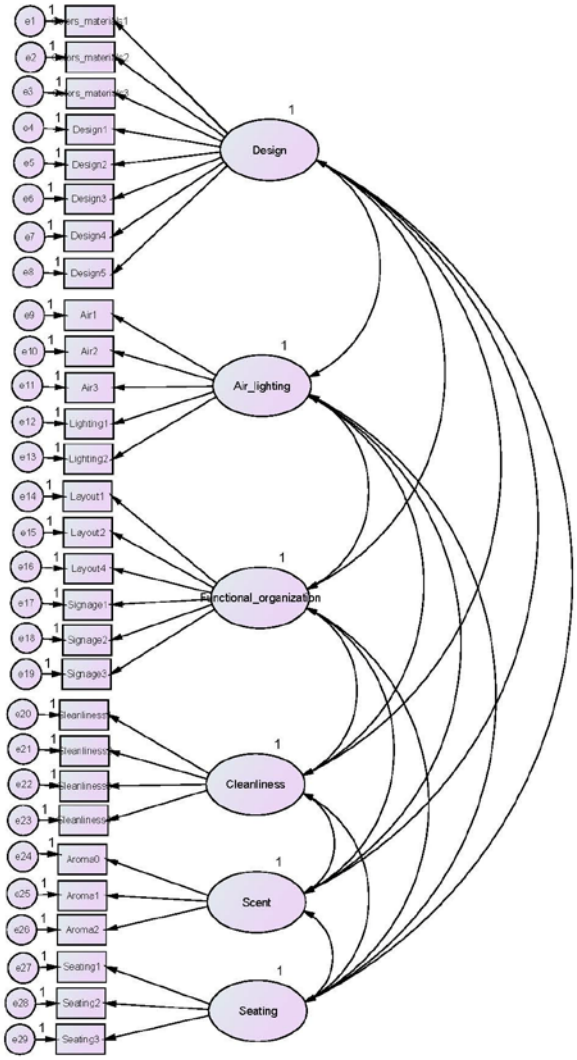

Figure 3. CFA measurement model

Structural Equation Model

Structural equation modeling incorporates defining latent variables through measurement models development and further creating the relationships among the identified latent variables, the relationships known as structural equations. The structural model for this study was developed according to the measurement model generated in the confirmatory factor analysis. Nine latent constructs (design, air/lighting, functional organization, cleanliness, scent, seating, traveler enjoyment, traveler anxiety and WOM) and 41 observed variables were used to test the model. The significance of the path coefficient in the model provided support for hypothesized relationships among the constructs (See Figure 4). Similar to CFA, since the assumption of normality was not violated, the MLE was used to test the theoretical model in AMOS 22. The goodness-of-fit tests were used to evaluate the overall fit of the structural model (See Table 12). The overall fit indices for the proposed (base) model were acceptable, with a χ^2-to-df ratio equal to 1.957, CFI equal of 0.936, GFI was 0.820, AGFI was 0.792, RMSEA was 0.056 and PCLOSE was 0.016.

Table 12. Base model fit indices

Measure	Threshold	Value
Chi-Square/df	< 3	1.957
p-value	> 0.05	0.000
CFI	> 0.9	0.936
GFI	> 0.95	0.820
AGFI	> 0.8	0.792
RMSEA	< 0.08	0.056
PCLOSE	> 0.05	0.016

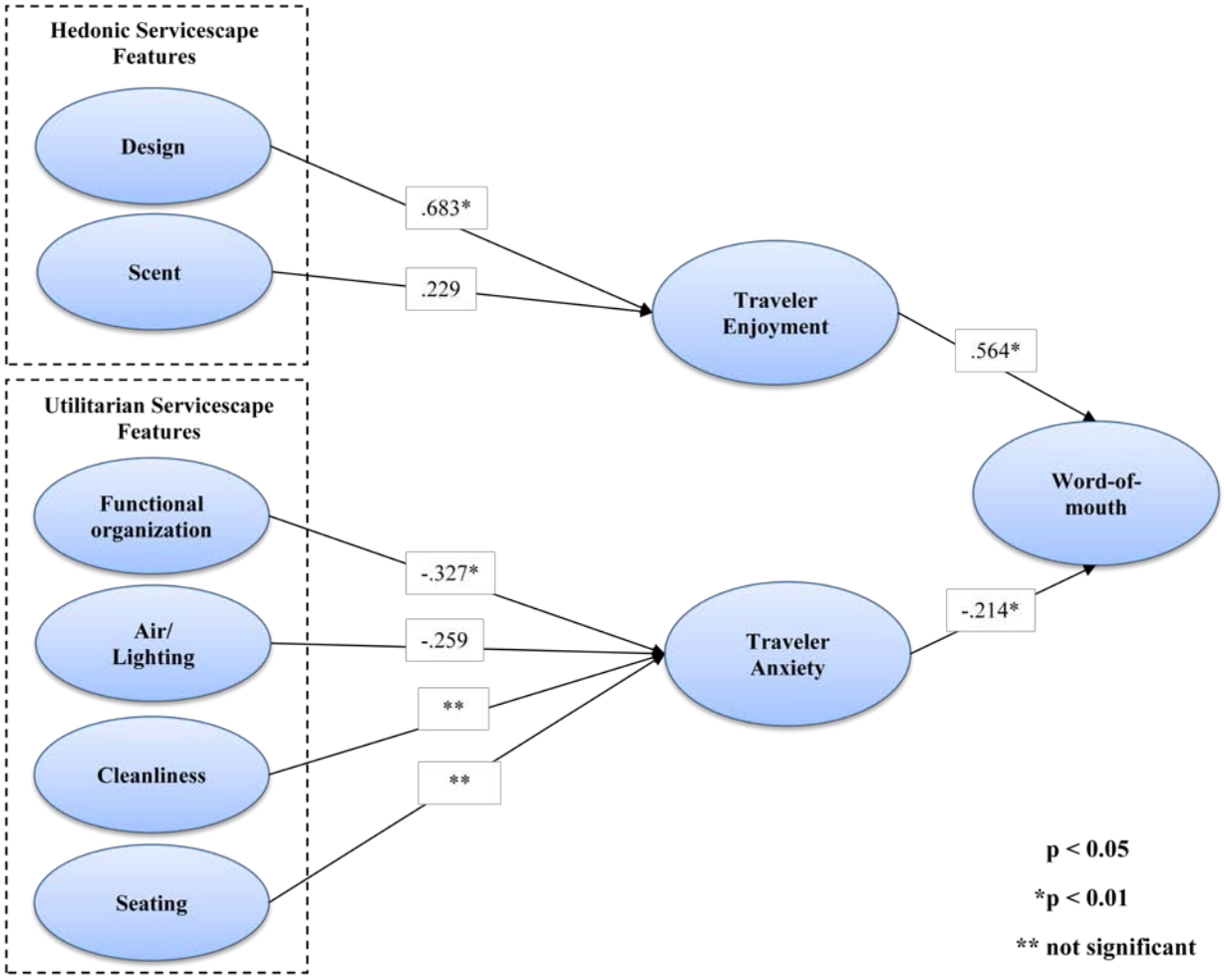

Figure 4. Base model

Hypotheses Testing

Hypotheses testing involved (a) that the proposed model fits the data well and (b) examining the significance of structural coefficients (Schumacker & Lomax, 2004). Accordingly, the latent variables path relationships were examined. Eight hypotheses were reflected in eight regression paths that were tested for significance in the current step. According to the results of the exploratory factor analysis, hypothesis 3 describing the relationship between "music' and enjoyment was removed in the main study. All tested paths can be found in Table

13. The path significance is determined through a *t*-value that is equivalent to the parameter estimate divided by the standard error of the parameter estimate. Additionally, the sign (+/-) indicates the nature of the relationship between variables. Study results indicated that eight out of fourteen paths were significant in the structural model.

Table 13. Path Estimates

			Estimate	S.E.	C.R.	P	Hypothesis	Confirmed
Enjoyment	<---	Design	.683	.087	7.873	***	H1	Yes
Enjoyment	<---	Scent	.229	.078	2.926	.003	H2	Yes
Anxiety	<---	Functional organization	-.327	.093	-3.517	***	H4	Yes
Anxiety	<---	Air/ lighting	-.259	.100	-2.584	.010	H5	Yes
Anxiety	<---	Cleanliness	-.174	.112	-1.561	.118	H6	No
Anxiety	<---	Seating	.070	.101	.690	.490	H7	No
WOM	<---	Enjoyment	.564	.051	11.075	***	H8	Yes
WOM	<---	Anxiety	-.214	.044	-4.868	***	H9	Yes

For the purpose of this study "design" and "scent" latent variables were recognized as airport features that have predominantly hedonic nature. Hypothesis 1 stated that airport design has a positive effect on traveler enjoyment. The path coefficient between "design" and enjoyment was 0.683, which was positively significant at $p < 0.001$, thus confirming the H1. According to the Hypothesis 2 “scent” as a hedonic factor has a positive effect on enjoyment. The value of path coefficient between "scent" and enjoyment was .229, which was positively significant at $p = 0.003$, thus confirming the H2. Therefore, the results indicate that two servicescape variables, "design" and "scent" have a significant effect on enjoyment further confirming their hedonic nature.

Based on the previous literature "functional organization", "air /lighting", "cleanliness" and "seating" latent variables were recognized as airport utilitarian design futures. Hypothesis 4

stated that airport functional organization has a negative effect on traveler's anxiety. The path coefficient between "functional organization" and anxiety with the value of - 0.327 was significant at $p< 0.001$, suggesting that H4 was confirmed. The following hypothesis, hypothesis 5 claimed that airport air and lighting conditions have a negative effect on traveler anxiety. The path coefficient between "air and lighting" and anxiety with value of - 0.259 was significant at $p= .010$, thus confirming the H5. The relationship between anxiety and the remaining two utilitarian factors was hypothesized in hypothesis 6 and 7. Hypothesis 6 stated that airport cleanliness has a negative effect on anxiety and hypothesis 7 stated that airport seating has a negative effect on anxiety. However, the path coefficient of - 0.174 between "cleanliness" and anxiety was not significant at $p = 0.118$. In addition, the path coefficient of 0.070 between "seating" and anxiety was not significant at $p = .490$. Based on the test results, H6 and H8 were not confirmed.

The final two hypotheses examined the relationship between traveler enjoyment and anxiety and word-of-mouth. Hypothesis 8 stating that traveler enjoyment has a positive effect on word-of-mouth was confirmed. Based on the path coefficient between the enjoyment and WOM with the value of 0.564, the relationship was positively significant at $p < .001$. Hypothesis 9 stating that traveler anxiety has a negative effect on word-of-mouth was also confirmed. The path coefficient between the two constructs was - 0.214 at p-value < 0.001. To summarize, the model testing resulted in six confirmed out of eight tested hypotheses.

Alternative Model

Even though the base model fit indices suggested that the model fits the data on an acceptable level, specification search, the process of finding the best-fitting model, was

considered appropriate in order to recognize better fitting alternative model (Marcoulides & Drezner, 2003). Based on the modification indices a new relationship was included in the alternative model (See Figure 5). It was recognizes that the "design" latent construct has a direct effect on word-of-mouth, instead of fully mediated one proposed in the base model. The overall fit indices for the alternative model were acceptable and improved (See Table 14), with a χ^2-to-df ratio equal to 1.815, CFI equal of 0.946, GFI was 0.829, AGFI was 0.802, RMSEA was 0.051 and PCLOSE was 0.311.

Table 14. Alternative model fit indices

Measure	**Threshold**	**Value**
Chi-Square/df	< 3	1.815
p-value	> 0.05	0.000
CFI	> 0.9	0.946
GFI	> 0.95	0.829
AGFI	> 0.8	0.802
RMSEA	< 0.08	0.051
PCLOSE	> 0.05	0.311

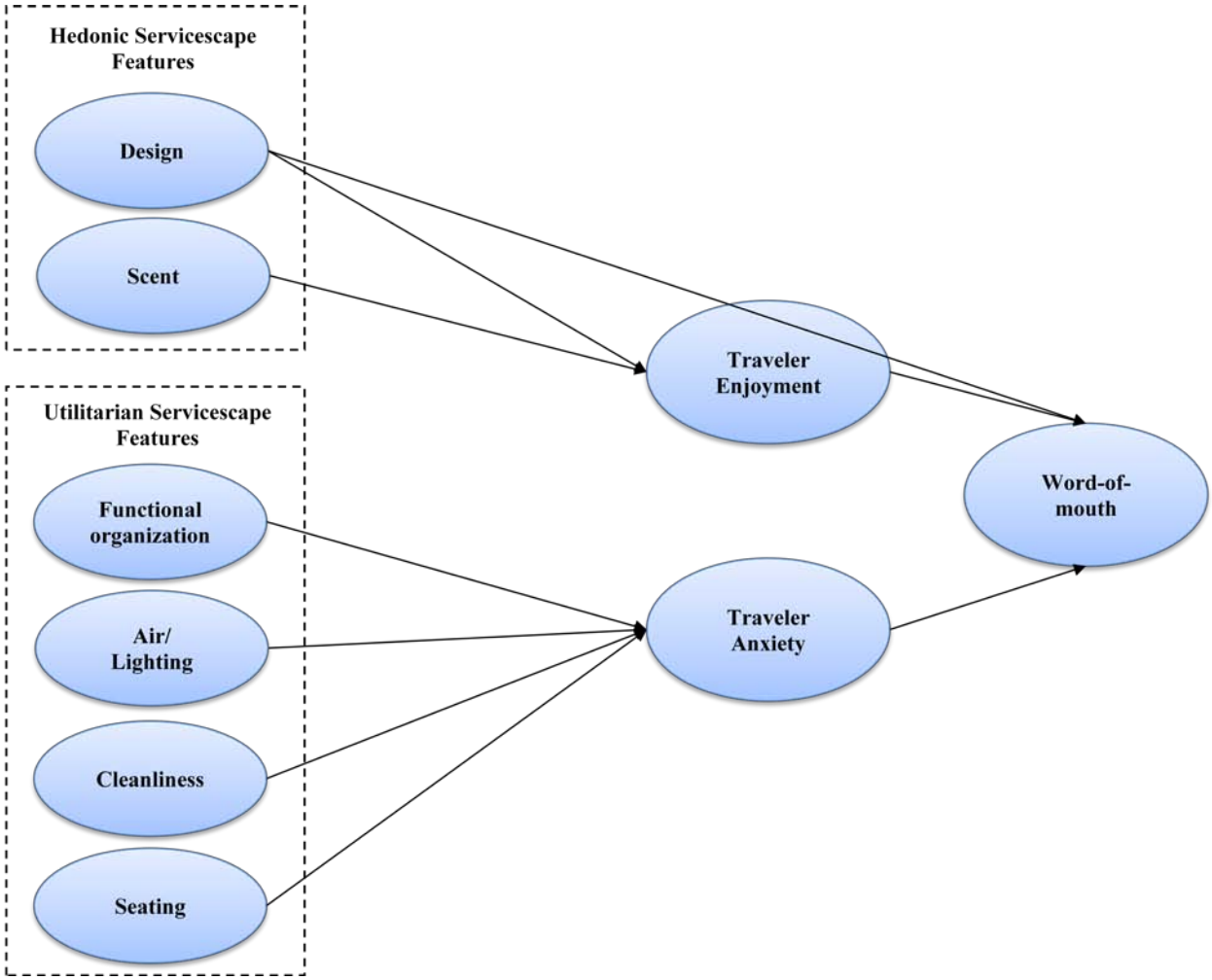

Figure 5. Alternative model

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

The effect of servicescape on customers' emotional states and patronage behavior has been discussed broadly in the context of retail spaces (Baker et al.. 2002; Spangenberg et al, 2005), hospitality venues, such as bars, restaurants and hotels (Countryman & Jang, 2006; Lin, 2010; Ryu & Jang, 2008) or sports venues (Hightower et al., 2002; Wakefield & Blodgett, 1994, Wakefield et al., 1996). Although servicescape has been a noteworthy topic of qualitative and empirical studies, scholars recommend further examining of servicescape characteristics in insufficiently explored service environments, such hospitals or airports (Mari & Poggesi, 2013). By bringing together the knowledge from the research stream of the service environment and airport design, this study confirmed the significance of servicescape attributes in a transit service setting, such as an airport.

Going beyond the conventional measures of airport performance (Francis, 2002; Humphreys, 2000, 2002) and service quality (De Barros et al., 2007; Han et al., 2012; Yeh & Kuo, 2003), this study aimed to investigate the influence of the terminal environment on passenger emotional responses and behavioral intentions. Building on environmental attributes identified in previous research (Baker, 1987; Bitner, 1992), this study proposed a valid instrument for measurement of the airport servicescape and a comprehensive model that examines the relationship between the airport servicescape and passenger behavior. A pilot study with an exploratory factor analysis served as a pre-test for an adapted instrument and identification of airport servicescape factors. The reliability of the six factors (design, scent,

functional organization, air/lighting, cleanliness, and seating) has been additionally assessed in a confirmatory factor analysis.

Airport Servicescape, Enjoyment and Anxiety

This study provides a significant theoretical contribution to the research field of airport servicescape. In contrast to existing research that observed airport service setting as an interaction between physical evidence and service quality, this study focused on the effect of physical environmental cues on passenger emotional responses at an airport. Earlier research approached the airport servicescape by investigating the influence of previously established servicescape dimensions (Fodness & Murray, 2007; Jeon & Kim, 2012).In contrast, this study recognized that six specific attributes within these dimensions: design, scent, functional organization, air/lighting conditions, seating and cleanliness can be observed in the airport servicescape. Such results are somewhat congruent with the suggestions in the previous literature, stating that diversity of service environments brings various servicescape factor structures (Bitner, 1992; Hightower et al., 2000;). Hightower and Shariat (2009) argued that music is not a crucial attribute in all service industries. While being a prominent ambient construct in restaurants, bars and retail outlets (Grewal et al., 2003; Kim & Moon, 2009; Lin, 2009; Mattila & Wirtz, 2001), background music and even noise showed to be irrelevant aspects of the airport servicescape. Although the relationship between music and emotional responses has been initially hypothesized, exploratory factor analysis suggested that “music” should not emerge in the final assessment of the airport servicescape.

Furthermore, by identifying hedonic and utilitarian servicescape stimuli, this study proposed a different approach for a physical surrounding assessment. The concept originates

from a renowned architectural design paradigm about form and function (Sullivan, 1896). Emphasizing problem solution, function refers to the utilitarian aspect of architecture (Townsend, Montoya & Calantone, 2011), while form providing sensory experiences and aesthetic pleasure (Hekkert, 2006) represents the hedonic aspect of the architecture. People react differently to both groups of stimuli, displaying opposite emotional behavior (Pullman & Gross, 2004). Environmental stress or anxiety is a reaction to non-optimal environment conditions, such as heat, cold or pollution (Evans, 1987), and enjoyment is an emotional response to environment aesthetics (Wakefield & Blodgett, 1996).

Building on previous literature and data analysis, this study confirmed a positive relationship between traveler enjoyment and airport hedonic stimuli, such as design and scent. The design factor was found to be the strongest predictor of traveler enjoyment. Bearing in mind that design comprises numerous aspects of the physical surrounding, such as architectural style, colors, materials, décor, ornaments and art, the effect of design was more than expected. The study findings are congruent with the results of Ballantine et al., Countryman & Yang, 2003; Hightower & Shariat, 2009; Lam, Chan, Fong & Lo, 2011. Furthermore, scent was another hedonic stimulus that elicited positive emotions from airport customers. Considering that the effect of scent was explored in retail and leisure industry context (Mattila & Wirtz, 2001; Michon & Chebat, 2004; Ward, Davies & Kooijiman, 2007; Zemke & Shoemaker, 2007), it is possible that the scent factor captured the traveler perspective of airport retail areas. Nevertheless, the presence of hedonic stimuli is paramount even for an environment with an extremely utilitarian purpose, such as an airport.

In addition, the study findings addressed the relationship between airport utilitarian stimuli (functional organization, air/lighting, cleanliness and seating) and traveler anxiety. The

results confirmed that two out of four hypothesized relationships, functional organization and air/lighting, were found to be negatively correlated with traveler anxiety. Consistent with the previous research (Cave et al., 2013; Fewings, 2001), the study results emphasized the importance of successful orientation at the airport achieved through functional spatial layout and comprehensible signage system illustrated in the functional organization variable. Unless the terminal has an intuitive configuration and signs that facilitate navigation through the facility, passengers experience great anxiety during the visit. Air and lighting conditions are found to be another driver of traveler anxiety. According to the study results, when essential dimensions of physical comfort, such as temperature, ventilation and luminosity are not at adequate level, air travel is perceived as a stressful experience. Seating and cleanliness attributes were not confirmed to have any impact on traveler anxiety. Considering that the respondents mainly traveled within the United States, it can be assumed that the U.S. airports equally maintain seating and cleanliness standards. In fact, Eames' Tandem Sling Airport Bench, installed at the majority of the U.S. terminals, has become an iconic symbol of airport seating lounges since 1962 (Schaberg, 2012).

Enjoyment, Anxiety and WOM

Although passengers may develop preferences toward certain airport environments (Gupta, Vovsha & Donnelly, 2008; Loo, 2008), airport choice often depends on the travelling destination, the choice of airline company and convenience. As a result, it can be difficult for travelers to develop patronage behavior in the context of the airport setting. Therefore, this study established the relationship between traveler enjoyment, anxiety and word-of-mouth as the most transparent behavioral intention. Congruent with the existing research (Hennig-Thurau et al.,

2004; Soderlund & Rosengren, 2007), the results confirmed that traveler enjoyment results in positive WOM, while anxiety and WOM are negatively correlated. Moreover, the study findings provided evidence for the mediating effect of traveler anxiety and enjoyment between airport servicescape features and WOM. Contrary to belief that people are more likely to spread negative word-of-mouth, this behavioral intention seems to be different in the servicescape context. Apparently, passengers are more likely to recommend enjoyable airport environment than to complain about stressful airport environment. Additionally, the alternative model indicated that design has a direct positive effect on WOM, suggesting only partial mediating effect of enjoyment on the relationship between design and WOM (Pullman & Gross, 2004).

Managerial Implications

Besides contributing to the theoretical field of airport servicescape, this study aimed to provide implications for airport industry practitioners that would help them understand the perceptions of the airport environment from a passengers' perspective. The built environment is rich in visual cues, which complicates anticipation of peoples' reactions to the particular cues. Moreover, when such an environment is as multifaceted as an airport, service designers and developers need to understand which environment features provide the strongest sensory experience for the users. Traditional airport design practice was based on standardized formulas that calculated passenger and cargo flow to improve transport efficiency. However, the contemporary traveler experience goes beyond efficiency.

The findings of this study suggest that airports could create enjoyable experiences if they emphasize the hedonic aspect of the terminal environments. A well-designed airport with stylish accessories evokes positive emotions of the travelers, further resulting in recommending

behavior. Nevertheless, the travelers are most likely to recommend an airport based on the attractiveness of the airport interior. Similar to hospitality properties that aim to impress their patrons, contemporary airports should rely on design elements, such as high quality materials and equipment, colors, symbolic decorations, and artwork to convey an amusing destination image. Furthermore, airport practitioners should pay attention to the olfactory cues in the environment. Installing aromatherapy systems in air-conditioning could create a relaxing atmosphere for the passengers and enhance their enjoyment.

Unlike hedonic environment stimuli that drive pleasant emotions, poor plan configuration, bad signage systems, inadequate lighting, and air conditions induce travelers' anxiety that triggers complaining behavior. Therefore, utilitarian servicescape stimuli may become irritating features of the airport environment and prevail over the hedonic servicescape aspect. Considering that air travelers are extremely time-sensitive, airports are advised to provide successful way-finding through the facility. In the ideal conditions, passengers should spend the least time commuting between terminals and gates or trying to identify information on the signs. As a result, airport practitioners are advised to adopt the most functional designs for the terminal layout or to improve poor design with adequate navigation systems. In addition, maintaining physical comfort of the building at a satisfactory level is always desirable.

Limitations and Future Research Suggestions

Even though this research provided considerable contributions, it is important to notice several limitations. First, the survey was conducted in an online environment and therefore, asked the participants who needed to revoke the memories about their last stay at an airport. Unless the airport servicescape left a truly strong impression on participants, they would not be

able express their opinion regarding specific details that were asked in the survey. In case that the data were collected on a sample of real travelers at an airport, the study results could have perhaps confirmed the hypotheses describing the relationship between cleanliness, seating and anxiety. Moreover, the intensity of the emotional response is difficult to measure through an online survey. An interaction with the participant in the real time through oral questionnaire or interview might generate better responses, but they might be more cognitive than affective.

Second, the questionnaire length and the time needed to complete the survey might have caused questionnaire fatigue which influenced the validity of participants' responses. Although it was assumed that the respondents completed the survey objectively, the reliability could have been affected by respondents' beliefs, attitudes, reward drive and desire to provide honest answers. Third, this study examined solely the influence of physical servicescape on emotional responses. Social servicescape, particularly crowding, can be an important factor that drives customers' positive and negative responses (Tombs & McColl-Kennedy, 2003). Therefore, it is assumed that crowded airport can be a predictor of traveler anxiety. Moreover, the crowdedness can intensify the stress induced by airport functional organization or insufficient number of seats.

Finally, this study did not investigate the potential moderating effects between the airport environment and time spent at an airport, terminal type (international vs. domestic), age (young vs. old travelers). For example, Baker (1987) suggested that the length of time spent in the service facility affects the customers' susceptibility to perceive environmental factors. In other words, the longer the stay, the better the possibility to experience the environment. Furthermore, because of its purpose to welcome foreigners, international terminal is the most representative facilities in the airport complex. Majority of the international terminals are either newly built or renovated facilities, thus passengers are more exposed to hedonic servicescape stimuli. In

addition, emotional responses to the environment depend on demographic characteristics gender or age (Schmidt & Sapsford, 1995).

The study findings should provide valuable guidelines for future research stream of airport environment and servicescape in general. It is recommended for future studies to reexamine the study model on a sample of airport travelers with the data collected on premise. An interesting data collection method would combine paper based questionnaire and data retrieved from volunteers wearing eye tracking glasses that would capture their observations during an airport stay. In addition, measuring certain psychological stress parameters such as body temperature, heart rate, blood pressure and respiratory rate would capture travelers' emotional states more accurately. Nevertheless, it is recommended for future studies to investigate the potential moderators that influence travelers' perceptions of the airport environment.

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APPENDICES

Appendix 1: IRB Approval Letter

USF
UNIVERSITY OF
SOUTH FLORIDA

RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

February 3, 2014

Vanja Bogicevic
USF Sarasota/Manatee - School of Hotel and Restaurant Management
Sarasota, FL 34237

RE: **Exempt Certification**
IRB#: Pro00016106
Title: The Effect of Hedonic and Utilitarian Airport Design Features on Traveler Anxiety and Enjoyment

Study Approval Period: 2/3/2014 to 2/3/2019

Dear Ms. Bogicevic:

On 2/3/2014, the Institutional Review Board (IRB) determined that your research meets USF requirements and Federal Exemption criteria as outlined in the federal regulations at 45CFR46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Approved Documents:

Airport servicecape protocol V.1.docx

Airport servicescape consent V.1.docx

As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF IRB policies and procedures. Please note that changes to this protocol may disqualify it from exempt status. Please note that you are responsible for notifying the IRB prior to implementing any changes to the currently approved protocol.

The Institutional Review Board will maintain your exemption application for a period of five years from the date of this letter or for three years after a Final Progress Report is received, whichever is longer. If you wish to continue this protocol beyond five years, you will need to submit a new application at least 60 days prior to the end of your exemption approval period. Should you complete this study prior to the end of the five-year period, you must submit a request to close the study.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board