



Relationship between Passengers' Satisfaction and Service Quality in Murtala Muhammed International Airport, Lagos, Nigeria

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ABSTRACT

The study examines the relationship between passengers' satisfaction and service quality in MMIA. The sample size for the study is a total of three hundred and eighty-four (384), meanwhile, 58.3 percent of response rate was valid for data analysis. 49.1 percent valid questionnaire responses were obtained from the international terminal while 50.9 percent valid questionnaire responses were obtained from the domestic terminal. From the survey, the majority of the respondent was male representing 62.5 percent. From correlation analysis, about 71.1 percent of all service dimensions give a positive and very strong correlation, while about 18.4 percent of all service dimensions give a positive and strong correlation, also about 7.9 percent of all service dimensions give a positive and weak correlation, and about 2.6 percent of all service dimensions give a positive and very weak correlation. Efficiency of available public transport options is the only service with a very weak correlation. The study also revealed that there is a relationship between passengers' satisfaction and service quality at P.value less than 0.05. This signifies that service quality leads to passengers' satisfaction. It is therefore suggested that airport services should be quality so as to have a corresponding effect on high passengers' satisfaction.

Keywords: Relationship, Passengers' satisfaction, Service quality, Gap analysis.

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1. Introduction

1.1 Background to the Study

Airports are an essential part of the air transport system. They provide the entire infrastructure needed to enable passengers and freight to transfer from surface to air modes of transport and to

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allow airlines to take off and land. The basic airport infrastructure consists of runways, taxiways, apron space, gates, passenger and freight terminals, and ground transport interchanges. Airports bring together a wide range of facilities and services in order to be able to fulfill their role within the air transport industry. These services include air traffic control, security, fire, and rescue in the airfield. Handling facilities are provided so that the passengers, their baggage, and freight can be successfully transferred between aircraft and terminals, and processed within the terminal. Airports also offer a wide variety of commercial facilities ranging from shops and restaurants to hotels, conference services, and business parks [9].

In the 1980s, many service industries placed increased emphasis on managing quality. Traditional ideas of quality evolved from manufacturing industries and had been based on the conformance to standards defined by operations management, began to be replaced by customer-focused notions. This required close consideration of what the customers wanted and how their needs could be met. Different dimensions of service were defined and customer satisfaction, considered to be the gap between perceived and expected service, was assessed [31]. The airport industry cannot be exempted from measuring quality services which was taking place. The emphasis and revolution on measuring quality services in the airport was brought about by commercialization, privatization, and globalization together with the increased competition between airports. Also, pressure was coming from the air passengers who were becoming more experienced and demanding consumers of the airport product. With most service industries there is a particular problem with measuring the quality of service because of the uneven spread of demand [3, 4, 10].

The modern-day commercial and business pressures being placed on most airports mean that a thorough understanding of the economics of airports is now, more than ever before, a fundamental prerequisite for all airport managers. Until the 1980s, the systematic monitoring and comparing of airport economic performance were not the widely practiced activity within the airport industry. This can largely be attributed to insufficient commercial and business pressures for airports and the general lack of experience of benchmarking techniques within the public sector as a whole. As airports become more commercially oriented, they have been keen to identify the strong performers in the industry and adopt what are seen as best practices. Senior managers can use performance measures to help them define goals and targets. Comparative performance analysis can also give valuable insight. There is, thus, a growing recognition of the value of continuous performance appraisal within the airport industry. Performance measures analyze the relationship between inputs and outputs at an airport. This relationship can be expressed in both financial and physical terms. As with other businesses, labour, and capital are the major inputs of the airport system. The simplest physical measure of the labour input is the total number of employees. Any part-time and temporary staff should be converted to full-time equivalents [9].

Service quality is considered the core and focal point for airport management, as airports in the world continue to adopt market oriented business strategies. This has resulted in increased efforts,

especially amongst top performing airports being the providers of excellence service, such as Incheon Airport in South Korea, Changi Airport in Singapore, and others. Effective measures are needed to provide better service quality in MMIA as the majority of airport passengers in Nigeria utilizes it [1].

The increasing number of air travel can be attributable to the globe in nature of air transport, technological advancement, globalization, and other factors. As a result of this, taste of passengers differs and airport becoming global, also air travelers are becoming more experienced; it is therefore necessary that airport services are sufficient and quality. Hence, examining the relationship between passengers' satisfaction and service quality rendered is necessary to truly know if service quality leads to customer satisfaction. Therefore, this research is undertaken in order to examine the relationship between passengers' satisfaction and service quality in Murtala Muhammed International Airport, Ikeja, Lagos, Nigeria.

1.2 Statement of Research Problem

Quality is an important aspect of service industry, and it has been affirmed fundamental for the survival of any organization when face with competition, and to gain acceptance of the society together with achieving its mission [36]. Besides, air transport industry has played an important role in the global economy especially serving as a vital component in the tourism industry and remains essential to the conduct of international business [45]; without airport terminal the industry as a system cannot function.

There are past related studies on passengers' satisfaction and service quality in the air transport industry such as [18] conducting a research on passengers' expectations of airport service quality with focus on New York Kennedy Airport and Liverpool's John Lennon Airport in the USA. The study made use of the following eight (8) airport service indicators: Sign-post and functions, ambient conditions, signs and symbols, attitude, behaviors, expertise, productivity, and leisure. The airport indicators might not sufficiently give accurate level of airport passengers' satisfaction and airport service quality. The data was analyzed using both exploratory and Confirmatory Factor Analysis (CFA). Also, Mattozo et al. [32], studied passengers' satisfaction at the Augusto Severo Airport in Brazil. The work focused on five (5) key airport variables affecting satisfaction which are safety of the premises, waiting time for a taxi, availability, and quality of seats in the airport, as well as prices of the food at terminal restaurants. The study also made use of few airport service indicators noted earlier which are limited in determining the level of airport passengers' satisfaction and airport service quality. Gap analysis was used to analyze the data.

Al Refaie et al. [6] studied potential drivers of satisfaction and loyalty at the Jordan Airport. The study focused on three (3) different factors mainly on ticket pricing, reservation process, and flight performance. The few airport service indicators earlier mentioned are not enough to give the accurately level of airport passengers' satisfaction and airport service quality. Gap analysis was used for data analysis. Also, authors of [47] conducted a study on the importance and

satisfaction of airport selection attributes by targeting Incheon International Airport and Gimpo International Airport in the metropolitan area of Korea. The study was limited to three (3) airport attributes: Airport accessibility, airport facilities, and spatiality. The listed airport attributes are not sufficient in determining the level of airport passengers' satisfaction and airport service quality. Gap analysis and importance-performance analysis was used to analyze the data.

The above researches conducted by researchers in foreign countries might not be applicable to Nigeria because of the different cultures, level of development and norms. The work [12] conducted a research on the determinants of customers' satisfaction in the Nigerian Aviation Industry using Analytic Hierarchical Process (AHP) model. The study was modeled on both airline and airport indicators. The focused airline services in the study are ticket and reservation, on-board services, ticket fees, flight schedule, speed on responding to request, information or reconfirmation, ticket purchase time limit, convenience of ticket purchase, convenience of flight schedule, courtesy and helpfulness staff, and information related to flight. While the focused airport services in the study are orderliness and cleanliness of check-in-area, speed of check-in process, information on flight status, boarding process, on-time departure and services at transit point, baggage handling services, and airport facilities and services. The sample size for the study is one hundred (100) but eighty-five (85) responses were valid. The airport services used in the study are limited in determining the efficiency of the airport, also the sample size of the study may be too small to give a plausible result. Analytic Hierarchical Process (AHP) model was used for data analysis.

Ojo [46] conducted a research on users' perceptions of service quality in Murtala Muhammed International Airport (MMIA), Lagos, Nigeria. The sample size for the study was obtained by using 0.1 percent of the passenger movement in year 2009 which may not be scientifically acceptable. The study focused on sixteen (16) airport indicators which are airport access, ticket purchasing, banking hall, places of convenience, bureau de change, car rental, post office, restaurants and bars, shopping malls, medical facilities, car parking, seat out, lounges, elevators, disabled assistant service, metal detector, and scanner. The indicators earlier listed are not enough in determining the level of airport passengers' satisfaction and service quality. Data analysis was used for descriptive statistics.

Fadare and Adeniran [22] compares the quality of airport services rendered in Murtala Muhammed International Airport (MMA1) which is the public operated airport and international terminal, and in Murtala Muhammed Airport (MMA2) which is the concessional airport and domestic terminal. They adopted the entire thirty-nine SKYTRAX indicators as basis for comparison. Comparing the quality in two different terminals with different respondents might not give a realistic result.

This work however used all the thirty-nine (39) SKYTRAX indicators which are the benchmark for services rendered by airport and blended into SERVQUAL attributes to examine the relationship between passengers' satisfaction and service quality in Murtala Muhammed

International Airport (MMIA), Ikeja, Lagos state, Nigeria. It is believed that this approach is capable of providing more plausible result. The null hypothesis for this study states that there is no significant relationship between passengers' satisfaction and service quality in MMIA. This research is limited to international and domestic terminals (MMA1 and MMA2) because the airport terminals are the most patronized airport terminals in Nigeria; also, all thirty-nine (39) SKYTRAX indicators were used. This study is also limited to international and domestic air passengers.

2. Literature Review

2.1 Conceptual and Theoretical Frameworks

2.1.1 Passengers' satisfaction

Passengers' satisfaction is derived largely from the quality and reliability of organizational products and services. In marketing, passengers' satisfaction is a measure of how products and services supplied by a company meet or surpass customers' expectation. In this connection, Kotler [29] states categorically that passengers' satisfaction is the best indicator of a company's future profits. Ha [25] opines that passengers' satisfaction is conceptualized as a cumulative construct that is affected by service expectations and performance perceptions in any given period and is affected by past satisfaction from period to period.

2.1.2 Service quality

Service quality is defined as a comparison between customer expectation and perception of service [13, 23]. According to Olsen and Johnson [39], quality is consistently doing the right thing right. Service quality can be perceived as an evaluation of how efficiently a service delivered measures up to the expectations of consumers [21].

2.1.3 Relationship between passengers' satisfaction and service quality

Gap model is used to examine the relationship between passengers' satisfaction and service quality. It is also referred to as service quality which is abbreviated as SERVQUAL. It defines quality as the difference between passengers' expectation and their perception of the service delivered. The model was developed by [41]; it has been consistently used by marketing practitioners. It has been applied in different countries such as United States [28], India [42], Nigeria [5], China [17], and Ghana [2]. Furthermore, several researchers have used SERVQUAL to measure service quality in various sectors such as public transport [2], airport [22], retail banking [38, 43], and internet. The model was adopted in this study.

Ojo [49] stated that gap analysis is the assumption that when the Expected Service (ES) is greater than the Perceived Service (PS), quality will be perceived as being less and less than satisfactory, the greater the difference between ES and PS is, when the expected service is equal to perceived service, the quality is satisfactory, and when the expected service is less than the perceived service, the quality will be more and more satisfactory as the difference between perceived service and expected service grows.

Originally, this model has ten (10) determinants of service quality comparing the customers' expectations and perception of services as a gap [43]. The determinants are tangibles, reliability, responsiveness, competence, access, courtesy, communication, credibility, security, and understanding. According to [46] and Budiono [14, 34], these 10 dimensions were further regrouped in the well-known five (5) dimensions which are tangibles, reliability, responsiveness, assurance, and empathy.

The precise relationship between passengers' satisfaction and service quality has been described as a complex issue, characterized by debate regarding the distinction between the two constructs and the casual direction of their relationship [15]. However, to achieve a high level of passengers' satisfaction, most researchers suggest that a high level of service quality should be delivered by the service provider as service quality is normally considered as an antecedent of passengers' satisfaction [8, 15, 16, 19].

However, the relationship between passengers' satisfaction and service quality can be analyzed by fitting service quality attributes into gap model. The model has been tested by several researchers and which gives plausible results. The five determinants can further be explained as follow:

- **Tangibles:** These are physical facilities and equipment available in the airport, the appearance of airport staff; how easy it is to understand communication materials.
- **Reliability:** This is the ability of airport to perform the promised airport service dependably and accurately.
- **Responsiveness:** This is the willingness of the airport employees to help airport passengers and providing a prompt service.
- **Assurance:** This is the ability of airport employees to convey trust and confidence in the passengers, such as competence to perform the service, politeness, and respect for the passengers.
- **Empathy:** This is the act by which the airport provides caring and individualized attention provided to airport customers.

2.2 Empirical Framework

Various studies revealed that there is statistical relationship between passengers' satisfaction and service quality [6, 7, 11, 18, 24, 26, 29, 46, 44, 49]. They also suggest that service quality leads to passengers' satisfaction. Contrarily, [11, 20] revealed that passengers' satisfaction is one of the determinants to measure the service quality. Fadare and Adeniran [22] compares the quality

of airport services rendered in Murtala Muhammed International Airport (MMA1) which is the public operated airport and international terminal, and in Murtala Muhammed Airport (MMA2) which is the concessional airport and domestic terminal. Gap analysis revealed that the respondents in MMA1 were satisfied with reliability attribute and tangibles attribute, while the respondents in MMA2 were satisfied with reliability attribute. Airport passengers felt dissimilar (heterogeneous) about the airport services offered (products); this heterogeneous perception can be traceable to be one of the unique characteristics of air transport service. It is therefore important to note that their studies will be recreated in this study.

Majority of the previous studies are qualitative or descriptive and they adopted convenience sampling as the sampling technique; also the level of passengers' satisfaction and service quality was analyzed with importance performance analysis using airport service indicators on Likert point scale. The analyses were carried out with nonparametric test such as Chi Square and Spearman rank correlation.

The present study is a descriptive and survey research that adopted Spearman Rank correlation through weighted mean and Gap analysis to examine the relationship between passengers' satisfaction and service quality. The result obtained in this study was compared with the results obtained in the previous studies.

3. Methodology

This is a survey research which explores only primary data to examine the relationship between passengers' satisfaction and service quality in Murtala Muhammed International Airport (MMIA), Ikeja, Lagos, Nigeria. The target populations of this research study were international and domestic passengers in the Murtala Muhammed International Airport (MMA1 and MMA2).

For data analysis, the study is descriptive in nature and therefore adopts nonparametric test (Charles Spearman rank correlation). This is because the data types involved in the study are nominal and ordinal types. To determine the appropriate sample size for large (infinite) population and uncertain number of population, the researcher made a judgment about the confidence level, and the maximum error allowance. The equation below was applied [47]. Sample size for each terminal will be determined.

$$n = \frac{Z^2}{4E^2},$$

where, n= Sample sizes for MMA1 and MMA2, Z= Z score for the 95 percent level of confidence is 1.96, E= Maximum acceptable error = 0.05.

95 percent confidence level at 0.05 maximum error is chosen because of the time consciousness of air passengers. When inserting the above values into the sample size equation, it resulted in a sample size of 384. The researcher therefore divides the sample size equally for the two airport

terminals as this will be considered for questionnaire distribution. The aggregate sample size determined was 384, as shown below:

$$n = \frac{1.96^2}{4(0.05)^2}, n = \frac{3.84}{0.01}, n = 384.$$

However, the researcher ensured that the return of the questionnaires were not less than 384 sample size in each terminal. 192 questionnaires was distributed to international passengers also, 192 questionnaires was distributed to domestic passengers.

Table 1. Sample Population Selection.

TERMINALS	POPULATION
Airport passengers in MMA1	192
Airport passengers in MMA2	192
TOTAL	384

Source: Author's Survey

The sampling technique for this research is a purposive (non-probability) sampling. The sampling itself is incidental. This is appropriate for this study due to time limitation for respondents to fill out the questionnaire. Responses were collected from passengers of MMIA in international and domestic terminal.

Questionnaire was used to collect primary data. 384 formal questionnaires were distributed to international and domestic passengers at the Murtala Muhammed International Airport. Questions were framed separately on passengers' satisfaction and service quality in line with the SKYTRAX indicators blended in SERVQUAL attributes. This part consists of questions with Likert scale, whereby respondents were asked to respond along a five-point scale ranging from 1= strongly dissatisfied or poor service to 5= strongly satisfied or excellent service.

3.1 Benchmarking Airport Operational Performance

SKYTRAX uses a ranking system for its passengers' satisfaction surveys based on the following thirty-nine (39) product and service factors or indicators. All these indicators will be adopted in this research.

3.2 Blending Airport Services into Gap Model

Gap model addresses the following five dimensions in order to measure airport service quality and passengers' satisfaction; a list of thirty-nine (39) airport service factors was determined in accordance to the theoretical framework earlier discussed and reviewed from previous studies on airport satisfaction in Table 2 below.

Table 2. Airport Service Quality.

SERVQUAL Attributes	Airport Services (SKYTRAX Indicators)
Reliability	Efficiency and affordable of public transport options.
	Taxi availability and prices.
	Immigration, queuing times and system for departure and arrivals.
	Prevent lost luggage services.
	Customer perception of airport security and safety standards.
	Ease of transit through the airport between flights for domestic and international travel.
	Baggage delivery times.
	Smoking policy and standard of smoking lounges.
	Standards of physically impaired facilities.
	Priority baggage delivery efficiency.
Assurance	Immigration staff attitude for departure and arrivals.
	Courtesy and attitude of security staff.
	Waiting times at security screening.
	Getting to and from the airport, ease of access.
	Availability of luggage trolleys (airside and landside).
	Terminal comfort, ambiance, and general design and appearance.
	Seating facilities throughout terminals.
	Washroom and shower facilities in terminal.
	Television and entertainment facilities.
	Quiet areas, day rooms, hotel facility, rest areas.
Tangibles	Children's play area and facilities provided.
	Check-in facilities, queuing systems, and seat availability.
	Location of airline lounges.
	Internet facilities and Wi-Fi availability.
	Business center facility.
	Telephone and fax locations.
	Bureau de change facilities.
	ATM facilities.
	Cleanliness of Terminal, floors, seating, and public areas.
	Flight information screens clarity and quality of information.
Emphaty	Clarity of boarding calls and airport public announcements.
	Cleanliness of washroom facilities.
	Friendliness of airport staff.

SERVQUAL Attributes	Airport Services (SKYTRAX Indicators)
Responsiveness	Terminal signage for facilities, boarding gates, transfer, and arrivals.
	Language skills for airport staff.
	Choice of shopping, tax free and other outlets.
	Prices charged in retail outlets.
	Prices charged in bars, cafes, and restaurants.
	Choice of bars, cafes, and restaurants, including international options.

Source: Fadare and Adeniran [22]

3.2 Response Rate of Respondents

The study sought to gather information from airport passengers. Table 2 shows that a total of three hundred and eighty four (384) questionnaires were distributed to passengers in MMA1 and MMA2 terminals, and 224 questionnaires were collected having been filled completely. According to [35], a response rate of 50 percent is adequate for data analysis and reporting; a rate of 60 percent is good and a response rate of 70 percent and over is excellent. Hence, 58.3 percent response rate for this study was very good for data analysis and reporting.

Table 3. Response Rate of Questionnaire Distribution.

Questionnaires		Frequency	percent	Cumulative percent
Valid	Questionnaires returned	224	58.3	58.3
	Questionnaires not returned	160	41.7	100.0
	Total	384	100.0	

Source: Author's Survey

From Table 3, it showed that out of the retrieved questionnaires of two hundred and twenty-four (224), 49.1 percent valid questionnaire response were obtained from international terminal while the 50.9 percent valid questionnaire response were obtained from the domestic terminal.

Table 4. Responses in Airport Terminal.

		Frequency	percent	Cumulative percent
Valid	MMA1	110	49.1	49.1
	MMA2	114	50.9	100.0
	Total	224	100.0	

Source: Author's Survey

3.3 Reliability Test

Likert scale's type is suitable with studies in social and behavioral sciences that deals with perceptions, attitudes, emotions, opinions, personalities, and descriptions of people's environment. As individuals attempt to quantify constructs which are not directly measurable they oftentimes use multiple-item scales and summated ratings to quantify the construct(s) of interest. The Likert scale's invention is attributed to Likert [30], who described this technique for the assessment of attitudes.

McIver and Carmines [33] describe the Likert scale as follows: A set of items, composed of approximately an equal number of favorable and unfavorable statements concerning the attitude object, is given to a group of subjects. They are asked to respond to each statement in terms of their own degree of agreement or disagreement. Typically, they are instructed to select one of five responses: Strongly agree, agreed, undecided, disagree, or strongly disagree. The specific responses to the items are combined so that individuals with the most favorable attitudes will have the highest scores while individuals with the least favorable (or unfavorable) attitudes will have the lowest scores. While not all summated scales are created according to Likert's specific procedures, all such scales share the basic logic associated with Likert scaling.

Nunnally and Bernstein [37] discussed the reasons for using multi-item measures instead of a single item for measuring psychological attributes. They identify the following:

- Individual item have considerable random measurement error, i.e. are unreliable.
- Individual item can only categorize people into a relatively small number of groups, hence they lack precision.
- Individual item lack scope as it is very unlikely that a single item can fully represent a complex theoretical concept or any specific attribute.

In order to examine the degree of accuracy and reliability, there is need to validate Likert type scales with the use of Cronbach's Alpha. Cronbach Alpha is used to examine the reliability and validity test of the service indicators. This study uses Cronbach's alpha on the independent variables to determine the reliability of the questionnaire instrument. Pallant [40] suggested Cronbach Alpha value of 0.70 is acceptable for reliability measure. Hence Cronbach Alpha value of 0.906 signifies that questionnaire instrument is very reliable for this study as shown in Table 5 below.

Table 5. Reliability Result.

Cronbach's Alpha	N of Items
.906	78

Source: SPSS Version 15.0

4. Results and Discussion

The questionnaires were collected from the passengers who used the airport service. The analysis of results and discussion are shown below.

4.1 Results

- Statement of assumption H_0 : There is no significant relationship between passengers' satisfaction and service quality. Passengers' satisfaction is the dependent variable while the service quality is the independent variable.
- The chosen significance level is 0.05; hence the confidence level is 0.95.
- The computed test statistics will be done using nonparametric test (Charles Spearman's rank correlation).

Table 6. Charles Spearman's Rank Correlation Showing the Relationship between Passenger's Satisfaction and Service Quality for Disaggregate Variables.

Passengers' Satisfaction Dependent Variables	Service quality Independent Variables	Correlation Value (r^1)	Sig.Level (P. Value)	Remarks or Decision at 0.05
Efficiency of available public transport options	Efficiency of available public transport options	0.139	0.03	Reject
Taxi availability and prices	Taxi availability and prices	0.622	0.00	Reject
Immigration and queuing times	Immigration and queuing times	0.628	0.00	Reject
Prevent lost luggage services	Prevent lost luggage services	0.552	0.00	Reject
Security and safety standards	Security and safety standards	0.711	0.00	Reject
Ease of transit through the airport	Ease of transit through the airport	0.702	0.00	Reject
Baggage delivery times	Baggage delivery times	0.611	0.00	Reject
Smoking policy and standard of smoking lounges	Smoking policy and standard of smoking lounges	0.559	0.00	Reject
Standard of physically impaired facilities	Standard of physically impaired facilities	0.401	0.00	Reject
Priority baggage delivery efficiency	Priority baggage delivery efficiency	0.748	0.00	Reject
Immigration staff attitude	Immigration staff attitude	0.857	0.00	Reject
Courtesy and attitude of security staff	Courtesy and attitude of security staff	0.866	0.00	Reject
Waiting times at security screening	Waiting times at security screening	0.933	0.00	Reject
Friendliness of airport staff	Friendliness of airport staff	0.876	0.00	Reject
Getting to and fro airport with ease	Getting to and fro airport with ease	0.801	0.00	Reject

Passengers' Satisfaction Dependent Variables	Service quality Independent Variables	Correlation Value (r^1)	Sig.Level (P. Value)	Remarks or Decision at 0.05
Availability of luggage trolleys	Availability of luggage trolleys	0.852	0.00	Reject
Terminal comfort, ambiance, general designs and appearance	Terminal comfort, ambiance, general designs and appearance	0.950	0.00	Reject
Seating facilities throughout terminal	Seating facilities throughout terminal	0.879	0.00	Reject
Washroom and shower facilities	Washroom and shower facilities	0.934	0.00	Reject
Television and entertainment facilities	Television and entertainment facilities	0.907	0.00	Reject
Quiet areas, day rooms, rest area, hotel facilities	Quiet areas, day rooms, rest area, hotel facilities	0.897	0.00	Reject
Children play area facilities	Children play area facilities	0.871	0.00	Reject
Check-in, and queuing facilities	Check-in, and queuing facilities	0.841	0.00	Reject
Location of airline lounges	Location of airline lounges	0.874	0.00	Reject
Internet facilities and WIFI availability	Internet facilities and WIFI availability	0.856	0.00	Reject
Business center facility	Business center facility	0.835	0.00	Reject
Telephone and fax location	Telephone and fax location	0.931	0.00	Reject
Bureau de change facility	Bureau de change facility	0.901	0.00	Reject
ATM facility	ATM facility	0.906	0.00	Reject
Cleanliness of terminal, floor, seating and public area	Cleanliness of terminal, floor, seating and public area	0.940	0.00	Reject
Flight information, screen clarity and quality of information	Flight information, screen clarity and quality of information	0.911	0.00	Reject
Clarity of boarding calls, and airport public announcement	Clarity of boarding calls, and airport public announcement	0.485	0.00	Reject
Cleanliness of washroom facilities	Cleanliness of washroom facilities	0.460	0.00	Reject
Terminal signage facilities, boarding gates, transfer and arrivals	Terminal signage facilities, boarding gates, transfer and arrivals	0.666	0.00	Reject
Language skills for airport staff	Language skills for airport staff	0.730	0.00	Reject
Choice of shopping, tax free and other outlets	Choice of shopping, tax free and other outlets	0.678	0.00	Reject
Prices charged in retail outlets	Prices charged in retail outlets	0.924	0.00	Reject

Passengers' Satisfaction Dependent Variables	Service quality Independent Variables	Correlation Value (r^1)	Sig.Level (P. Value)	Remarks or Decision at 0.05
Choice of bars, cafes and restaurants, including international options	Choice of bars, cafes and restaurants, including international options	0.822	0.00	Reject

Source: SPSS, Version 15.0

Table 7. Charles Spearman's Rank Correlation Showing the Relationship between Passenger's Satisfaction and Service Quality for Aggregated Variables.

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Interval by Interval	Pearson's R	.907	.049	12.909	.000(c)
Ordinal by Ordinal	Spearman Correlation	.904	.058	12.682	.000(c)
N of Valid Cases		39			

Source: Field Survey

- The decision rule for the computed test states that if the significance level (p .Value) of the computed test is less than 0.05, the Null Hypothesis (H_0) will be rejected; also if the significance level (p .value) of the computed test is more than 0.05, the Null Hypothesis cannot be rejected.
- For disaggregate variables, the significance level (p .value) for all dimensions of services is less than 0.05. Also for aggregated variables, the p .value of 0.000 is less than 0.05. This is a strong numerical evidence to reject the Null Hypothesis and affirm the Alternate Hypothesis. It can be concluded therefore the assumption which states that there is no significant relationship between passengers' satisfaction and the quality service is rejected and that there is significant relationship between passengers' satisfaction and quality service.

For disaggregate variables, the correlation value of about 71.1 percent of all service dimensions resulted in a positive and very strong correlation which range from 0.70 to 0.94, while about 18.4 percent of all service dimensions give a positive and strong correlation which range from 0.50 to 0.68; also about 7.9 percent of all service dimensions give a positive and weak correlation which range from 0.40 to 0.49, and about 2.6 percent of all service dimensions give a positive and very weak correlation which is 0.139.

Efficiency of available public transport options is the only service with a very weak correlation. This signifies that the availability of public transport options is not efficient to satisfy the passengers. Efficiency of available transport options has to do with right transport mode at the right time in the right condition with right management. This calls for improving the options of public transport by developing various transport modes interconnected or integrated in the airport location.

The fact that the majority of the service dimensions gives a positive correlation between passengers' satisfaction and service quality, signifies that the changes in both variables take place in the same direction. The service dimensions with very strong correlation means that there is a very strong and significant relationship between passengers' satisfaction and quality service. For aggregated variables, the correlation value of 0.904 signifies a very strong and positive correlation between passengers' satisfaction and quality service. It is therefore suggested the higher level of quality service so does passenger's satisfaction.

4.2 Comparison of Findings with Previous Works

The study revealed that there is significant relationship between passengers' satisfaction and quality service which is in-line with the outcomes of [6, 7, 11, 18, 24, 26, 27, 47, 49] and others. Therefore the affirmation of the theory that quality service leads to passengers' satisfaction is further confirmed.

5. Conclusion and Recommendations

The study was aimed at examining the relationship between passengers' satisfaction and service quality in MMIA. The sample size for the study is a total of three hundred and eighty four (384), meanwhile 224 (58.3 percent) of response rate was valid for data analysis. 49.1 percent valid questionnaire responses were obtained from international terminal while 50.9 percent valid questionnaire responses were obtained from the domestic terminal. From correlation analysis of the disaggregate variables, about 71.1 percent of all service dimensions give a positive and very strong correlation, while about 18.4 percent of all service dimensions give a positive and strong correlation, also about 7.9 percent of all service dimensions give a positive and weak correlation, and about 2.6 percent of all service dimensions give a positive and very weak correlation. Efficiency of available public transport options is the only service with a very weak correlation. For aggregated variables, the correlation coefficient of 0.904 signifies a very strong and positive relationship as service quality properly describes passengers' satisfaction and vice-versa. The study revealed that there is statistically significant relationship between passengers' satisfaction and service quality. This signifies that service quality leads to passengers' satisfaction. It is therefore suggested that airport services should be quality so as to have corresponding effect on high passengers' satisfaction. The fact that majority of the service dimensions gives positive correlation between the passengers' satisfaction and service quality signifies that the changes in both variables take place in the same direction.

Efficiency of available public transport options is the only service with a very weak correlation which signifies that the availability of public transport options is not efficient to satisfy the passengers. Efficiency of available transport options has to do with right transport mode at the right time in the right condition with right management. This calls for improving the options of public transport by developing various transport modes interconnected or integrated in the airport location.

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Appendix

Table 7. Gap Scores Analysis for Passengers' Satisfaction and Service Quality.

Servqual Attributes	Airport services	Weighted				GAP Score Perceived Score– Expected Score
		Mean for Passengers' Satisfaction	Rank for Passengers' Satisfaction	Weighted Mean for Quality Service	Rank for Quality Service	
Reliability						
	Efficiency of available public transport options	3.4732	12	3.0179	32	0.4553
	Taxi availability and prices	3.3973	16	3.4598	14	-0.0625
	Immigration and queuing times	3.5045	11	3.6518	7	-0.1473
	Prevent lost luggage services	3.4196	14	3.3214	21	0.0982
	Security and safety standards	3.1473	31	3.0848	31	0.0625
	Ease of transit through the airport	3.8527	1	3.8929	1	-0.0402
	Baggage delivery times	3.1920	27	3.1830	30	0.0090

Servqual Attributes	Airport services	Weighted				GAP Score Perceived Score– Expected Score
		Mean for Passenger s' Satisfacti on	Rank for Passengers' Satisfaction	Weighted Mean for Quality Service	Rank for Quality Service	
N= 10 Assurance	Smoking policy and standard of smoking lounges	3.3348	20	3.2411	25	0.0937
	Standard of physically impaired facilities	2.2812	32	2.4598	35	-0.1786
	Priority baggage delivery efficiency	3.1652	28	2.9643	34	0.2009
	AVERAGE RATING OVERALL	3.2768		3.2170		0.0598
	Immigration staff attitude	3.0357	30	2.9955	33	0.0402
	Courtesy and attitude of security staff	3.0937	29	3.2188	28	-0.1251
	Waiting times at security screening	3.3973	16	3.3929	18	0.0044
	Friendliness of airport staff	3.7455	3	3.7009	5	0.0446
	AVERAGE RATING OVERALL	3.3181		3.3270		- 0.0089
	N= 4 Tangibles	Getting to and fro airport with ease	3.4196	14	3.2277	27
Availability of luggage trolleys	3.7723	2	3.6875	6	0.0848	
Terminal comfort, ambiance, general designs and appearance	3.6384	6	3.6161	9	0.0223	

Servqual Attributes	Airport services	Weighted	Rank for Passengers' Satisfaction	Weighted	Rank for Quality Service	GAP
		Mean for Passenger s' Satisfacti on		Mean for Quality Service		Score Perceived Score– Expected Score
	Seating facilities throughout terminal	3.5848	8	3.6250	8	-0.0402
	Washroom and shower facilities	3.6027	7	3.5848	10	0.0179
	Television and entertainment facilities	3.6741	5	3.7366	2	-0.0625
	Quiet areas, day rooms, rest area, hotel facilities	3.7054	4	3.7277	4	-0.0223
	Children play area facilities	3.7054	4	3.7321	3	-0.0267
	Check-in, and queuing facilities	3.3036	21	3.3080	20	-0.0044
	Location of airline lounges	3.3571	19	3.3348	19	0.0223
	Internet facilities and WIFI availability	3.2545	22	3.2857	23	-0.0312
	Business center facility	3.2321	23	3.2679	24	-0.0358
	Telephone and fax location	3.2098	26	3.2187	28	-0.0089
	Bureau de change facility	3.2098	26	3.1920	29	0.0178
	ATM facility	3.1920	27	3.1920	29	0
N= 15	AVERAGE RATING OVERALL	3.4574		3.4491		0.0083
Empathy	cleanliness of terminal, floor, seating and public area	3.4732	12	3.4643	13	0.0089

Servqual Attributes	Airport services	Weighted		Weighted Mean for Quality Service	Rank for Quality Service	GAP Score Perceived Score– Expected Score
		Mean for Passenger s' Satisfacti on	Rank for Passengers' Satisfaction			
	ght information, screen clarity and quality of information	3.5446	9	3.5491	11	-0.0045
	urity of boarding calls, and airport public announcement	3.5357	10	3.4732	12	0.0625
	anliness of washroom facilities	3.3884	17	3.4018	17	-0.0134
	iminal signage facilities, boarding gates, transfer and arrivals	3.4152	15	3.4286	15	-0.0134
	PERAGE RATING					
N= 5	OVERALL	3.4714		3.4634		0.0080
Responsivene ss						
	anguage skills for airport staff	3.4286	13	3.4643	13	-0.0358
	oice of shopping, tax free and other outlets	3.3750	18	3.4063	16	-0.0313
	ces charged in retail outlets	3.2857	24	3.2946	22	-0.0089
	oice of bars, cafes and restaurants, including international options	3.2411	25	3.2321	26	0.0090
	PERAGE RATING					
N= 4	OVERALL	3.3326		3.3493		0.0167
GENERAL	PERAGE OVERALL	3.3713		3.3612		0.0101