



## Assessing Air Services and Facilities Provided to Passengers with Disabilities at EgyptAir

Hussein Abdel Wahab Abdel Rady\*

Faculty of Tourism and Hotels, Minia University, Egypt

### KEYWORDS

Services  
Facilities  
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### ABSTRACT

The number of passengers with disabilities (PWDs) has increased internationally, and airline service and facilities suppliers may have the ability to generate a profitable opportunity in the niche markets. However, it is less obvious what the service requirements of these disabled air passengers are, in addition to providing airline services and facilities. This research aims to identify the current reality of services provided to passengers with disabilities at EgyptAir and assesses the satisfaction levels of disabled air passengers. To achieve that, this research used the descriptive analytical approach, where a questionnaire was prepared and distributed to a random sample of four hundred and eight (408) passengers with disabilities in EgyptAir. The results of the tools were analysed using descriptive statistics, factor analysis, reliability analysis, coefficient analysis, Pearson correlation analysis, regression analysis, and chi-square test with the support of SPSS22.0. The research results show a very strong positive correlation between services and facilities provided to passengers with disabilities and passengers with disabilities' satisfaction levels with services and facilities in EgyptAir Airlines, Cairo international airport, and aircraft on board. The research recommended that screens at airline check-in counters should show which counter is designated for PWDs, as some of them wait in line for hours without understanding they have priority registration.

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### 1. Introduction

The number of disabled air passenger's topic is increasing permanently; as a result, the tourist sector, particularly the aviation business, must rise to the challenge and be able to accommodate and negotiate with these passengers who want the same level of comfort, quality, and security as any other passenger. As a result, it's critical that the airline industry views this market segment as an opportunity rather than a necessity (Higuera, 2016). Passengers with disabilities with extra or

complex demands to travel by air are a topic of renewed academic and industrial attention (ACI, 2018; Graham et al., 2019). For an increasing segment of the global population, these physical, behavioural, and institutional elements have produced politics of aero-immobility that either effectively precludes or severely damages their capacity to access air travel and/or their experiences with it (Chang and Chen, 2011, 2012a; Darcy, 2012; Davies and Christie, 2017). According to the International Air Transport

\* Contact Hussein Abdel Wahab Abdel Rady at: [hussien.ibrahim1@mu.edu.eg](mailto:hussien.ibrahim1@mu.edu.eg)

Association (IATA, 2012), the absence of international regulation consistency in the field of PWDs rights aggravates the problem. The problem of the research focuses on identifying the levels of services provided to PWDs in EgyptAir and assesses the levels of satisfaction of disabled air passengers throughout their trips through airports. The weakness of these services leads to unsatisfied with the services provided by EgyptAir. The importance of the research stems from assessing the current status of services provided to PWDs at EgyptAir, as well as the facilities provided at Cairo international airport, and their readiness.

## 2. Literature Review

### 2.1. Defining Passengers with disabilities

According to the World Health Organization (2021), there are more than 1 billion handicapped persons on the planet today. A handicapped person is defined as someone who has a problem with physical function or structure, an activity limitation, and trouble performing a task or action, with participation. The handicapped customer, according to Burnett and Baker (2001), is an individual with a physical disability that restricts activities. ICAO (2018) defined passengers with disabilities as any person whose mobility is limited when using transportation due to physical incapacity, and whose situation necessitates special attention and adaptation of the services made available to disabled air passengers.

As a result, disability is more than a medical condition. It is a perplexing phenomenon that highlights the relationship between a person's physical qualities and the society in which he or she lives (Ray & Ryder, 2003). A handicapped person is defined as any individual unable to assure a normal existence for himself or herself, as a consequence of a deficiency in his or her physical or mental ability (World Bank, 2002). Disabled

people are individuals who have long-term physical, mental, intellectual, or sensory disabilities that, when combined with additional impediments, prevent them from fully participating in society on an equal basis with others (USAID, 2011). According to MOSPI (2011), A Person with Disabilities is a person who has limits or lacks the ability to do human tasks. According to Poria et al., (2011) and Popiel (2014), disability may be classified into three categories accessibility to the physical world, accessibility for the senses, and accessibility for communication

### 2.2. A Types of Passengers with Disabilities

The categorization is shown below (Major, 2018)

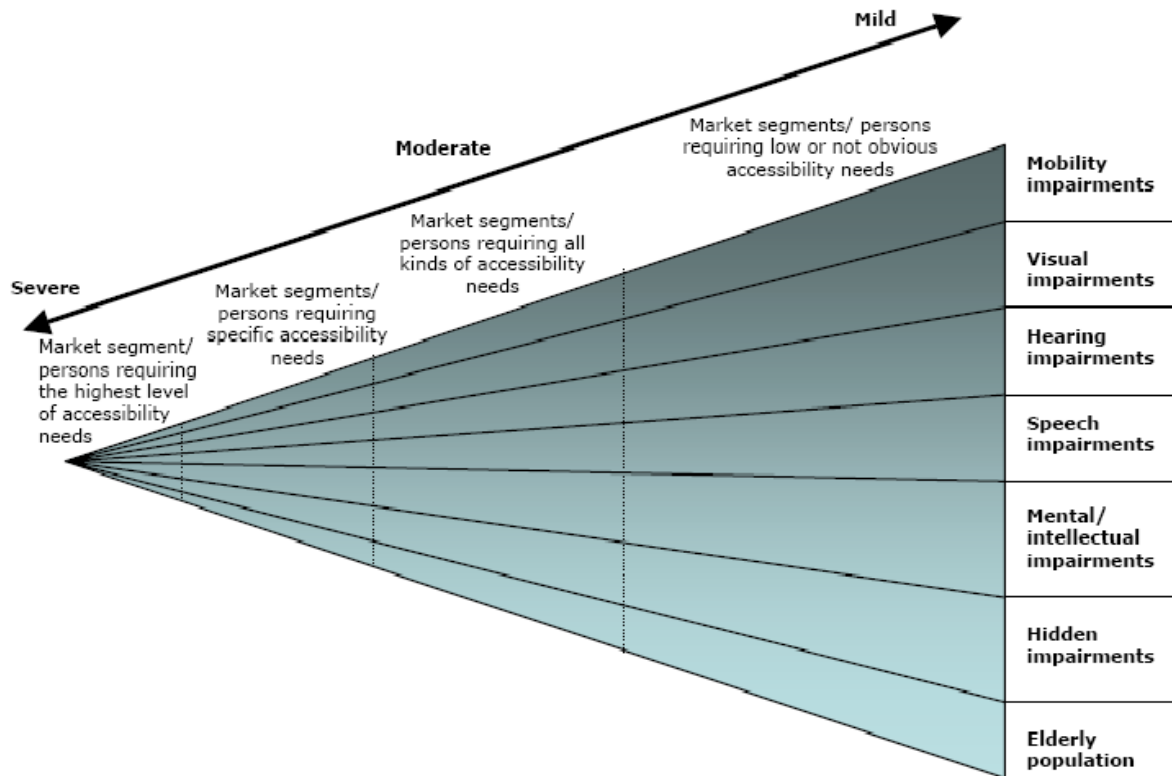
- Impairment of vision
- Impairment of hearing
- Impairment of speech
- Physical Disabilities
- Disabilities in Learning
- Disabilities of the Mind
- Schizophrenia, Mania, and Depression are examples of mental illnesses.
- Autism Spectrum Disorders
- Color Abnormality – Albinism
- Other Disorders/Specific Disorders, such as Cerebra Palsy and Multiple Disabilities.

### 2.3 Variations of Individuals with Impairments

Various people have different accessibility requirements. Disabilities come in a variety of types, as well as degrees of severity. Figure 1 depicts the relationship between Differences in needs of passengers with disabilities, and a hypothetical continuum of market segments based on the severity of impairment and accessibility needs.

**Figure 1**

Pyramid of demand types: the continuum of abilities Source: Buhalis et al., (2005)



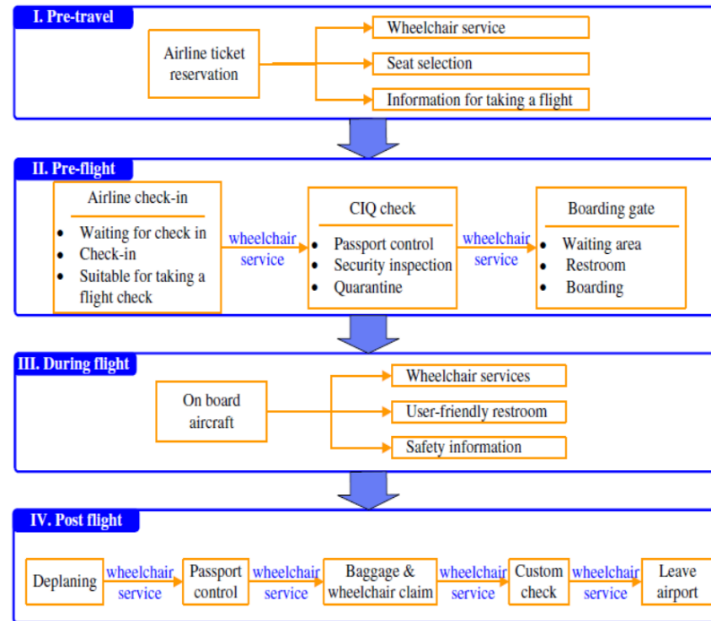
**2.4 Procedure for Air Travel for disabled air passengers**

Disabled air passengers’ requirements are significantly more complicated than is generally recognized, and gaps are emerging between aviation industry perspectives and disabled air passengers’ needs (Shaw & Coles, 2004).

Passengers with disabilities may have difficulty travelling internationally. Insufficient information, the need to wait in line, and the lack of barrier-free facilities and services can all prevent persons with limited mobility from travelling internationally, as indicated in figure 2, the air transportation services methods may be separated into four sections: pre-travel, pre-flight, during flight, and post-flight.

**Figure 2**

Procedure for disabled air passengers using airline services



Source: Chang & Chen (2012)

### 2.5. 1.1. Obstacles for passengers with disabilities

The following are the most significant difficulties for disabled air passengers:

- Discovering their way around the airport: Where is the terminal they need, where is passport control, check-in, and where is the gate they want?
- Exploring related flight information: when is boarding time, where gate does their flight depart from, is the flight delayed?

At the moment, it is the airlines' responsibility to look after PWDs. They take completely diverse approaches to this work. Some of them will give PWDs with an accompanying passenger who will assist them around the airport till they reach the plane. Other airlines have a policy of not transporting passengers with disabilities (Darvishy et al., 2008).

### 2.3 1.1. Special & Medical Assistance in EgyptAir

EgyptAir has established a set of air services and facilities, to make air travel more accessible to passengers with disabilities (EgyptAir, 2021).

1. On Ground.
2. Medical Supplies onboard.
3. Needles and Medications.
4. Syringes and Needles.
5. Medication Refrigeration during Flight.

6. Passengers with cognitive disabilities who require assistance.
7. Wheelchair Assistance.
8. On Board.
9. Therapeutic Oxygen.
10. Visually Impaired.
11. Hearing Impaired.
12. Stretcher Case.
13. Accessible toilets.
14. Passengers with High Body Mass.
15. Oxygen concentrators for personal use.
16. Continuous Positive Airway Pressure.

Based upon these views, the hypotheses of the research are:

*H1: there is a significant correlation between services and facilities provided to PWDs and PWDs' satisfaction levels with services and facilities in EgyptAir Airlines.*

*H2: there is a significant correlation between services and facilities provided to PWDs and PWDs' satisfaction levels with services and facilities in Cairo international airport.*

*H3: there is a significant correlation between services and facilities provided to PWDs and PWDs' satisfaction levels with services and facilities in aircraft on board*

### 3. Methodology

#### 3.1. Data Collection

Data has been collected through questionnaires that were prepared in the approach that is relevant to the situation so as to decrease invalid responses. They were distributed to passengers with disabilities. The research covered a total of 408 out of 500 questionnaires distributed to PWDs at Cairo international airport and EgyptAir domestic sales offices. The questionnaire was completed in the 30-days survey period representing a response rate of 81.6 %. The results of this research have been organized according to the variables.

#### 3.2. Measures

This Research aims to identify the current reality of services provided to people with special needs at EgyptAir and assesses the satisfaction levels of disabled air passengers. To achieve that, this research employed a method descriptive-analytical methodology by using a questionnaire tool, a survey consisting of six sections used as a data collection tool. The first section includes So the socio-demographic passenger profile (gender, age, and educational level). The second section includes the disabled air passenger profile (disabled air passenger, passengers with disabilities nature, and number of times travelled through Cairo international airport). The third section included 21 variables representing services and facilities provided to passengers with disabilities at EgyptAir. The fourth section included 13 variables representing main constraints that passengers with disabilities face in Cairo international airport. The fifth section included 9 variables representing main constraints that passengers with disabilities face in aircrafts on board. The sixth section included 3 variables representing passengers with disabilities' satisfaction levels with services and facilities. The

questionnaire items were anchored according to the five-point Likert scale, "1 = Strongly Disagree (SD)", "2 = Disagree (D)", "3 = Neutral (N)", "4 = Agree (A)", and "5= Strongly Agree (SA)".

#### 3.3. Data Validity and Reliability

The researcher disseminated the questionnaire instrument to a number of disabled air passengers in EgyptAir to validate the data collecting instrument used in this study in terms of readability, format, and capacity to assess the study's components. The questionnaire instrument was then modified and enhanced in response to the domain experts' comments and suggestions. Furthermore, the experts expressed interest in the questionnaire instrument and communicated with the researcher, adding to its validity.

The reliability of an instrument is the degree of accuracy and consistency with that it measures whatever it is measuring (Ary et al., 2002). Prior to continuing with the additional examination, reliability testing was conducted to ensure that the measurement was consistent across all of the questionnaire's items. Indeed, the reliability of a measure indicates stability and consistency of the instrument. Consequently, this approach establishes reliability through examining the internal consistency of the research instrument such as items in the questionnaire, which are routinely shown. Cronbach's alpha coefficient measures this effect and ranges from 0 (no internal consistency) to 1 (maximum internal consistency) (Döckel, 2003). The Reliability coefficient of 0.70 or higher is considered "acceptable" in most social science research situations (Nunnally, 1978).

Cronbach's Alpha Reliability was calculated for six sections, as indicated in table 1. The tests revealed that all the sections' Reliability Coefficients were 0.988, and all of the sections' Validity Coefficients were 0.994, indicating that the instrument is safe to use.

**Table 1:**

Cronbach's Alpha Value for airline services and facilities provided to PWDs

Variables	No. of items	Cronbach's alpha value	Validity Coefficient
Services and facilities are provided to passengers with disabilities at EgyptAir.	21	0.995	0.997
Main constraints that passengers with disabilities face in Cairo international airport.	13	0.990	0.995
Main constraints that passengers with disabilities face in aircraft on board.	9	0.985	0.992

Passengers with disabilities' satisfaction levels with services and facilities.	3	0.983	0.991
<b>Total</b>	46	0.988	0.994

Validity coefficient = Reliability coefficient

In order to measure the study's constructs' internal consistency and dependability, Cronbach's Alpha ( $\alpha$ ) was employed as a metric. The reliabilities of the scales were assessed, and the Cronbach's Alpha values for all scales in Table (1) varied from 0.983 to 0.995, with a total of (0.988) indicating an appropriate Cronbach's Alpha value for each field (0.7). It is also clear that the validity coefficient is (99.4%), indicating the research sample's reliability and validity.

3.4. Data Analysis

The researcher employed a descriptive-analytical approach to attain the study's aim. The statistical package for social sciences (SPSS) was used to statistically process data by the researcher. The following statistical approaches were used in the treatment:

1. Frequencies, percentages, means, and standard deviation (SD): To define the characteristics variable study sample.
2. Cronbach's alpha analysis: To determine the questionnaire's stability coefficients, as well as the coefficient of stability for each axis of the study axes.
3. Factor analysis.
4. Pearson correlation.
5. Regression analysis.
6. Chi-square test.

4. Finding and results

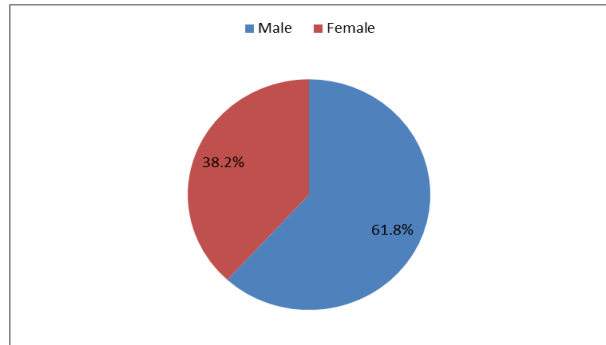
4.1. Descriptive analysis

4.1.1 Socio-demographic passenger profile

Concerning gender, more than half of the respondents are male corresponding to 252 (61.8%) and only 156 are female (38.2%) as it is shown in Figure 3.

Figure 3

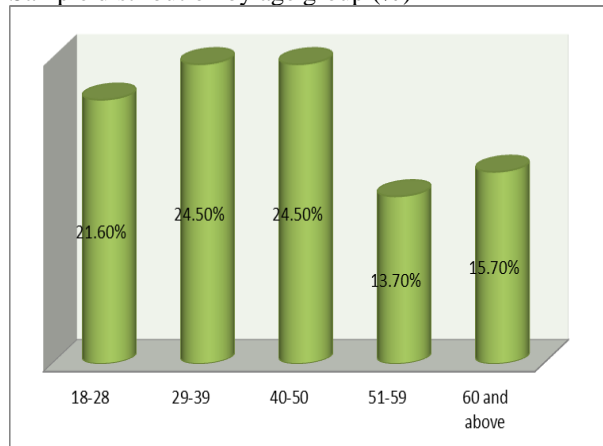
Sample distribution by gender (%).



The presentation of the research findings begins with a brief demographic profile of respondents in terms of age, as shown in Figure (4). The age brackets (29 to 39) and (40-50) had the most replies (24.5 %), followed by the 18 to 28 year-old age category (21.6 %).

Figure 4.

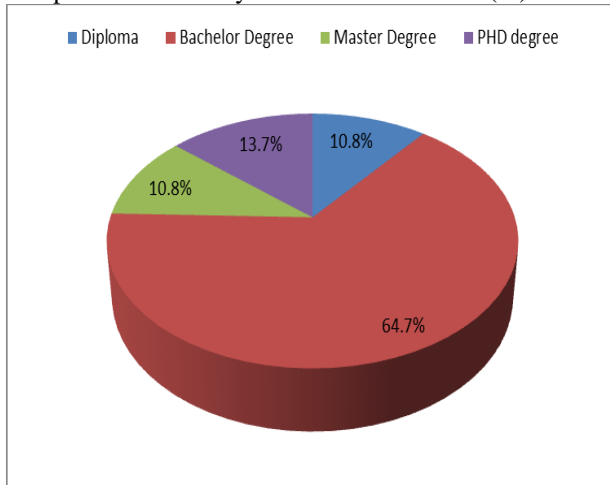
Sample distribution by age group (%)



In analysing the level of education, the most representative degree is Bachelor with 64.7 % (264 PWDs) of the respondents, followed by PhD degree with 13.7% (56 PWDs), Regarding Master and Diploma degrees 10.8% of the respondents as indicated in Figure 5.

**Figure 5**

Sample distribution by the level of education (%).

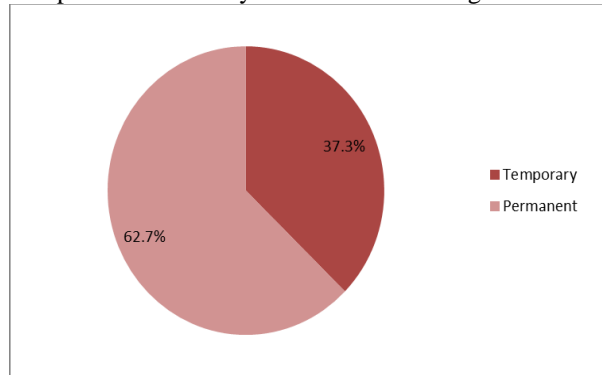


**4.1.2 Disabled air passenger profile**

Figure 6 show that, in terms of disability type, more than half of the respondents have a permanent disability 62.7% (256 PWDs), and only 37.3% (152 PWDs) have a temporary one.

**Figure 6**

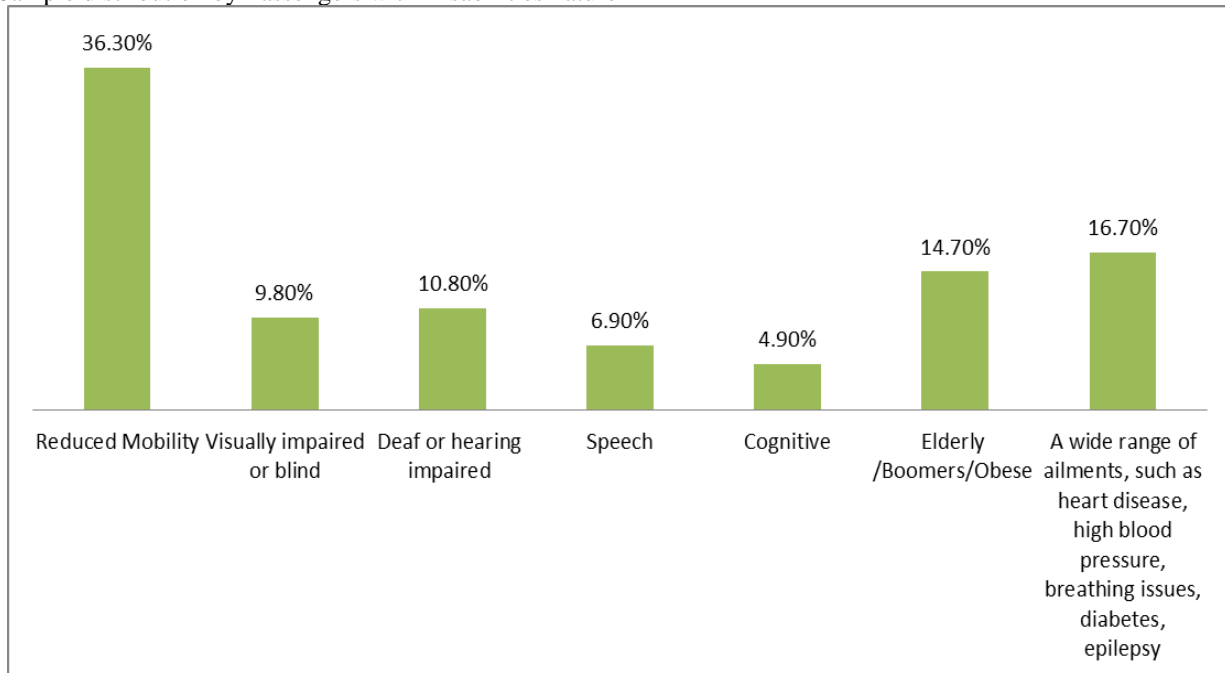
Sample distribution by Disabled air Passenger



As indicating in figure 7, more than third of the sample has a reduced mobility 36.3% (148 PWDs), followed by A wide range of ailments, such as heart disease, high blood pressure, breathing issues, diabetes, epilepsy with 16.7% (68 PWDs) of the sample. Elderly/Boomers/Obese with 14.7%, then deaf or hearing impaired with 10.8% (44 PWDs), visually impaired or blind with 9.8%, and last a cognitive one with just 4.9%.

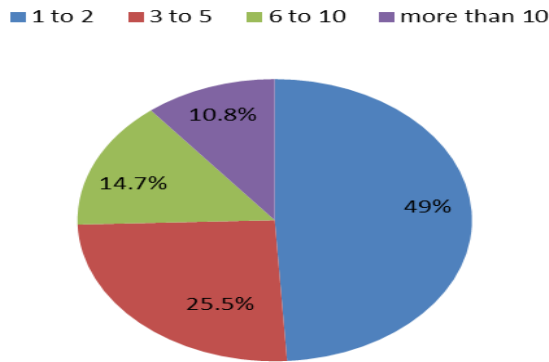
**Figure 7**

Sample distribution by Passengers with Disabilities nature



**Figure 8**

Sample distribution by a number of times travelled through Cairo international airport.



In figure 8, it is noticeable that 49% (200 PWDs) surveyed have travelled 1 to 2 times. 25.5% (104 PWDs) have travelled between 3-5 times.

**Table 2**

Provided services and facilities to passengers with disabilities at EgyptAir.

Variables	Mean	Std. Devi.	Factor loading	Rank	Attitude
The distance between the terminal and the parking lot	3.56	1.325	0.961	18	Agree
Ease of discovering phone point or assistance counter to announce your arrival at the terminal	3.57	1.292	0.959	17	Agree
For the flight, there is an exclusive check-in counter.	3.59	1.277	0.965	15	Agree
The condition of the help pick-up area	3.64	1.347	0.966	10	Agree
The time it takes for the help workers to arrive	3.58	1.326	0.965	16	Agree
Prioritization of security processes	3.55	1.336	0.955	19	Agree
Procedures for passport control with a priority line	3.63	1.255	0.918	11	Agree
Accessibility to the retail and restaurant court sections	3.66	1.337	0.953	8	Agree
The state of the boarding gate's waiting area	3.60	1.248	0.963	14	Agree
The line for priority boarding	3.61	1.354	0.939	13	Agree
Time spent waiting for help on connecting flights (If applicable)	3.62	1.343	0.964	12	Agree
Clear and easy-to-understand signalling and displays	3.67	1.311	0.966	7	Agree
Clear and easy-to-understand flight information announcements	3.65	1.275	0.966	9	Agree
Information in other formats (e.g., Braille, displays, hearing loops...)	3.71	1.325	0.944	4	Agree
Slip-resistant floor and Barrier-free environment	3.73	1.292	0.925	2	Agree
Wheelchairs in good condition	3.69	1.277	0.953	6	Agree
The state of the Ambu-lift (If applicable)	3.52	1.347	0.902	21	Agree
Assistance with boarding the plane, baggage claim, and getting to the airport	3.77	1.326	0.959	1	Agree
Passport control area when arrived	3.70	1.336	0.956	5	Agree
Baggage claim area in good condition	3.72	1.255	0.963	3	Agree
Marketing that is inclusive	3.53	1.337	0.909	20	Agree
<b>Total Mean</b>			<b>3.63</b>		<b>Agree</b>

4.1.3. Services and facilities provided to passengers with disabilities at EgyptAir

Table (4) presents the means and standard deviations of main constraints that passengers with disabilities face in aircraft on board, where the means ranged between (2.57 – 2.38) compared with the total instrument mean for the domain (2.49) the item “Accessible toilets on board” ranked first with a mean and standard deviation (mean=2.57, standard deviation = 1.285) compared with the total instrument mean and the standard deviation. The item “Personnel who are specialized and well-trained are in short supply.” ranked last and reached a mean (of 2.38) and the standard deviation was (1.308) compared with the mean and standard deviation of the total instrument



4.1.4. Main constraints that passengers with disabilities face in Cairo international airport

Table (3) presents the means and standard deviations of the main constraints that passengers with disabilities face in Cairo international airport, where the means ranged between (2.54 – 2.38) compared with the total instrument mean for the

domain (2.47) the item “Duty-Free Shop” ranked first with a mean and standard deviation (mean=2.54, standard deviation = 1.285) compared with the total instrument mean and the standard deviation. The item “Security” ranked last reached a mean (2.38) and the standard deviation was (1.320) compared with the mean and standard deviation of the total instrument

**Table 3**

Main constraints that passengers with disabilities face in Cairo international airport

Variables	Mean	Std. Devi.	Factor loading	Rank	Attitude
Information and Assistance Services at the Airport	2.52	1.252	0.962	3	Disagree
Claim for Baggage	2.49	1.336	0.943	6	Disagree
Areas for Boarding	2.44	1.312	0.937	11	Disagree
Areas for Waiting at Check-in counter	2.40	1.308	0.934	12	Disagree
Duty-Free Shop	2.54	1.285	0.940	1	Disagree
Exits in Case of Emergency	2.53	1.335	0.947	2	Disagree
Personnel who are specialized and well-trained are in short supply.	2.50	1.372	0.949	5	Disagree
Accessible toilets in Cairo international airport.	2.48	1.267	0.954	7	Disagree
Security	2.38	1.320	0.949	13	Disagree
Transfers at the Terminal of the Airport	2.46	1.357	0.954	9	Disagree
Areas for Waiting	2.47	1.313	0.944	8	Disagree
Ramp with obstacles	2.45	1.320	0.948	10	Disagree
In the airport, there is anti-slip flooring.	2.51	1.313	0.937	4	Disagree
<b>Total Mean</b>	<b>2.47</b>				<b>Disagree</b>

4.1.5. Main constraints that passengers with disabilities face in aircraft on board

Table (4) presents the means and standard deviations of main constraints that passengers with disabilities face in aircraft on board, where the means ranged between (2.57 – 2.38) compared with the total instrument mean for the domain (2.49) the item “Accessible toilets on board”

ranked first with a mean and standard deviation (mean=2.57, standard deviation = 1.285) compared with the total instrument mean and the standard deviation. The item “Personnel who are specialized and well-trained are in short supply.” ranked last and reached a mean of 2.38, and the standard deviation was (1.308) compared with the mean and standard deviation of the total instrument.

**Table 4**

Main constraints that passengers with disabilities face in aircrafts on board

Variables	Mean	Std. Devi.	Factor loading	Rank	Attitude
Organize the carry-on luggage	2.49	1.252	0.946	5	Disagree
Transfers from boarding to deplaning	2.48	1.336	0.941	6	Disagree
Delivery and pick-up of the wheelchair on board	2.45	1.312	0.934	8	Disagree
Personnel who are specialized and well-trained are in short supply.	2.38	1.308	0.931	9	Disagree
Accessible toilets on board	2.57	1.285	0.956	1	Disagree
Inside the aircraft, there is a lot of movement.	2.53	1.335	0.946	3	Disagree
Fasten Seatbelt	2.50	1.372	0.940	4	Disagree
Transfers of seats	2.47	1.267	0.962	7	Disagree
Seating Distances	2.56	1.320	0.945	2	Disagree
<b>Total Mean</b>	<b>2.49</b>				<b>Disagree</b>

4.1.6. Passengers with disabilities’ satisfaction levels with services and facilities.

Table (5) presents the means and standard deviations of Passengers with disabilities’ satisfaction levels with services and facilities, where the means ranged between (3.71 – 3.69) compared with the total instrument mean for the domain (3.70) the item “passengers with disabilities’ satisfaction levels with services and

facilities in Cairo international airport” ranked first with a mean and standard deviation (mean=3.71, standard deviation =1.259) compared with the total instrument mean and the standard deviation. The item “passengers with disabilities’ satisfaction levels with services and facilities in aircraft on board” ranked last reached a mean (3.69) and the standard deviation was (1.262) compared with the mean and standard deviation of the total instrument.

**Table 5**

Passengers with disabilities’ satisfaction levels with services and facilities

Variables	Mean	Std. Devi.	Factor loading	Rank	Attitude
Passengers with disabilities’ satisfaction levels with services and facilities in EgyptAir Airlines	3.70	1.188	0.986	2	Satisfied
Passengers with disabilities’ satisfaction levels with services and facilities in Cairo international airport	3.71	1.259	0.979	1	Satisfied
Passengers with disabilities’ satisfaction levels with services and facilities in aircraft on board	3.69	1.262	0.986	3	Satisfied
<b>Total Mean</b>	<b>3.70</b>				<b>Satisfied</b>

4.2. Pearson Correlation analyses

Table (6) indicates the Correlation between services and facilities provided to passengers with disabilities

and their satisfaction levels with services in EgyptAir Airlines

**Table 6**

Correlation between services and facilities provided to passengers with disabilities

		Services and facilities provided to passengers with disabilities
Passengers with disabilities’ satisfaction levels with services and facilities in EgyptAir Airlines	Pearson Correlation	0.928**
	Sig. (2-tailed).	0.000

\*\*Correlation is significant at the 0.01 level (2-tailed).

As indicated in the table (6), there is a positive and significant relationship between services and facilities provided to passengers with disabilities and passengers with disabilities’ satisfaction levels with services and facilities in EgyptAir Airlines. The value of Pearson correlation coefficient was (.928\*\* - sig = 0.000). These results showed that

there is very strong positive. This positive correlation indicates that as services and facilities provided to passengers with disabilities increases, passengers with disabilities’ satisfaction levels with services and facilities in EgyptAir Airlines increases.

**Table 7**

Correlation between services and facilities provided to PWDs and PWDs’ satisfaction levels with services and facilities in Cairo international airport

		Services and facilities provided to passengers with disabilities
Passengers with disabilities’ satisfaction levels with services and facilities in Cairo international airport	Pearson Correlation	0.920**
	Sig. (2-tailed).	0.000

\*\*Correlation is significant at the 0.01 level (2-tailed).

As stated in the table (7), there is a positive and significant relationship between services and facilities provided to PWDs and PWD s' satisfaction levels with services and facilities in Cairo international airport. The value of Pearson correlation coefficient was (.920\*\* - sig = 0.000).

**Table 8**

Correlation between services and facilities provided to PWDs and PWDs' satisfaction levels with services and facilities in aircraft on board

		Services and facilities provided to passengers with disabilities
Passengers with disabilities' satisfaction levels with services and facilities in aircraft on board	Pearson Correlation	0.928**
	Sig. (2-tailed).	0.000

\*\*Correlation is significant at the 0.01 level (2-tailed)

As described in table (8), there is a positive and significant relationship between services and facilities provided to PWDs and PWDs' satisfaction levels with services and facilities in aircraft on board. The value of Pearson correlation coefficient was (.928\*\* - sig = 0.000). These results showed that there is a very strong positive.

These results showed that there is very strong positive. This positive correlation indicates that as services and facilities provided to PWDs increases, PWDs' satisfaction levels with services and facilities in Cairo international airport increases

This positive correlation indicates that as services and facilities provided to PWDs increase PWDs' satisfaction levels with services and facilities in aircraft on board increase.

*4.3. Regression analysis*

**Table (9)**

Simple linear regression analysis

	R	R Square	Beta	F	Sig.	Results
Impact services and facilities provided to PWDs on PWDs' satisfaction levels with services and facilities in EgyptAir Airlines	0.928	0.861	0.928	2199.382	0.000	Accepted
Impact services and facilities provided to PWDs on PWDs' satisfaction levels with services and facilities in Cairo international airport	0.920	0.847	0.920	1954.990	0.000	Accepted
Impact services and facilities provided to PWDs on PWDs' satisfaction levels with services and facilities in aircraft on board	0.928	0.862	0.928	2205.798	0.000	Accepted

From the results in table (9), services and facilities provided to PWDs affect increasing PWDs' satisfaction levels with services and facilities in EgyptAir Airlines by 92.8%. Moreover, the results of the simple linear regression analysis show that services and facilities provided to PWDs affect increasing PWDs' satisfaction levels with services and facilities in Cairo international airport by 92%, then services and facilities provided to PWDs affect increasing PWDs' satisfaction levels with

services and facilities in aircraft on board with 92.8%.

*4.4. Chi-Square Test*

This section uses ccross-tabulations to highlight the relationships between some of the most relevant variables in the field research; it also uses the chi-square test to show the significant differences between some of these variables, and it finds correlations between the study's variables.

**Table 10**

Value of Chi-Square Tests for the relation between PWDs' nature and services and facilities provided to PWDs

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	802.649 <sup>a</sup>	156	.000

Likelihood Ratio	514.462	156	.000
Linear-by-Linear Association	11.243	1	.001
N of Valid Cases	408		

a. 173 cells (91.5%) have an expected count of less than 5. The minimum expected count is .18.

The previous table reveals that the value of the chi-square (802.649a) and the abstraction probability (.000), a value less than 0.05 which means that there is statistical significance i.e. there is a relation between the sample of the PWDs nature and

services and facilities provided to PWDs, In addition, the significance level given under (2-sided) sig.000Asymp, This value which means that there is a significant statistical relationship between the two variables.

**Table 11**

Value of Chi-Square Tests for the relation between PWDs' nature and PWDs' satisfaction levels with services and facilities

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	201.356 <sup>a</sup>	60	0.000
Likelihood Ratio	196.886	60	0.000
Linear-by-Linear Association	11.071	1	0.001
N of Valid Cases	408		

a. 54 cells (70.1%) have an expected count of less than 5. The minimum expected count is .20.

The previous table reveals that the value of the chi-square (201.356a) and the abstraction probability (.000), a value less than 0.05 which means that there is statistical significance i.e. there is a relation between the sample of the PWDs' nature and PWDs' satisfaction levels with services and facilities, In addition, the significance level given under (2-sided) sig.000Asymp, This value which means that there is a significant statistical relationship between the two variables.

## 5. Discussion

To summarize, PWDs more than being a list of laws ,regulations, and infrastructure and service specifications, that airline should be meet their needs; they are truly a big opportunity and valued PWDs to increase the number of PWDs and improve the image of destinations. It is critical that the tourist sector, and specifically aviation, be active and dedicated to providing both services and facilities that meet the requirements and desires of these PWDs, as well as allowing them to operate independently during their flight.

This research aims to identify the current reality of services provided to PWDs at EgyptAir and assesses the satisfaction levels of PWDs. Different tests were applied, including reliability analysis, Pearson correlation, regression analysis, and chi-square Test. The following results were obtained.

- Cronbach's alpha reliability was calculated for six sections, The tests revealed that all of the sections' reliability coefficients were 0.988,

and all of the sections' validity coefficients were 0.994, indicating that the instrument is safe to use.

- These results indicated that with disabilities type, more than half of the respondents have a permanent disability 62.7% PWDs.
- The finding displayed more than a third of the sample has reduced mobility 36.3% PWDs.
- These results mentioned that there is a very strong positive correlation indicates that as Services and Facilities provided to passengers with disabilities increase, passengers with disabilities' satisfaction Levels with Services and Facilities in EgyptAir Airlines, Cairo international airport, and aircraft on board increase.
- These results showed that there is a relation between the sample of the passengers with disabilities nature and services and facilities provided to passengers with disabilities, and PWDs' satisfaction Levels with services and facilities. In addition, the significance level is given under "(2-sided)" sig.000Asymp, this value means that there is a significant statistical relationship between the two variables.

## 6. Recommendation and Implication

Based on the findings of the current research, the researcher recommended the following:

1. Screens at airline check-in counters should show which counter is designated for PWDs,

as some of them wait in line for hours without understanding they have priority registration.

2. Reservations offices for airlines should have a document with specific requests for elderly and disabled passengers, which should be delivered to cabin crews together with other special instructions.
3. Employees at airports and airlines should be well-prepared to cope with crises affecting the elderly and disabled, such as passenger evacuation.
4. The aviation industry should address the lack of access to restrooms on flights or the perception of a lack of access, and it should be included in the design of future planes, particularly long-haul jets.
5. Airlines and wheelchair users should agree on a seating arrangement. From a safety aspect, sitting near the window makes it logical.
6. Passengers who are old or disabled should have their bags and equipment loaded aboard the plane in such a way that they can be readily removed after landing.
7. Ambulift trucks with lifting gear capable of lifting a wheelchair up to the aircraft door should be available at airports to transport handicapped people from the departure lounges to the aircraft.

Through a mix of scientific and practical approaches, the research aim was effectively realized. This research contributes to focusing on the flight experiences of disabled air passengers, in order to identify methods to make their flight experiences not only more accessible but also more humane and pleasurable. This research looks into not just the challenges that occur from the physical environment but also examines elements such as the interaction with EgyptAir services.

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