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THE IMAGE OF THE AIRPORT THROUGH MOBILE APPLICATIONS

Lázaro Florido-Benítez
Facultad de Turismo Universidad de Málaga, Spain
Email : lfb@uma.es

Abstract - The image airports project via their applications (apps) affects -- directly or indirectly-- passengers' satisfaction. Today, airports are competing to attract more airlines and passengers to improve commercial revenues. Airport apps (as mobile marketing tools) are offering a broad range of opportunities to both passengers and airports. Apps are the best solution if airports want to improve the passenger experience as well as differentiate themselves from their competitors. The results of this investigation reveal that an airport's *image-perception* has either a positive or adverse effect on customer satisfaction. Our structural equation model confirms that the projection of the airport image on an app improves passengers' sense of security- control, along with cross selling. This paper provides a glimpse to how commercial activities in airports will function with interactive media.

Keywords — Image-perception, app, information, satisfaction.

1. INTRODUCTION

One of the most striking features in today's society is constituted by the consumption not only of goods and services but images and information as well, giving rise to an image culture [1]. From a business perspective, a good image attracts all the people needed to be successful: analysts, investors, customers, partners, and employees [2]. The picture of a product or service is a major concept that has aroused enormous interest among researchers involved in consumer and user theory, and in the last few years, the concept has undergone significant advancements and developments both at a theoretical and methodological level. The measurement of the image is as important as its graphic representation afterward given that the size provides a fast and precise analysis of all the information related to this construct [3]. The vast majority of people have a mobile device, and it has become a part of ourselves as if it were another vital organ -- a lifeline. If we are not conscious of the opportunities offered by mobile devices nor of the fact that interactive media is the future of commercial activities, then we are not only going to lose customers but also sales and revenues.

Nevertheless, this paper solely focuses on airports, and therefore, we must bear in mind that an airport is a gateway to tourist destinations, i.e., the largest portal that has access to flows of tourists in any given destination. The competitiveness and positioning of any tourist destination depend significantly on its airport. Hence, positioning is the perception that real or potential customers have in their minds about a product, and how this understanding is reflected in their preference for some competitors over others. A tourist destination positioning is measured according to the image a visitor holds of it [4]. Thus, an airport is highly relevant in the passengers-users when through the offering of high

Quality products and services it is marked as the cornerstone of customer satisfaction; like everyone, and they can enjoy these provide the image of the destination a high level of recognition [5]. Moreover, image (as a visual representation) is a determining factor in airports and applications are currently playing an important role in this matter. An image is recognized by its graphic design and the visible elements surrounding it, which is developed by companies through various codes such as logotype, corporate colors, architecture, visual applications, and uniforms, among other things; and then are projected onto various outlets with a communicative intent.

A company's image passes through perception, experience, mental constructions, and memory [6]. Likewise, the image projected via mobile marketing in airports will be similar both inside and outside the infrastructure. As a significant number of social groups share the image they have of their experience inside the airport, when the airport is mentioned, the practical and rational character will come to mind, and this will have an influence – either positive or negative – on an airport's perception. It is evident that image as a concept is evolving with time and technology, in particular with the help of the latter, from a more cognitive perspective that solely focuses on valuing attributes towards a more wholesome

perspective that takes into account an emotional standpoint [7].

For this reason, airport image is going to become a key factor in passengers' perception. Currently, thanks to the help of mobile applications, from now on referred to as "apps", we can identify some airports with a particular brand image. Therefore, airports need to plan their strategies via mobile marketing to get passengers to perceive a distinct brand image with an airport. Obviously, this is nothing new since companies like Coca-Cola, Nike, Adidas, and Mercedes, have made their brand image the insignia of their businesses, and they are recognized anywhere in the world because of it. At first, for a tourist, a brand may only represent a name and a symbol, afterward, these links and meanings improve [8], and they affect and connect brands to tourists at a cognitive, emotional and behavioral level [9]. Thus, passengers assign a worth to brands – unconsciously – based on their experiences, the experiences of other significant agents, the management of special offers and communications associated with the name, and the tourism products they represent.

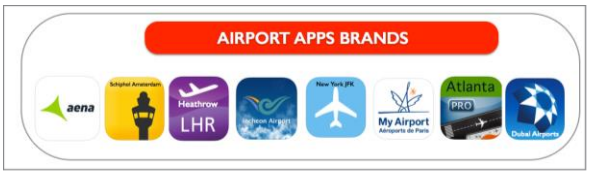

Figure 1. Airport apps brands

Airports have many customers, but two of the most important are airlines and passengers, and the marketing strategies used for the two customers vary [10]. For the latter, airports tend to use traditional marketing approaches such as providing electronic and printed information, advertising across a wide range of media outlets, developing loyalty programs, offering sponsorship, holding fundraising events and air shows. The extent to which an airport operator can by itself influence a passenger's choice is limited since the passenger's decision is primarily determined by both the airline services available and the location of the airport. Instead, many airports focus on marketing to airlines, which can arguably have a much more significant impact on the airport's success [11].

For the most part, we agree with the authors above in that airports should plan their marketing strategies by focusing on airlines although this is highly debatable. At the moment, the interoperability between airports-airlines-passengers is non-existent. An airport's value chain needs to be organized hierarchically. The first link in the chain is the passengers and without them, we could not connect the second piece: airlines; the airport is the last piece locking the chain. Airports have not been able to communicate directly with passengers to offer them the services or products available in the establishments inside the terminal for less than a decade. [12] One of the main aims is to integrate airports' e-commerce strategies with the app allowing passengers to buy duty-free products through their phones for home delivery. For example, this will have to wait until airports and concessionaires have implemented appropriate e-commerce systems. If a concessionaire, and want to build an e-commerce platform, have to create one that both airport and partners can connect to differents. It should be interoperable with, for example, airline and airport apps so that other people can use the inventory.

Thus, having an airport app today improves both passengers' experiences and commercial revenues through smartphones since passengers are offered personalized products and services according to their needs. Among the airports that are efficiently using apps, one finds that these apps are generating significant revenue figures, and these apps are only bound to increase. The challenge for airports and concessionaires is to continue providing better information and viability for e-commerce [12,13]. Airports such as the Schiphol in Amsterdam saw the mobile marketing tool as a great opportunity not only to increase the overall satisfaction of passengers but also to enhance the image these had of the airport. The creation of the Schiphol Amsterdam Airport mobile application improved in all areas the experience of passengers at the airport. According to data from the World Airport Awards in 2013, this airport won in that year the award for best airport in Europe and third in the world. It is important to highlight that the important thing about an application is not that it can geolocate. Instead, the essence of a request at airport lies in personalizing the passenger's experience, and being able to offer them micro-segmented products [13].

Additionally, in the case of airports, how can an app boost the time passengers dedicate to shopping? For this infrastructure, the answer lies in reducing the stress passengers feel as this might prevent them from visiting commercial areas, and instead, they opt for long waiting periods in boarding zones. As a consequence, the goal is to design an app that does what personal tour guides would do, that is, know where they are and where they are going. How to

keep track of time, what people like or want, what to recommend; lastly, know when to stop an individual activity and move onto just having fun. Airport administrators should be aware or be familiarized with this instant communication channel, along with the immediate response that mobile devices can provide. The competitiveness among tourist destinations has obliged all the involved agents to be more creative and productive especially to differentiate themselves from the rest of destinations [14].

2. THEORETICAL FRAMEWORK

2.1. Understanding image in the airport

Based on the concepts of the picture presented in this bibliographical review, we can see how it is defined as a multidimensional construct, which is supported by authors like [15,16]. These authors are inclined to consider the image as the rational and emotional interpretations formed by subjects, resulting from the incorporation of two interrelated dimensions: perceptual/cognitive evaluations and psychological assessment. The former make reference to the beliefs and knowledge tourists have a destination [17]. Whereas the latter represents the feelings the tourist has towards the target [18]. According to this approach, airport image should be considered as a multidimensional phenomenon. When passengers pass through an airport, a priori, they have some expectation of the infrastructure, and therefore, they evaluate the airport according to their perception-knowledge-emotions towards the products and services offered. Similarly, the combination of these two components of the image gives rise to a global image that reflects the positive or negative assessment that one may have [19]. Thus, the global image is supposedly the overall perception that public has of a company based on the various impressions they received over time [20].

As previously mentioned, the airport forms part of the destination, and in the words of [21], the airport image is comprised of the information, beliefs, impressions, attitudes and emotions that individual holds of a place. Moreover, the image is paramount to make one's product or service attractive, and to accomplish this; one needs to take into account two main points: First, to show what is being offered, and secondly, to show it in a clear and attractive way. On the one hand, the image is an attitude that reflects a combination of characteristics possessed byproduct. On the contrary, from a company's perspective, the image is the full range of associations that comes to a customer's mind when he or she hears the name of the enterprise or organization [22, 23].

Most studies on the role of image in commercial activities have focused on analyzing concepts and specific purchasing behaviors, as well as the attributes that make it up about particular establishments [24, 25]. When one tries to apply this concept to commercial distribution, it is characterized by its tendency to concentrate, either spontaneously or planned, and the aim is to take advantage of the synergies generated by different establishments that are acting together to attract more customers.

An airport with a commercial focus is quite similar to a shopping center or mall: it houses many facilities to generate income and obtain profits in its revenue statements. From this perspective, the image of open and planned shopping centers is a much broader concept than that of individual establishments; the former encompasses an entire heterogeneous offer that customers can geographically relate to and can evaluate according to some characteristics in scale for measuring perceptions. [26] states that airports are increasingly starting to look more like shopping centers. Therefore, it is entirely conceivable that commercialization via mobile phones will be integrated into airports. As a result, airlines, together with airports, will be able to offer special promotions on mobile devices. Fig. 2 shows the app as a sales channel and brand image.

Moreover, in this study, we will be objective given that every airport has its characteristics, niche market, and limitations. Hence, it would not be advisable to implement an airport app in small airports, especially if there is no commercial activity within the terminal. As stated by [27] airports are not homogenous: there are airports of various sizes. This kind of tangible characteristics translates into differences in the performance and outcomes obtained in the market, thereby, resulting in different clusters within the market. These groups can be distinguished one from another based on their various input and output combinations, which means that in this field, investments need to be made at a regional level.

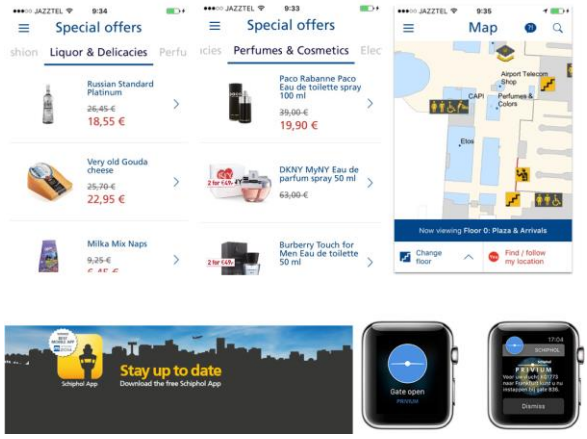

Figure 2. The app as a sales channel and brand image (Amsterdam Airport Schiphol app) Source: http://www.schiphol.nl/Travellers/FlightInformation/SchipholAppAndMobileWebsite.htm

Image as a construct is a corollary of being trustworthy, professional, and innovative; it also contributes to society and adds prestige to users. Thus, we foresaw that image will have a positive effect on a customer's satisfaction, expectations, and loyalty [28]. Despite the fact that authors like [29] argue that *image-perception* play no role in a client satisfaction, they do defend the notion that using mobile services does improve self-image. In this paper, we share [30] stance as they support that a company's image has an effect on their essential services and customers' perceived satisfaction [31], [28]. Image defines customers' expectations, in turn, these have a decisive influence on the perceived quality of a service, and consequently, on customer satisfaction [32].

2.2. Defining perception

Another dimension in the scope of this work is passengers' perception, which has been linked to image-perception due to the limited time passengers had for completing the questionnaire. As we foresaw this setback, we designed a survey that could be finalized in the least amount of time possible. We evaluated the effects that perception has over satisfaction levels, and how it has implications on the remaining variables. In a study conducted by [29], it was demonstrated that the perceived usefulness, ease of use, enjoyment, and cost, has an influence on a customer's satisfaction with mobile services (m-services).

The perception of using mobile devices for services different from the traditional ones, as in the case of mobile commerce, differs around various factors such as geographical location, platforms, security, creativity, customization, among other things. Hence, this perception is paramount given that increasing the number of app users will depend on it [33]. If [34] views were inferred to the mobile marketing sector, we could see that the functional component is linked to the products, services, and contents offered by the tool, all of which are entirely controlled and well-calculated by companies. Conversely, in the emotional component, the image of the service affects the psychological aspects [35] through previous experiences; these experiences intervene in a customer's satisfaction as the overall measure of a series of experience-specific satisfactions [36]. Having reviewed the authors above' literature on the image-perception variable, we proposed the following hypotheses regarding this scope in our investigation:

H1. The image-perception of an app improves the security and control a passenger has in an airport.

H2. A good commercial image-perception in the airport will have a positive effect on cross-selling.

2.3. Mobile apps as multifunctional tools

We should highlight that in this paper, in a sense, apps are seen as a software adapted for mobile devices, and it is just one more tool available in mobile marketing. Regarding the definition of an app, researchers have defined it from various points of view, and literature on this concept is still scarce as it is an idea that is currently being developed and expanded. At first, we shall begin with authors such as [37], whose stance is to see an app as another promotional tool which can generate both notoriety and a positive brand image. Hence, apps are the multi-tool pocket knife of the future; they make life easier at any time, and its use is multifunctional. Big airports are conscious about implementing new technologies to their commercial activities, and apps are a very attractive marketing tool because they can improve passengers' experiences, promote a brand's image, and strengthen communication between airport and passengers.

2.4. Reviewing the concept of satisfaction

On the idea of satisfaction, it can be addressed from one of the following two approaches: the transaction-specific or the overall/cumulative

satisfaction approach [38, 39]. The transaction-specific approach defines satisfaction as a consumer's response to his or her latest purchase with an organization [40], and for this reason, it is influenced by the situational variables present at the moment of purchase.

It is clearly reflected in [41] definition when they indicate that satisfaction is a time specific and ephemeral response that makes reference to certain aspects of a purchase or product consumption. A passenger's overall satisfaction on a mobile marketing tool is conditioned by the moderating effects of a passenger's characteristics. [42] investigated the demographic impact of features such as gender, marital status, income, occupation, and nationality, and they discovered that service different aspects caused differences in satisfaction, recommendations, and repeat purchase intentions. For this reason, this paper shows that satisfaction is influenced by customers' characteristics, the environment or consumption setting, image, experience, security, expectations, control. Furthermore, it is important to remember that satisfaction is a multidimensional construct, and it cannot obtain the same results from customers that are in a physical environment as from those who are in an interactive one [14]. Therefore, one can formulate the following hypothesis:

H3. An airport's level of image-perception will either have a positive or adverse effect on the amount of satisfaction experienced by a passenger.

2.5. Information on airport apps

Seeing the multi-functionality and services offered by apps, it is evident that airports make profitable and improve their processes in all aspects. Nevertheless, we cannot forget that an airport is an intermodal node that forms part of a tourism service, which along with other travel resources provides an added-value to a destination. Knowledge is power, and of course, the more information we have within our reach (in the mobile), the more we will be able to manage in our surroundings. Mobile services available on smartphones, which provide information to tourists in real times, are no longer the purview of high-income earners [43]. Location-based-services (LSB) and mobile information apps have been hailed as a significant innovation for tourism that could replace the ubiquitous travel guidebook and/or city map/brochure. Several authors have examined the functionality of LSB for information search, added-value, language translation, map/directions, and safety across various traveling phases and settings [44]. Figure 3 shows passenger services provided by airports and airlines through apps.

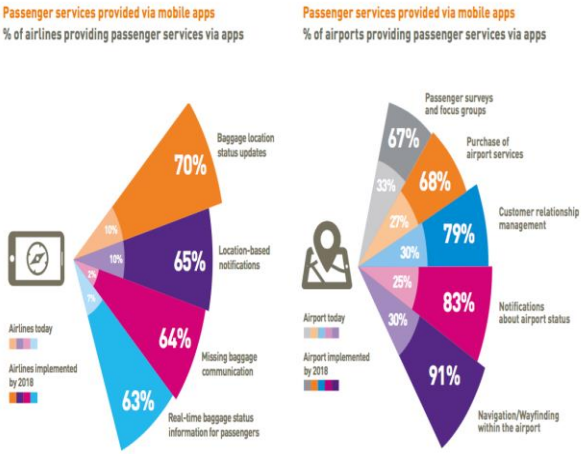

Figure 3. Passenger services provided by airports and airlines through app today and forecasts by 2018
Source: https://es.sita.aero

Our vision for the Internet of things is, in essence, what can and needs to be connected will be linked. The ability to seamlessly integrate the end-to-end passenger experience is essential in today's market. Beacons offer an opportunity to leverage fully products and services via mobile application to enhance the passenger experience, generate revenue and improve efficiencies, with enhanced customer service being of the utmost importance. Meanwhile, in the field of information, the most studied dimension is the information received by a passenger or customer through this tool. Mobile Marketing provides information at the right moment and precise place; at the same time, the interaction and feedback are immediate [45]. According to [46], information is fundamental for tourism. On a mobile device, information can be transmitted via messages, music, photos, and videos. Besides, this is a mass media tool just like social media [47,48]. The vast majority of the larger airports around the world have the app as a communication tool to keep passengers informed on their flights, check-ins, security control, baggage information, boarding gates. Furthermore, the app also includes a virtual store where tourists can buy products and services according to their needs. We suggest therefore the following hypotheses regarding this stage:

H4. The information offered by an app has a positive influence on a passenger's sense of security control in the airport.

H5. The information provided by the app favors the image-perception that passengers have of an airport's infrastructure.

3. METHODOLOGY

The objectives outlined in the study; structural equation models were applied to the models herein, and they were analyzed with the PLS program, version_2.0 Smart-M3. Besides, to perform the multicollinearity analysis, SPPS version_22.0 was used as it allowed us to reach different conclusions from the preliminary objectives of the study. The questionnaire was written in Dutch, and it consisted of two parts: first, 31 items measured on a Likert scale from 1 (strongly disagree) to 5 (strongly agree), and the Likert scale was chosen since it is best suited for the survey participants.

Table 1. Sample characteristics

PASSENGER'S PERSONAL DATA	%
Gender	
Male	65
Female	35
Age	
18-25	24.3
26-35	31.1
36-45	25.2
46-55	14.6
+55	4.9
Education and studies	
No studies	8.7
Primary Education	15.5
Secondary/Vocational Education	46.6
University	29.1
Monthly net income	
600 €	16.5
601€ - 900€	2.9
901€ - 1.200€	7.8
1.201€ - 1.500€	11.7
1.501€ - 1.800€	11.7
1.801€ - 2.100€	34
2.101€ - 3.400€	10.7
+3.400€	4.9
Type of community	
Urban	74.8
Suburban	4.6
Rural	10.7

Table 2. Data sheet of the empirical study

Universe	Passengers who use the Airport Schiphol Amsterdam app in The Netherlands
Sample size	103 respondents
P= Q	0.5
Level of reliability	95% (Z=1.96)
Sampling error	+/- 9.7% (if there is a m.a.s.)
Sampling scheme	Convenience sampling
Fieldwork date	August 1st - October 31st 2014

The second part of the questionnaire included socio-demographic aspects which made it possible to outline the characteristics of the mobile app users, and the information requested included the following: gender, age, education level, monthly income level, occupation, type of community, and perception of mobile apps.

Once the target population was established (*Schiphol Amsterdam Airport* app users), the surveyed designed to validate the theoretical model was carried out for three months (August 1- October 31, 2014), during which 106 surveys were completed. After that, a quality control test was performed to ensure that the responses were reliable, that they met the quality needed for the research, and that the surveys were completed accordingly; only three questionnaires had to be discarded because they were incomplete. Therefore, the final sample was comprised of 103 valid questionnaires, under the assumption of a simple random sampling for an infinite population with P = Q = 0.5, with a confidence level of 95% (Z = 1.96) and a sampling error of +/- 9.7%.

4. RESULTS

The content analysis found in Table 1 provides a summary of the hypothesis test done using a *Smart PLS* model. From the results obtained, hypothesis 1 can be accepted: an app's image improves the perception of security and control a passenger has an airport ($\beta = 0.325$; $p < 0.01$). The results confirm the importance of mobile applications in the brand image of airports.

Furthermore, based on the results obtained in hypothesis 2, the projection of a commercial image has a positive influence on cross-selling, and thus, the theory is accepted since one can see a significant relationship between the two constructs ($\beta = 0.261$; $p < 0.01$). To confirm the relationship that was hypothesized, and it is now quantitatively shown. Additionally, an airport's level of image-perception has an effect on a passenger's degree of satisfaction, as demonstrated by the results ($\beta = 0.316$; $p < 0.001$), with a positive sign and a valued significance; consequently, hypothesis 3 can also be accepted.

Table 3. Hypotheses test summary

Hypothesis Number	Relationship	Path Coeff.	Sample Mean	Standar Devitacion	Standar Error	T Student	Results
H1	Image_per —> Sec_Con	0.325	0.295	0.097	0.097	2.821	Validated
H2	Image_per —> Cross-selling	0.261	0.314	0.131	0.130	2.425	Validated
H3	Image_per —> Satisfa	0.316	0.381	0.098	0.098	3.684	Validated
H4	Informa —> Sec_Con	0.181	0.202	0.124	0.123	1.659	Validated
H5	Informa —> Image_per	0.432	0.443	0.080	0.080	5.254	Validated

The results show that the information provided by the mobile marketing tool influences directly and positively on a passenger's security ($\beta = 0.181$; $p < 0.05$), therefore, the validity of hypothesis 4 is accepted. Finally, the results obtained in hypothesis 5 are also taken. From them, we can derive that the information provided by the app enhances the perception a passenger has an airport's image, as it is positively shown by this data ($\beta = 0.432$; $p < 0.001$). Furthermore, the qualitative impact is the second most important in the path coefficient results obtained in the study.

Based on the literature review on the importance of information in the online environment, one can see how researchers emphasize the importance of a website to provide adequate information on the goods and/or services offered. Besides, as scientists have clearly stated it, there is a need to provide appropriate information about a company [49,50,51], and all of this contributes to having a better perception of a company's image. Taking into account the previous analysis, we can conclude that the proposed model allows one to explain and predict in a reasonably acceptable form that the imaged projected by airports on apps influences in a positive, functional, economical, and efficient way a passenger's satisfaction. The illustrated model of the stated hypotheses is shown in figure 4.

When a passengers transit through an airport, they have some preconceived expectations of the airport's image. Thus, they make an evaluation based on their cognitive-affective perceptions about the services and products offered. Regarding the emotional component, the service image has an influence on the psychological aspects through previous experiences that intervene in the overall satisfactions of specific experiences. Additionally, according to [52], the image is seen as a filter for how a customer perceives quality. Lastly, this construct is the overall result of the interaction of all the experiences, impressions, beliefs, feelings, and knowledge individuals have of a company. Similarly, this study first shows that satisfaction is influenced by the surroundings and environment in which consumption takes place, the image, the experience, the expectations. Our results confirm that the global picture of an airport has positive or negative effects on passengers' levels of satisfaction.

According to [53], the use of mobile devices for traveling purposes is shaped by a series of complex interactions between environmental factors, cognitive beliefs, previous experience, and everyday phone usage. These authors also expose that using smartphones for this particular purpose has the potential to transform the touristic experience significantly. In this interactive information context, both airports and passengers become important in customer relation management (CRM). Offering personalized information and services, together with free WIFI -- so users can connect to the net without any problems and can have access to the information demanded -- is going to become a differentiating element among airports. For passengers, apps are a communication tool that can guide them from the moment they check-in to the time they board their flight; apps can personalize their trip, improves the passenger experience, and diminish stress levels, which allow passengers to manage more efficiently their time during waiting periods.

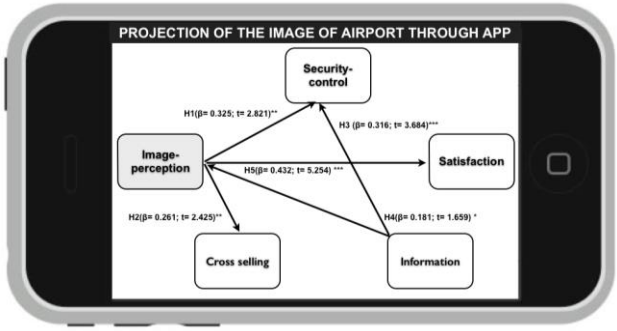

Figure 4. Research Model

Note: The accepted and significant hypotheses are highlighted with a bold arrow. Significant hypotheses: * $p < 0.05$; ** $p < 0.01$ and *** $p < 0.001$ (5%; 1% and 0.1%, or level of trust of 95; 99 and 99.9% respectively for a one-tailed t-student test). The relationships highlighted with a discontinuous arrow are not validated in this study.

Therefore, we propose that the perception of a good commercial image in the airport will have a positive effect on cross-selling. We must not forget that knowledge across a mobile device, more specifically of a company's brand image, is crucial in customers' perceptions since this will have an influence on the perceived value that the other products and services will have. Authors like [54], [48] state that online transactions via mobile devices, together with the information provided on the

products and services offered through these devices, is the future of this new business model in the tourism sector. If customers have had a good shopping experience using an airport app, it is probable that they will promote the app through word-of-mouth or recommend the app to their closest friends; on the contrary, we may also have many possibilities for the customer to spread negative publicity about our app.

5. CONCLUSIONS

Markets are like conversations which become interactive spaces where customers act as a social activist that consume content through social media, and most importantly, these customers generate new content which is then shared with other consumers. As a result, mobile marketing has an influence on the perception a customer has of an airport's image, both in a general and personalized way through his or her experience. Hence, these individual experiences with a picture (in this case the airport with customers) "encourage", to a greater or lesser extent the senses, the mind, the emotions; as well as the consumer experience, the relationship with a product, the service, and the brand or company. The image also gives sensorial, cognitive, behavioral, and relationship value, and these substitute the functional values. Additionally, the most compelling opportunities to influence a buyer is after a purchase has been made; the consumer's experience is essential for brand satisfaction and loyalty. The results obtained in this study support that an airport's level of image-perception will either have a positive or adverse effect on a passenger's degree of satisfaction. Nevertheless, it is important to see airport image as a multidimensional phenomenon.

However, the results obtained also confirm that the perceived image of an app improves passengers' sense of security and control within airports. For example, passengers who have used the app and have recognized a good global image of the airport, if they were to return to the airport, the app would give them a sense of security and a peace of mind while moving about the terminal. As a consequence, the airport management now can increase their potential customer ratio into real customer via their app. As an airport app projects in real time images of the needs being demanded by passengers, it improves passengers' decision-making capabilities and their freedom to move inside the terminal. If passengers are looking for their boarding gate and the app is indicating them where to go, as well as their flight's time, we are improving their experience while also reducing their stress levels. To sum up, one can boost sales based on the image one projects.

The results obtained show the validity of these two constructs and, in most cases, they are both complementary, i.e., a right image produces a positive effect on sales. These results confirm the literature review herein regarding these two variables. Additionally, the results also confirm that informing a passenger through an app has a positive influence on their sense of security control. When customers have all the information they need on their mobile devices, without a doubt, the information gives them safety and self- control over their thoughts and movements, and this allows them to move around the terminal peacefully as well as optimize their time. The app helps the passenger know all the flight information: take off time, delays, boarding gates, and *etcetera*. As users have control over their leisure time, they can have a coffee, buy a book or walk around the airport exploring the facilities available. In short, the app reduces a passengers' stress levels by providing them security, tranquility, and control over their time. Moreover, the results obtained are compelling, and they reveal that the information submitted by the app significantly favors airports' image-perception. In fact, communication can be seen as an act of transparency done by airports which make it easier for passengers to have access to necessary information so they can improve their experience inside a terminal. Therefore, the passenger establishes a cognitive and physical link with the airport's global image.

The growth of app activities on mobile devices, and above all in "the new generation" of devices, is gaining traction in the business sector given the various opportunities offered both by conferrers and demanders. Airport managers should know and be familiarized with the instant communication and immediate response generated by mobile devices. The competitiveness among tourist destinations has obliged all the agents involved to become more creative, productive, and above all, know how to differentiate themselves from others.

To conclude, this study infers that an airport app is a perfect tool that diminishes and separates airports from one another. Implementing apps enrich passengers' experience, improves users' levels of satisfaction, provides passengers greater security while transiting through a terminal, and reduces stress levels. On an airport's image, it is important to promote the airport's app as a selling channel and to encourage consumption. The truth of the matter is that new paradigms in buying habits, as well as mobile payment systems, have come to stay, and airports need to find a way to benefit from this

synergy. The app is the perfect tool to project an airport's brand image, which is a key factor in a passenger's perception. Airport managers should plan their strategies with mobile marketing to get passengers to perceive a particular brand image with an airport. Besides, airports like Schiphol, New York (JFK), Incheon, among others, have been doing this for years, and their image is beyond well known.

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