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Importance–Performance Analysis of Airport Service Quality: A Focus on Murtala Muhammed International Airport Lagos, Nigeria

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ABSTRACT

Passengers' expectations play an essential role in their satisfaction. Thus, the satisfaction enjoyed from a service can be a measure of the airport service quality. This study carried out the importance–performance analysis of service quality in Murtala Muhammed International Airport (MMIA) Lagos, Nigeria. The aim is to identify the difference between the level of importance and performance of airport service attributes, and to determine the service attributes requiring managerial attention to service quality. An empirical survey was conducted on airport customers using 400 questionnaires. The descriptive statistics, paired sample t-test, and GAP analysis were employed for the analysis. The findings revealed that the 28 service attributes showed a significant difference and that the importance of these attributes was high but their performance was low. The service attributes that are of high importance to the airport users but performing poorly include "Speed of baggage delivery service", "Flight information screens", "Comfort of waiting" and "Phone/Internet/IT facilities." Hence, a major improvement is required here to boost customers' satisfaction.

Keywords: Expectations, Satisfaction, Service, GAP Analysis, Airport, performance

1. INTRODUCTION

The aviation industry has grown continuously since the Second World War, with the events of September 11, 2001 and the current global economic downturn making a minor decrease for the sector (Graham, 2003). Airport is defined as basically one or more runways for aircraft together with associated terminals or buildings where passengers or cargo transported by the aircraft are processed (Doganis, 1992). More so, the wide range of facilities and services provided by an airport is classified into three: traffic-handling services, essential operational services and commercial activities. The airport

is not an endpoint but instead a transition point for tourists traveling by air (Fodness and Murray, 2007). Lewis (1993) describes service quality as the extent to which service delivered matches customer expectations. The pioneers of the service quality assessment field, Parasuraman, Zeithaml and Berry (1985), identify service quality as a gap between customers' expectations and their perceptions of how the service is performed. At large, expectations are appraised as if they are met or not. It is also applicable to meeting or exceeding customer expectations. Service expectations are defined by Parasuraman, Zeithaml and Berry (1994) as what a service should be while Zeithaml, Bitner and Gremler (2006) argue that it is a combination of can be and should be. Bebko (2000) concludes that the service provider should figure out what the expectations are and what level of quality customers expect from the firm then try to meet or exceed these expectations. When measuring service quality, it is fundamental to know whether or not the service provider is providing the customers with what they expect (Douglas and Connor, 2003).

Expectations form the criteria for customers' evaluation of service quality and it is vital to understand customers' expectations (Walker and Baker, 2000). Though the airport brings more customers and as such higher profits for the management, certain problems such as the airport's distraction from concentrating on passengers' expectations, satisfaction and thinking about short and mid-term commercial income, might be generated as well. According to Yang (2003) the characteristics of service (i.e., intangibility, heterogeneity, inseparability, and perishability) make the evaluation of service quality difficult. This research was conducted on the local wing of MMIA.

The research objective is to examine the importance–performance analysis of service quality at MMIA, Lagos, Nigeria. Thus, this study set out to identify the difference between the level of importance and performance of airport service attributes and also, to determine the service attributes requiring managerial attention to service quality.

2. LITERATURE REVIEW

According to Hardie and Walsh (1994); Sower and Fair (2005); Wicks and Roethlein (2009), quality has many definitions and no particular one is universally accepted. They assert that it is because of the elusive nature of the concept from different orientations and perspectives and the measures applied in a particular context by the person who defines it. Quality has been considered as being an attribute of an entity (nature and capacity), a degree of excellence (grade), and social status (rank and aristocracy) and in order to control and improve its dimensions, it must first be defined and measured (Ghylin et al., 2008).

In order to understand service quality, one must acknowledge the characteristics of service namely inseparability, heterogeneity and intangibility (Parasuraman et al., 1985; Ladhari, 2009); in this manner, service quality would be easily determined. Thus, service quality could be defined as the difference between customers' expectations for previous service performed to the service encounter and their perception of the service received. Given that quality is high when performance exceeds expectation and quality is low when performance falls short of expectation, therefore, customer's expectation serves as a criterion for evaluating service quality (Asubonteng et al., 1996). In service quality literature, expectation is viewed as desires or wants of consumers i.e., what they feel a service provider should offer rather than would offer (Parasuraman et al., 1994).

The upshot of the consumer's view of the service dimensions, being technical and functional in nature, is the Perceived service (Gronroos, 1984). Douglas and Connor (2003) stressed that the consumer who has developed a heightened perception of quality has become more demanding and less tolerant of assumed shortfalls in product or service quality and identify the intangible elements of service as the key determinants of service quality perceived by a customer.

It is pertinent to note that, service quality is not only measured as the end results but also by how it is delivered during the service process and its ultimate effect on consumer's perceptions (Douglas and Connor, 2003). To be able to understand service expectations and their influence on service quality, it is important to understand how services differ from products. The characteristics of services are agreed on not by all but by many researchers as intangibility, heterogeneity, inseparability from the provider, and perishability. Intangibility is referred to as the absence of physical attributes or physical evidence in services. The heterogeneity characteristic indicates the variability of the service delivery from purchase to purchase. The inseparability characteristic reflects the level of the services attached to its context and provider (Hartman and Lindgren, 1993; Yang, 2003; Bitner, 1992; Bebko, 2000). The perishability characteristic is best defined as the inability to save, store, resell or return service. However, there are exceptions, for instance, entertainment can be captured and replayed (Wilson, Zeithaml, Bitner and Gremler, 2008).

The experience of a service is vital provided that a satisfying result has been promised beforehand and should be achieved during delivery. Consumers have a more difficult time evaluating services than products due to the effect of these characteristics and the named differences with products. Hence, expectations assessment is more critical when it comes to services (Walker and Baker, 2000; Bitner, Fisk and Brown, 1993; Bebko, 2000). Airports are an interesting target for service quality studies because a vast number of customers use a diverse supply of varying services.

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However, there have been several studies on airport service quality (Fodness and Murray, 2007; Jagoda and Vajira, 2008; Hildur, 2009; Rossi, 2010; Lubbe et al., 2011; Kashif et al., 2012; Bogicevic et al., 2013; Ching, 2014; Yang et al., 2015; Hoang et al., 2016; Malik, 2017); very few empirical research has focused on investigating the importance–performance analysis of service quality. Therefore, the lack of this knowledge and understanding has been recognized as a significant barrier to the future growth of the aviation industry, since virtually no study has been conducted on the importance–performance analysis of service quality at MMIA, Lagos, Nigeria.

2.1. Importance–Performance Analysis (IPA) Concept

The IPA concept was first proposed and introduced as a means of measuring a client's satisfaction with a product or service (Martilla and James, 1977). Satisfaction has been recognized by the IPA approach as the function of two components namely the importance of a product or service to a client and the performance of a business in providing that product or service (Martilla and James, 1977). Therefore, IPA examines the performance of an item alongside the importance of that item as a determining factor in satisfying the respondent (Silva and Fernandes, 2010). The combined clients' ratings for those two components then provide a general view of satisfaction with clear directives for management and where to focus agency resources. The importance-performance model measures satisfaction as performance in relation to importance as implied by its name. A four-point semantic differential scale is used and the mean for the importance and performance ratings are calculated and plotted into a two-dimensional grid, making interpretation of the results easy. According to Keyt, Yavas and Riecken (1994), "importance-performance analysis has become a popular managerial tool used to identify strengths and weaknesses of brands, products, services and retail establishments." Therefore, the IPA technique can be used to examine the relationship between customers' perceived importance and a firm's existing performance level.

3. METHODOLOGY

3.1. Study Area

The study area for this research is Lagos, Nigeria. Lagos State lies in the south-western part of the nation with latitude 6°27′11″N 3°23′45″E and longitude 6.45306°N 3.39583°E. It shares boundaries with Ogun State both in the North and East and is bounded on the west by the Republic of Benin. Ikeja is the capital of Lagos State. It is an outer-ring suburb of the city of Lagos where MMIA - (IATA: LOS, ICAO: DNMM) is located. International operations were sifted to the new international airport when it was completed while domestic operations were transferred to the Ikeja airport which eventually became the domestic airport.

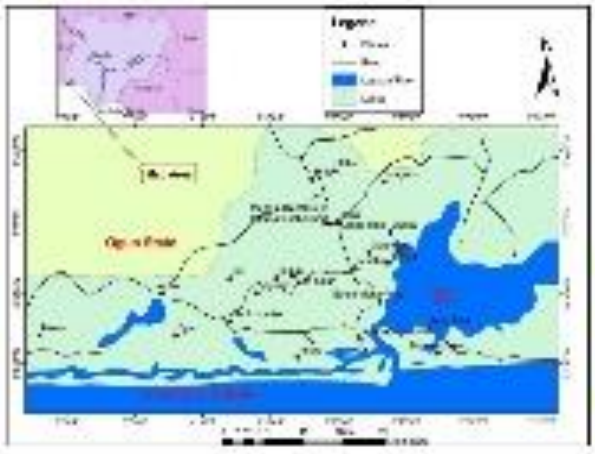

Figure 1. Map of the State of Lagos indicating Murtala Muhammed International Airport, Ikeja
(Source: google image)

3.2. Data Analysis Method

This study adopted a descriptive survey to examine the importance–performance analysis of service quality at MMIA, Lagos, Nigeria. To elicit information about the airport service attributes, 400 copies of the questionnaire were administered to passengers i.e., individuals who had performed all the essential processes which make the measuring of their opinions consistent, reliable, and up-to-date. The primary data was collected through interaction with different respondents and administration of survey questionnaires which reflected the perceptions of passengers on airport services.

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The research was carried out at MMIA, Ikeja, Lagos for the period of two weeks (i.e., 18th – 30th of July, 2018). Thus, the sampling frame of this study specifically includes the departing and arriving passengers at MMIA, Ikeja, Lagos within the period this study was conducted at the airport. The research population for this study is 5,202,397 i.e., the average annual passengers' throughput processed by the airport between 1999-2016. Taro Yamane's formula was employed in determining the minimal sample size for a given population size of 5,202,397 which is approximately 400 sample size. Thus, 400 copies of the questionnaire were distributed through a systematic random sampling technique. To analyze the questionnaires, descriptive statistics, paired sample t-test and GAP analysis were employed.

4. RESULTS AND DISCUSSION

The overall analysis was conducted using questionnaires to investigate passengers' perception of airport service quality in the different service attributes. Passengers were asked to evaluate 28 attributes designed to assess the importance of airport services as well as to appraise the performance of these service attributes at MMIA, Ikeja Lagos. Therefore, the mean of the importance of attributes and level of performance were calculated, and paired sample t-test, and importance-performance analysis of airport services were computed.

4.1. Descriptive Analysis of Airport Service Attributes

Table 1 determines the mean scores of each airport service attribute. The respondents placed very high importance on "Overall satisfaction with the airport" (mean=4.52), "Cleanliness of restrooms" (mean=4.49) ranked the second and the third was "Feeling of being safe" (mean=4.42), "Cleanliness of airport terminal" (mean=4.31), and "Availability of restrooms" (mean=4.27) ranked the fourth and the fifth respectively even though the respondents placed high importance on the other service attributes. Table 1 also presented the issue of MMIA performance in terms of service quality. The interviewees rated "Availability of banking facilities" (mean=3.99) and "Passport and visa inspection" (mean=3.75) which denotes high performance. According to the result, the airport was seen to perform moderately in most of the airport service attributes except for "Phone/Internet/IT facilities" (mean=2.49) which scored low.

Table 1: Descriptive Analysis of Airport Service Attributes

Service Attributes	Mean	Importance Level	Mean	Performance Level
Overall satisfaction with the airport	4.52	Very high	2.90	Moderate
Cleanliness of restrooms	4.49	Very high	2.95	Moderate
Feeling of being safe	4.42	Very high	3.16	Moderate
Cleanliness of airport terminal	4.31	Very high	3.08	Moderate
Availability of restrooms	4.27	Very high	3.14	Moderate
Speed of baggage delivery service	4.20	High	2.79	Moderate
Flight information screens	4.19	High	2.74	Moderate
Comfort of waiting	4.17	High	2.79	Moderate
Ease of finding your way	4.13	High	3.09	Moderate
Phone/Internet/IT facilities	4.10	High	2.49	Low
Courtesy and helpfulness of security staff	4.09	High	3.02	Moderate
Thoroughness of security inspection	4.09	High	3.06	Moderate
Courtesy, helpfulness of check-in staff	4.08	High	3.05	Moderate
Ambience of the airport	4.04	High	2.82	Moderate
Availability of baggage carts/trolleys	4.01	High	2.95	Moderate
Courtesy, helpfulness of airport staff	4.00	High	2.92	Moderate
Availability of banking facilities	3.99	High	3.81	High
Waiting time in check-in queue	3.96	High	2.80	Moderate
Passport and visa inspection	3.75	High	3.52	High
Ground transportation to/from airport	3.89	High	2.90	Moderate
Customs inspection	3.89	High	2.97	Moderate

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Waiting time at security inspection	3.89	High	2.88	Moderate
Availability of parking facilities	3.88	High	2.73	Moderate
Value for money of restaurants	3.80	High	2.85	Moderate
Restaurants/eating facilities	3.77	High	2.90	Moderate
Value for money of parking facilities	3.71	High	2.61	Moderate
Value for money of shopping	3.64	High	2.68	Moderate
Opening hours of shopping/restaurant	3.60	High	2.81	Moderate
Grand mean	4.03	High	2.94	Moderate

4.2. Gap Analysis for Airport Service Quality

Table 2 shows the findings from the verification of differences between the importance and performance (I&P) of service attributes. The result shows the difference between the means of I&P of service attributes at MMIA, Lagos. The airport service attributes whose performance exceeds importance include "Passport and visa inspection" and "Availability of banking facilities". Hence, a negative importance–performance gap was observed.

Table 2 Gap Analysis for Airport Service Quality

Service Attributes	Importance Average (A)	Performance Average (B)	Gap (A-B)	Paired t-test	p
Overall satisfaction with the airport	4.52	2.90	1.62	26.506	.00
Cleanliness of restrooms	4.49	2.95	1.54	22.539	00
Feeling of being safe	4.42	3.16	1.26	19.115	.00
Cleanliness of airport terminal	4.31	3.08	1.23	18.835	00
Availability of restrooms	4.27	3.14	1.13	17.605	.00
Speed of baggage delivery service	4.20	2.79	1.41	18.486	.00
Flight information screens	4.19	2.74	1.45	18.694	.00
Comfort of waiting	4.17	2.79	1.38	21.399	.00
Ease of finding your way	4.13	3.09	1.04	15.185	.00
Phone/Internet/IT facilities	4.10	2.49	1.61	23.448	00
Courtesy and helpfulness of security staff	4.09	3.02	1.07	16.545	.00
Thoroughness of security inspection	4.09	3.06	1.03	15.016	.00
Courtesy, helpfulness of check-in staff	4.08	3.05	1.03	15.357	.00
Ambience of the airport	4.04	2.82	1.22	16.759	.00
Availability of baggage carts/trolleys	4.01	2.95	1.06	14.375	.00
Courtesy, helpfulness of airport staff	4.00	2.92	1.08	15.562	.00
Availability of banking facilities	3.81	3.99	-0.18	13.604	.00
Waiting time in check-in queue	3.96	2.80	1.16	15.888	00
Passport and visa inspection	3.52	3.75	-0.23	11.390	.00
Ground transportation to/from airport	3.89	2.90	0.99	13.322	.00
Customs inspection	3.89	2.97	0.92	14.080	.00
Waiting time at security inspection	3.89	2.88	1.01	14.466	.00
Availability of parking facilities	3.88	2.73	1.15	16.217	.00
Value for money of restaurants	3.80	2.85	0.95	12.805	.00
Restaurants/eating facilities	3.77	2.90	0.87	13.790	00
Value for money of parking facilities	3.71	2.61	1.10	15.081	.00
Value for money of shopping	3.64	2.68	0.96	13.827	.00
Opening hours of shopping/restaurant	3.60	2.81	0.79	12.074	00

Among the 28 service attributes that showed a significant difference, the items that showed the biggest differences included "Overall satisfaction with the airport", "Cleanliness of restrooms", "Feeling of being safe", "Cleanliness of airport terminal",

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"Availability of restrooms", "Speed of baggage delivery service", "Flight information screens", "Comfort of waiting", "Ease of finding your way", "Phone/Internet/IT facilities", "Courtesy and helpfulness of security personnel", "Waiting time at security inspection", "Thoroughness of security inspection", "Courtesy and helpfulness of airport staff", "Waiting time in check-in queue", "Availability of parking facilities", "Value for money of parking facilities", "Courtesy and helpfulness of check-in staff", "Availability of baggage carts/trolleys", and "Ambience of the airport". The importance of these service attributes was rated high but their performance was low. This suggests that users' satisfaction with the physical environment of MMIA was decreased. The physical environment of an airport is a concept that is directly connected with the psychology of users and has the greatest influence.

4.3. Importance–Performance Analysis (IPA) of Airport Service Quality

The IPA is a tool used to develop marketing strategies, understand customer satisfaction and prioritize service quality improvement. Using IPA, customer ratings of importance and performance across several attributes were plotted against each other thereafter the resulting importance and performance called (IP) space was divided into four quadrants. By examining the points in each quadrant, management may infer which attributes customers feel should be the highest priorities for improvement (i.e., the "concentrate here" quadrant) and the lowest priorities for improvement (i.e., the "possible overkill" quadrant) then management can consider the cost of various improvement and develop an action plan. Thus, IPA provides managers with a simple graphical representation of how customers feel about the business, some direction for improvement of the business, and an indication of why customers want particular improvement.

As figure 2 exhibited, there are twelve service attributes; "Overall satisfaction with the airport", "Cleanliness of restrooms", "Feeling of being safe", "Cleanliness of airport terminal", "Availability of restrooms", "Ease of finding your way", "Courtesy and helpfulness of security staff", "Thoroughness of security inspection", "Courtesy, helpfulness of check-in staff", "Ambience of the airport", "Availability of baggage carts/trolleys", and "Courtesy and helpfulness of airport staff" that are of high importance and that have a high performance in the upper-right quadrant (i.e. keep it up). These are the major strengths of the service quality attributes at MMIA, Lagos which passengers generally want the airport to keep up the good performance.

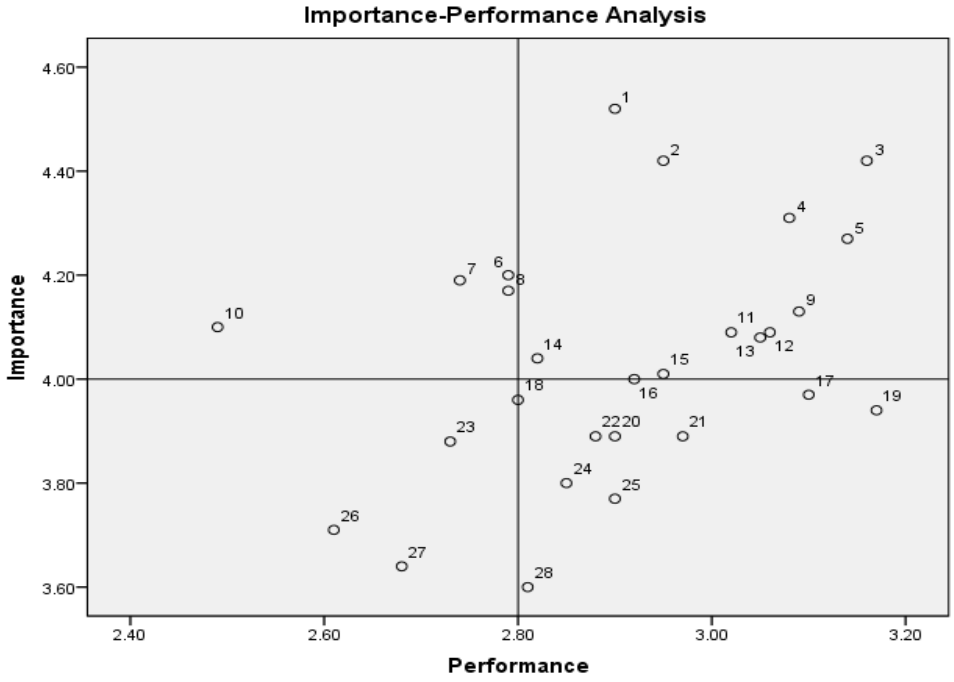

Figure 2. Importance Performance Analysis Grid for Airport Service Quality

In the second quadrant – upper left (i.e., concentrate here) are the major weakness of MMIA, Lagos or the low-performing areas that are of high importance. These service attributes; "Speed of baggage delivery service", "Flight information screens", "Comfort of waiting" and "Phone/Internet/IT facilities" are of high importance to passengers using the airport but they are performing poorly. Thus, it is here where major improvement is required in order to boost customers' satisfaction.

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The third quadrant (lower-left); low priority, consists of low performance that is of little importance to passengers. While it is important to know and to be aware of MMIA, Lagos should not invest too much in them owning to their low importance. The attributes positioned here are: "Waiting time in check-in queue", "Availability of parking facilities", "Value for money of parking facilities" and "Value for money of shopping".

Attributes in the fourth quadrant (lower-right); possible overkill, are the minor strengths. This means that they are the high performances that are of low importance. These attributes; "Availability of banking facilities", "Passport and visa inspection", "Ground transportation to/from the airport", "Customs inspection", "Waiting time at security inspection", "Value for money of restaurants", and "Restaurants/eating facilities" and "Opening hours of shopping/restaurant" are of lower importance to passengers, the airport management should not invest too much effort in them.

1) General satisfaction with the airport 2) Cleanliness of restrooms 3) Feeling of being safe 4) Cleanliness of airport terminal 5) Availability of restrooms 6) Speed of baggage delivery service 7) Flight information screens 8) Comfort of waiting 9) Ease of finding your way 10) Phone/Internet/IT facilities 11) Courtesy and helpfulness of security staff 12) Thoroughness of security inspection 13) Courtesy, helpfulness of check-in staff 14) Ambience of the airport	15) Availability of baggage carts/trolleys 16) Courtesy, helpfulness of airport staff 17) Availability of banking facilities 18) Waiting time in check-in queue 19) Passport and visa inspection 20) Ground transportation to/from airport 21) Customs inspection 22) Waiting time at security inspection 23) Availability of parking facilities 24) Value for money of restaurants 25) Restaurants/eating facilities 26) Value for money of parking facilities 27) Value for money of shopping 28) Opening hours of shopping/restaurant

5. CONCLUSION

The recommendations for improving airport service quality at MMIA, based on the findings of this study, suggest that the airport's Wi-Fi networks should be adequately improved upon and provided without cost or restriction so as to be easily accessed by passengers for their pleasure and to enjoy the faster connection with loading websites quickly, speedy downloads and YouTube streaming. Flight Information Display Systems (FIDS) should be adequately provided within and outside the airport so as to communicate a variety of vital travel information such as arrivals, flight numbers, departures, flight status, airline information, flight delays, flight cancelations, gate information, baggage delays, etc. Moreso, the airport management should devise an effective measure of handling passengers' complaints. This can be achieved by paying more attention to addressing customers' challenges and then solving their problems immediately or as quickly as possible; this mechanism is to be applied in order to reduce customers' dissatisfaction.

Examining the I & P of airport services from the passengers' perception, it was noted that most importance was placed on service attributes such as; overall satisfaction with the airport, neatness of restrooms, feeling of being safe, cleanliness of airport terminal, and availability of restrooms. The service attributes that scored in high performance comprise the availability of banking facilities and passport and visa inspection while the service attribute of phone/internet/IT facilities performed low. Using Importance-Performance Analysis (IPA) to identify and prioritize which service areas the management should pay particular attention to in order to act and improve service quality and the satisfaction of passengers using the airport, it was concluded that service attributes such as; the speed of baggage delivery service, flight information screens, the comfort of waiting and phone/internet/IT facilities, were of high importance to passengers using the airport but these services were performing poorly, thus it is here that major improvement is required in order to boost customers' satisfaction.

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Conflict of Interest

The author declares that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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