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International Airline Passengers' Service Perceptions: A Gap Analysis

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Abstract

Most airports have adopted flight schedules or network models that are based on the 'hub-and-spoke' connectivity, as opposed to 'point-to-point' flights, which model creates peaks and troughs of passenger movements and service delivery challenges, which challenges have been mitigated by implementation of Self-Service Technologies (SSTs). Through using the adapted SERVQUAL instrument which incorporated aspects of technology enabled service, service quality 'GAPs' were identified by surveying a convenient systematic sample of 317 international airline passengers at the departures terminal. Although it became evident that the SSTs have improved passenger experience through efficiency improvement, the findings must be interpreted with caution as there are inherent limitations and opportunities for further research.

Keywords: service quality; airport service; self-service; technology

Introduction

Corporate strategies are developed is such a way so as to attract and retain customers by ensuring that all functions in the organizations focus on customer satisfaction (Lynch, 2012:532), because of the relationship between customer satisfaction and organizational long term profitability. The customer satisfaction construct has become a critical focus for the organizations' marketing goals (Nusair and Kandampully, 2008), as it is a source of organizational competitive advantage. Thus, several researchers (Zeithaml *et al.* 2002; Gounaris *et al*., 2010; Kassim and Abdullah, 2010) have deliberated on the conceptual relationship between service quality and customer satisfaction. Karim and Chowdhury (2014) argued that perception of service quality by customers comes before the perception of satisfaction, therefore, one cannot ignore the value of service quality in the service industry, since it has become an invaluable component of the service industry's marketing strategy, based on the fact that it has an effect on customer satisfaction and also customer retention and loyalty (Yen and Lu, 2008).

Service quality is defined in the Parasuraman, Zeithaml and Berry (PZB) (1988) literature as 'the customer's subjective assessment of the expectations of service in relation to the actual service performance.' Passengers who perceive that they will experience service quality at selected destinations or transit airports will more than likely choose those particular airports. Thus, airports like OR Tambo International Airport (ORTIA), have no option but to embrace service quality in their customer orientation strategies, in order to build a successful hub airport. Managers have also taken cognizance of the need to attract and retain customers in order to sustain their growth and profitability. For example, it is evident from the Airports Company South Africa's (ACSA) strategic objectives that ORTIA has also identified this need by including strategies necessary to attract and retain more customers to airports they manage (ACSA 20140. One area that ORTIA has focused on to improve service quality at the check-in areas/counters, more especially by addressing the long queuing process at the airport, I to install self-service technology (SST) platforms that are geared towards enhancing efficiency that may eventually lead to improved passenger experience.

In light of the above, this article explores whether the implementation of SSTs, has resulted in passengers' service expectations being met, and if not, what is the 'gap', and how has the 'gap' impacted upon service quality provision at ORTIA.

Literature Review

Air transport has become one of the main drivers of global economic activity, by virtue of the fact that it connects people and businesses across the globe and, inevitably acts as a catalyst for job creation in the air transport value chain. The International Air Transport Association (IATA) (2015) argues that the aviation industry supported 56.6 million jobs around the globe, including 8.4 million direct jobs and $2.2 trillion of economic activity, representing 3.5% of the global GDP). The IATA projected that an estimated 3.5 billion passengers will have travel by air in 2015 (IATA, 2015).

Over the years, air transport has become more accessible and affordable, as a result of two important changes in the aviation industry, namely, deregulation and liberalization. The air transport service providers suddenly found themselves operating in a very competitive environment, a fact acknowledged by Fodness and Murray (2007) and Graham (2005). The high competitive environment put more pressure on the demand for improved efficiency, service quality and customer satisfaction at the airports. Most airlines have adopted flight schedules or network models that are based on 'hub-and-spoke' connectivity, as opposed to 'point-to-point' flights, which model usually leads to congested departure slots as demand for specific times for flight arrival and departure increase due to passenger connectivity. Furthermore, by restricting arrival times at some European airports, airlines are forced to depart from ORTIA at specific periods of time in order to arrive at such European destinations at the acceptable allocated time (slot time), in order to avoid penalties related to noise pollution. This creates an artificial 'peak' periods for European bound flights departing out of ORTIA. The introduction of the super 'jumbo' jets including the Airbus A380 and the Boeing 777-300ER, which can carry up to 530 and 350 passengers respectively, has the potential to increase level of congestion at airports. ORTIA is a destination for at least four A380 (at least in 2015) and is the only airport in Africa with a daily flight served by the super 'jumbo' (ACSA, 2014:126). There are also several airlines that operate the B777-300ER into ORTIA. The operations of these super jumbos, with very high seat capacity, inevitably have a potential to worsen the processing time of passengers at the check-in areas and consequently the provision of service quality at ORTIA.

All the factors discussed above, namely, the new airline ventures, the high passenger growth numbers, the airline hub-and-spoke network strategies, the airspace and airports resource constraints, militarization of airspace and environmentalist and lobbyists; have the potential to impact negatively on service quality at airport check-in, especially the check-in processes. In particular, many airlines' network strategies to create flight schedules for 'hub-and-spoke' connectivity at ORTIA have also resulted in an increased number of flights and passenger movement. The factors have the potential to create congestion and long queues throughout the passenger travel cycle at the departures; for example, congestion at check-in areas, security screening, immigration control, boarding gate, transfer desk and at the arrivals; at security screening, immigration exit, baggage collection and inbound customs. To address the aforementioned, airports invested heavily on improving the infrastructure; but the infrastructure can only handle a finite number of flights at a specific time.

Although the actual passenger throughput at ORTIA for 2014 was way below the annual passenger handling capacity (ACSA 2014), the airport still experiences high passenger movement over certain periods of time. The ability of the airport to handle this high passenger movement and the management of queues (and congestion) at peak periods is what motivated this study. The On-Time- Performance (OTP) which is a critical success factor for airports is often affected by the passenger movement at peak periods. In order to be considered as 'the favoured transit or hub airport of choice' for both passengers and airlines, it is important to manage OTP and queues (congestion) at the various processes of the passengers' departures and benchmark it with other competitors, for example, Singapore, Frankfurt, Paris and Dubai. Most large hub airports have improved their on-time-performance; avoided delays and misconnections by implementing Self-Service Technologies (SSTs) and have generally ensured passengers are provided with seamless and efficient service.

SSTs are defined as technology-based interfaces that allow passengers to access services without the direct intervention of a customer service agent (Makarem and Mudambi, 2009, Meuter *et al*., 2000). SSTs have improved service quality in other industries and are seen as a driver for efficiency improvements and service quality. The question remains, namely, has airport efficiency and on-time-performance been affected by the long queues at ORTIA even with the current level of SST implementation and, how has this impacted on service quality perceptions? Researchers such as Rhoades *et al.*, (2000); Chen, (2002); Fodness & Murray, (2007); Lube *et al.*, (2011); Bogicevic *et al.*, (2013) weighed in on the discussions of service quality and customer satisfaction at airports as a means of delivering organizational competitive advantage, by focusing on the 'Gap' in the passengers' expectations and perceptions, and developing corrective action to address the gaps. The key research question this study sets out to answer is: Has the introduction of self-service technologies (SSTs) been effective in achieving the intended purpose of reducing passenger queueing time at the check-in counters and therefore addressed the problem of long queues at ORTIA and, has the SST platforms improved service quality through efficiency improvements and by extension enhanced customer satisfaction?

Service Quality Measurement

Service is defined by Kotler and Keller (2012: 378) as an 'act or performance where one party can offer to the other' a product to satisfy a need and it is essentially intangible, and 'does not result in ownership of anything' Intangibility (of the service) means that unlike in a physical product, the customers (or passengers in the case of this study), cannot evaluate the quality of service using any of the five basic senses, namely, smell, feel, sight, taste and hearing. Instead, as posited by Kotler and Keller (2012), customers will evaluate the quality of service through related evidential characteristics of the service encounter, that is, the place, people, equipment, communication materials, symbols and even price.

Inseparability as a service characteristic means that the customer is present at the production of the service and, therefore can participate in its delivery (co-production). Kotler and Keller (2012: 384) state that in addition to purchasing and using a service, customers play an active role in its delivery. Govender (2013) cite various researchers to advance this view, that customers are co-creators of the service, in that they participate in the production and delivery of the service and, therefore have an influence on service quality. This submission is even more valid in the self-service technology (SST) environment, namely, airport customer-service encounters, where passengers have an even greater role as co-creators, and with much more influence on how the service is delivered, by participating in the self-service check-ins, self-boarding and self-rebooking processes. The self-service or on-line platforms can therefore make the negative effect of inseparability (co-production) of a service more problematic in delivering a high quality of service.

Zeithaml *et al.* (2006), cited by Kotler and Keller (2012), demonstrated that one-third of 'all service problems are caused by customers,' and Kotler and Keller (2012) argued that these problems may worsen if customers have a greater role in the production and delivery of the service as characterized in a SST environment. For example, in the airport self-service environment where more and more customer touchpoints or service encounters are automated, the increased customer influence on the outcome of the service encounter due to the fact that passengers are co-creators of the service, coupled with the 'loss of control' on the part of the service provider in the production and delivery of the service, may enhance or diminish the passenger's perceived service quality outcome.

The intangibility, heterogeneity and inseparability of a service makes it difficult to measure service quality, unlike products that one can measure, based on its physical and functional characteristics. Nonetheless, Parasuraman *et al.,* (1985) developed a multi-item scale that has been used over the years to measure service quality called SERVQUAL, which is based on the consumers' perceptions of the service quality. Judgement of the perceived service quality is about the 'gap' between the expectations and the 'level' of service (customer perception or performance) that s/he believes s/he has received during the service encounter. Awareness and management of these 'gaps' becomes critical for organizational objectives and goals of delivering great customer experience and satisfaction. Kotler and Keller (2012) posit that based on how the management of these gaps is addressed by organizations, the service provider may successfully or unsuccessfully deliver high quality service. In light of the above, this article reports on a study undertaken at the international departures terminals of ORTIA, using the methodology discussed below.

Research Methodology

A quantitative approach was adopted using a questionnaire to survey a systematic, convenience sample of passengers during peak hours, at the international departure sections of ORTIA. Following research done by Boshoff (2007); Nusair and Kandampully (2008); Ho and Lin (2010); Chong *et al* (2010); Narteh (2015); and E-S-QUAL by Parasuraman *et al.* (2005), the SERVQUAL dimensions were modified to measure Convenience, Reliability and Ease of Use as they pertain to the use of self-service technology. The measure of the gap between the perceived level of performance of the service (P) and customers' expectations (E), is usually denoted by 'G' in the 'gap theory' literature, and this is the perceived service quality (Parasuraman *et al.,* 1985: 17).

Findings

Reliability and Validity of Measurements

The Cronbach's alpha coefficients for both the kiosk and online platform check-ins were 0.880 and 0.956 respectively, which showed an excellent level of reliability (Kline, 2011). The results of the KMO test (Table 1) showed a Keiser-Meyer-Olkin factor of 0.775 which was considered adequate, coupled with the Bartlet's test of sphericity of p>0.001 (Kline, 2011; Field, 2005); thus factor analysis was conducted to determine the validity of the measurements.

Table 1: KMO and Bartlett's Test: Passengers

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.775
Bartlett's Test of Sphericity	Approx. Chi-Square	1965.127
	df	136
	Sig.	0.000

The results of the factor analysis (Table 2) show that three factors explain 76.314% of the variance among the factors, all with Eigen values in excess of 1 (one).

Table 2: Factor Loadings for passengers' Perception of service quality

Total Variance Explained: No Rotation						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.601	56.477	56.477	9.601	56.477	56.477
2	2.076	12.213	68.690	2.076	12.213	68.690
3	1.296	7.624	76.314	1.296	7.624	76.314
4	.909	5.349	81.662			
5	.653	3.843	85.505			
6	.438	2.576	88.080			
7	.407	2.396	90.476			
8	.335	1.973	92.449			
9	.284	1.671	94.120			
10	.225	1.322	95.442			
11	.194	1.143	96.585			
12	.187	1.099	97.684			
13	.157	.922	98.606			
14	.103	.608	99.213			
15	.090	.529	99.742			
16	.026	.154	99.896			
17	.018	.104	100.000			

Extraction Method: Principal Component Analysis.

Table 3 reflects the outcome of factor analysis for the expectations items of the revised SERVQUAL. Once again, three factors explain the variation among the factors.

Table 3: Factor Loadings for passengers' Expectations of service quality

Total Variance Explained-Varimux Rotation

Component	Initial Eigenvalues			Loadings			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.163	57.270	57.270	9.163	57.270	57.270	4.371	27.319	27.319
2	2.076	12.976	70.246	2.076	12.976	70.246	4.286	26.790	54.109
3	1.294	8.089	78.335	1.294	8.089	78.335	3.876	24.226	78.335
4	.854	5.339	83.674						
5	.449	2.809	86.483						
6	.420	2.627	89.109						
7	.380	2.374	91.483						
8	.287	1.791	93.274						
9	.281	1.757	95.031						
10	.201	1.257	96.288						
11	.194	1.209	97.497						
12	.157	.982	98.480						
13	.107	.672	99.152						
14	.090	.562	99.714						
15	.027	.171	99.885						
16	.018	.115	100.000						

Extraction Method: Principal Component Analysis.

Table 4 show the final factors loadings of the overall service quality determinants after Kaiser Normalization. It would seem that the adapted SERVQUAL is valid for this study.

Table 4: Rotated Component Matrix with Kaiser Normalization

Follows…

Rotated Component Matrix[a]

Item	Description	Component 1	Component 2	Component 3
RP2	Consistency of services	.890		
RP3	Open at time promised	.863		
RP1	Functions all the time	.766		
EP4	Easily accessible	.697		
CP2	Availability (accessibility)	.578		
RP4	Boarding pass obtained		.821	
EP1	Easy to understand		.811	
EP2	Simple and quick		.753	
EP3	Instructions are clear		.712	
CP3	Waiting time acceptability	.565	.597	
FP1	Process completed with satisfaction	.511	.571	
CP6	Waiting time Bagga drop area			.833
CP4	Queue Avoidance			.812
CP5	Baggage location convinience			.811
FP3	Baggage handling process efficiency			.755
FP2	Reporting time significantly reduced		.559	.669

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Figure 1 depicts the type of check-in platforms used by the 317 participants in the study. The majority (67%) of the passengers used check-in counters, while 23% used the airline's online applications, that is the airline website and smartphone applications.

Figure 1: Distribution of Respondents by type of check-in platform used

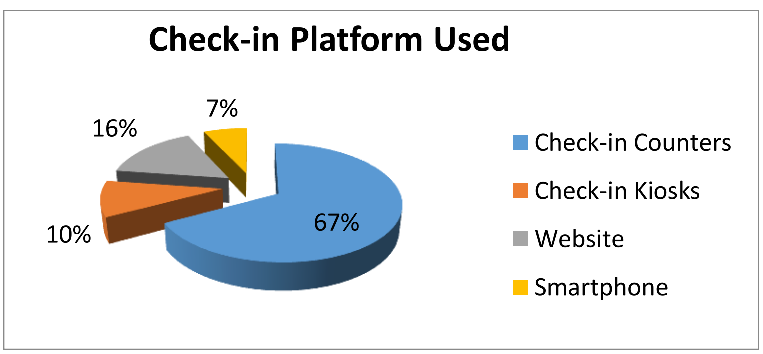

Figure 2 depicts that a high percentage of the 21-41 age group used self-service check-ins.

Figure 2: Distribution of Respondents by Age

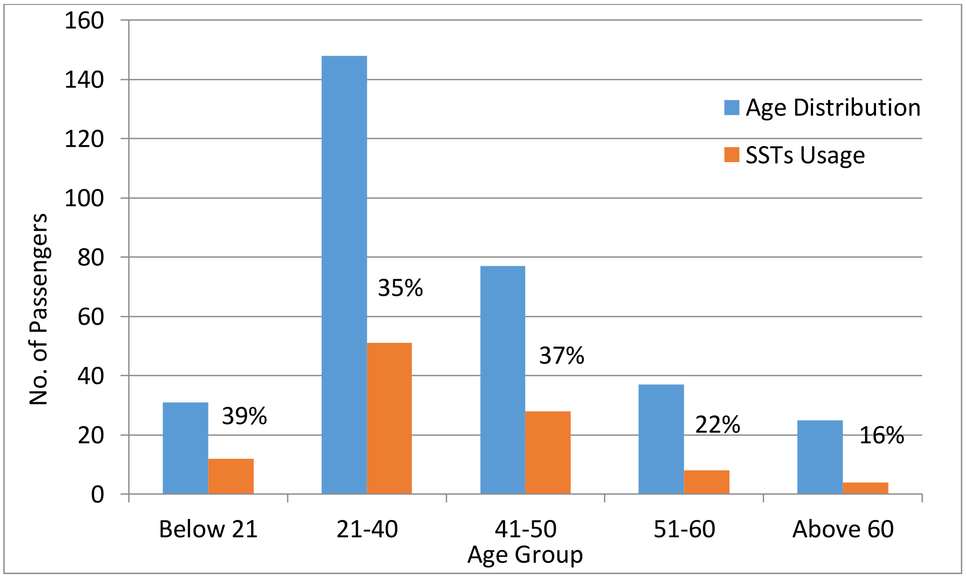

Table 5-Table 7 report the ‘proportion on the higher side’ which reflects those items which were rated as ‘5’ on the 5-point Likert scale, implying that the respondents ‘strongly agreed’ with the statements pertaining to their expectations and perceptions of service quality. From Table 5, it is evident that although 100% of the respondents expected the location of the check-in kiosk to be convenient, however, only 50% found the check-in kiosks to be conveniently located. Most important, while their service expectation was 81%, their perception was at 66%, implying a ‘gap’ in terms of the service quality related to self-service check-in kiosks. However, in some instances the passengers’ expectations were exceeded, for example, the availability and accessibility of the check-in kiosks, the waiting time at the check-in kiosks, and the consistency of the services.

Table 5: Proportion on the higher side for use of Check-in Kiosks

Survey Questions	**Proportion on the higher side**
I expect the check-in-kiosk to be conveniently located	100%
I found the check-in-kiosk to be conveniently located	50%
I expect the check-in platform to always be available and accessible	87.50%
I found the check-in platform to always be available and accessible	100%
I expect the waiting time in check-in process to be within acceptable limits	90.63%
I found the waiting time in check-in process to be within acceptable limits	93.75%
I expect to avoid long queues at the check-in by using self-service	81.25%
I found that using self-service boarding pass I was able to bypass queueing at check-in	65.63%
I expect baggage drop points to be conveniently located	93.75%
I found baggage drop points to be conveniently located	50.00%
I expect waiting time at the baggage drop areas to be within acceptable limits	100.00%
I found waiting time at the baggage drop areas to be within acceptable limits	81.25%
I expect the check-in platform to be function all the time and dependable	100.00%
I expect the check-in platform to be function all the time and dependable	93.75%
I expect the check-in platform to provide consistent services	87.50%
I found the check-in platform to provide consistent services	93.75%

It is evident from Table 6 that passengers scored the waiting time at the baggage drop off areas very. The same comparatively low score was observed with regards to functionality and dependability of the smartphone check-in process.

Table 6: Proportion on the higher side for use of Smartphones

I expect the check-in platform to always be available and accessible	100%
I found the check-in platform to always be available and accessible	100%
I expect the waiting time in check-in process to be within acceptable limits	86.36%
I found the waiting time in check-in process to be within acceptable limits	72.73%
I expect to avoid long queues at the check-in by using self-service	81.82%
I found that using self-service boarding pass I was able to bypass queueing at check-in	72.73%
I expect baggage drop points to be conveniently located	100%
I found baggage drop points to be conveniently located	59.09%
I expect waiting time at the baggage drop areas to be within acceptable limits	100.00%
I found waiting time at the baggage drop areas to be within acceptable limits	27.27%
I expect the check-in platform to be function all the time and dependable	86.36%
I expect the check-in platform to be function all the time and dependable	27.27%
I expect the check-in platform to provide consistent services	100%
I found the check-in platform to provide consistent services	81.82%

It is evident from Table 7 that the airline's on-line check-in processes fared much better than using smartphone check-ins. What still stands out is that the 'gap' between the participants' perception of the waiting time at the baggage drop off areas (49%) compared to their expectations (89%). Like smartphone check-ins, check-ins using the airlines' websites scored low on the functionality item.

Continues…

Table 7: Proportion on the higher side for use of Websites

I expect the check-in platform to always be available and accessible	98.63%
I found the check-in platform to always be available and accessible	98.63%
I expect the waiting time in check-in process to be within acceptable limits	83.56%
I found the waiting time in check-in process to be within acceptable limits	69.86%
I expect to avoid long queues at the check-in by using self-service	80.82%
I found that using self-service boarding pass I was able to bypass queuing at check-in	78.08%
I expect baggage drop points to be conveniently located	90.41%
I found baggage drop points to be conveniently located	61.64%
I expect waiting time at the baggage drop areas to be within acceptable limits	89.04%
I found waiting time at the baggage drop areas to be within acceptable limits	49.32%
I expect the check-in platform to be function all the time and dependable	86.30%
I expect the check-in platform to be function all the time and dependable	50.68%
I expect the check-in platform to provide consistent services	87.67%
I found the check-in platform to provide consistent services	72.60%

The paired t-test statistical approach was used to compare the means of participants' Expectations and Perceptions of the service, since it is useful in situations where repeat measurements are applied to the same set of items or individuals from the same population (Berenson *et al.,* 2012: 407). Furthermore, by using the *p-value* approach, it is possible to deduce the significance of the difference in the means of the two variables. The *p-values* in Table 8 and Table 9 have been calculated at 95% confidence level.

The t-test is useful when analyzing the null hypothesis, H_0: $\mu_1 = \mu_2$, which was used to assess service quality score. The use of paired t-test was found useful in identifying areas that the passengers viewed as 'wanting' because it demonstrates the statistically significant differences in the passengers' expectations and perceptions (performance).

The difference (GAP) in the means of the passengers' expectations and perceptions for the different items can be reported as statistically significant if the *p-value* (Sig. 2-tailed) is < 0.005 (Berenson et al. 2012). The results of the study for the check-in kiosks is reflected in Table 4.8.

It is evident from Table 4.8 that the difference in Expectations and Perception for C1, C4, C6, E5, F2 and F3 were found to be statistically significant. This means that there is a 'significant' difference in the passengers' scores with respect to expectations and what they perceived to be the performance of the service.

This therefore demonstrates that there is a marked difference between the expectations and perceptions with regards to the Location of the kiosks (C1), Queue avoidance (C4), Waiting time at baggage drop (C6), Availability of helpline (E5), Reduction reporting time at the airport for check-in (F2) and, Overall baggage handling process efficiency (F3)

Table 8: Paired T-Test for Kiosks

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	C1E - C1P	.500	.508	.090	.317	.683	5.568	31	.000
Pair 2	C2E - C2P	.250	.762	.135	-.025	.525	1.856	31	.073
Pair 3	C3E - C3P	.094	.296	.052	-.013	.201	1.791	31	.083
Pair 4	C4E - C4P	1.500	1.414	.250	.990	2.010	6.000	31	.000
Pair 5	C5E - C5P	.563	1.343	.237	.078	1.047	2.370	31	.024
Pair 6	C6E - C6P	.906	1.146	.203	.493	1.319	4.473	31	.000
Pair 7	R1E - R1P	.188	.397	.070	.045	.330	2.675	31	.012
Pair 8	R2E - R2P	.063	.246	.043	-.026	.151	1.438	31	.161
Pair 9	R3E - R3P	-.063	.435	.077	-.219	.094	-.812	31	.423
Pair 10	R4E - R4P	.281	.729	.129	.018	.544	2.183	31	.037
Pair 11	E1E - E1P	.406	1.012	.179	.042	.771	2.272	31	.030
Pair 12	E2E - E2P	.344	.827	.146	.045	.642	2.350	31	.025
Pair 13	E3E - E3P	.344	.787	.139	.060	.628	2.470	31	.019
Pair 14	E4E - E4P	-.156	.847	.150	-.461	.149	-1.044	31	.305
Pair 15	E5E - E5P	.563	.982	.174	.209	.916	3.241	31	.003
Pair 16	F1E - F1P	.313	.644	.114	.080	.545	2.743	31	.010
Pair 17	F2E - F2P	.906	1.201	.212	.473	1.339	4.268	31	.000
Pair 18	F3E - F3P	.750	1.218	.215	.311	1.189	3.483	31	.002

Note: The mathematical expression of the theoretical GAP is P-E. However, the above shows E-P scores to avoid negative signs.

Table 9 reflects the findings with regard to the use of smartphones and the airlines' websites. The difference between the Expectations and Perception for C4, C5, C6, R2, R3, R4, E3, E5, F1 and F2 were found to be statistically significant for the online check-in. In summary, the following showed statistically significant GAPs, which implied that passengers perceived a significant difference between their expectations of the service compared to the actual service quality they experienced. That is, there was a 'statistically significant' difference between the expectations and perceptions with regards to Avoidance of queues (C4), Location of baggage drop points (C5), Time at baggage drop area/queues (C6), Consistency of online services (R2), Opening time of the platform (R3), Obtaining the bar-coded boarding pass (R4), Clear instructions (E3), Helpline availability (E5), Satisfactory completion of the self-service check-in process (F1) and, Overall baggage handling process efficiency (F3).

Table 9: Paired T-Test for Smartphone & Airline Websites

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	C2E - C2P	.375	1.106	.130	.115	.635	2.877	71	.005
Pair 2	C3E - C3P	.028	.872	.103	-.177	.233	.270	71	.788
Pair 3	C4E - C4P	.611	1.469	.173	.266	.956	3.531	71	.001
Pair 4	C5E - C5P	.931	1.325	.156	.619	1.242	5.959	71	.000
Pair 5	C6E - C6P	.778	1.270	.150	.479	1.076	5.198	71	.000
Pair 6	R1E - R1P	.347	1.050	.124	.100	.594	2.805	71	.006
Pair 7	R2E - R2P	.375	.941	.111	.154	.596	3.381	71	.001
Pair 8	R3E - R3P	.389	1.015	.120	.150	.627	3.252	71	.002
Pair 9	R4E - R4P	.333	.919	.108	.117	.549	3.077	71	.003
Pair 10	E1E - E1P	.236	.847	.100	.037	.435	2.364	71	.021
Pair 11	E2E - E2P	.278	.923	.109	.061	.495	2.555	71	.013
Pair 12	E3E - E3P	.514	1.187	.140	.235	.793	3.674	71	.000
Pair 13	E4E - E4P	.264	.839	.099	.067	.461	2.669	71	.009
Pair 14	E5E - E5P	.681	1.320	.156	.370	.991	4.376	71	.000
Pair 15	F1E - F1P	.514	1.113	.131	.252	.775	3.917	71	.000
Pair 16	F2E - F2P	.597	1.109	.131	.337	.858	4.570	71	.000
Pair 17	F3E - F3P	.417	1.230	.145	.128	.706	2.873	71	.005

The GAP between the expectations and perceptions with regard to Queue avoidance (C4), Waiting time at baggage drop (C6), Availability of helpline (E5) and the Overall baggage handling process efficiency (F3) were found to be common in both self-service platforms, that is, the kiosks and online check-in processes. The aforementioned clearly shows where the passengers identified as areas that need attention and improvement.

Discussion of the Findings

The primary objective of the research on which this paper is written is to assess service quality of the self-service (technology enabled) check-in process and the research question was: What is the level of service quality resulting from implementation of SST enabled check-ins at ORTIA?

The paired t-test statistics for the individual measurement items for the null hypothesis was: H_0: $\mu1 = \mu2$ or $\mu1-\mu2 \geq 0$. An analysis of the observed and latent variables using principal component factor analysis (with Varimax rotation) contributed to the narrative that the service fulfilment construct was influenced by the Effectiveness and efficiency of passenger check-in process (C4), Avoidance of queues at the airport (C6), Waiting time at baggage drop areas (E5), Reduction reporting time at the airport for check-in (F2) and, Overall baggage handling process efficiency (F3) were significant with a p-values < 0.005. The rest of the measurements showed insignificant differences and therefore demonstrated that the passengers' expectations and perceptions were 'insignificantly' different. This implied that the passenger expectation matched the actual service performance.

In order to reduce the impact of heterogeneity of the service providers, management of ORTIA must strive to ensure standardization of service encounters. Equipment and procedures employed in enhancing service must be standardized as much as possible. Zoltan (2006:2), offers several reasons for the need for self-service and proposes that one of the drivers of SST usage is comfort with technology, and Walker and Johnson's (2006) study on why consumers' use (or avoid) technology-enabling services confirms Zoltan's (2006) position. The aforementioned researchers debate some of the factors that motivate consumers' usage of SST, such as the level of confidence and their belief that they are equipped to engage and use the technology successfully.

Hsieh et al. (2012) also conducted research on self-service check-in kiosks to determine if they meet the needs of passengers, since consumers would only use new technology if they saw the relative advantage and, if they could identify the value added. The aforementioned research shows that, in order to encourage the use of the check-in kiosks, frequent flyers need to be given incentives such as seating selection privileges.

Self-Service technologies and most automation-related service delivery are designed to add value to customers by simplifying processes and putting the customer in control of the service delivery (Robbins and Judge, 2013, Watkinson, 2013). It provides the customer with the possibility to transact with service providers with speed and at the comfort of their offices or homes. More so, the benefits are important in the airport environment where the passengers' desire is to spend as little time as possible at the queues when checking in for their flight. Curran and Meuter (2005) argue that despite the many benefits of SSTs platforms, there is an increased workload and involvement on the part of the customer in the self-service and, this may preclude customers from using the technologies. On the other hand, and with the increased use of smartphones and development of Apps, many technology savvy customers have become accustomed to automation and online transactions, but only when they can easily identify benefits. The ease of use and convenience of technology-based service have become an attractive proposition for some customers (Meuter *et. al*., 2000). Reliability of the technologies and the 'fulfilment' which are derived from utilization SSTs are also viewed positively by customers (Parasuraman, et al. 2005).

Research Contribution

ORTIA prides itself as being a world class 'hub' and also the entry-point into Africa for both tourists and business people. The airport serves transit passengers travelling to numerous destinations for example, the Far East, North America, Europe, South America, Australia and New Zealand. As a hub, ORTIA has major competitors, namely, London Heathrow, Amsterdam, Dubai, Zurich, Frankfurt, Changi Airport in Singapore and Paris. In order to position it as an airport of choice for transit passengers, airport management must ensure that it provides superior customer service that delivers the highest satisfaction. As an entry port for visitors, ORTIA provides an opportunity for repeat travel for the many tourists and business people who come to visit the continent, or transit through the airport to other destinations. Airports give visitors the first impressions (the window to a country) of a country, and they shape the passengers'' expectations. Transit passengers are the country's potential visitors of tomorrow. Thus, passengers' perception of service quality and their satisfaction at ORTIA is therefore critical for the airport's competitive advantage and positioning relative to the other international and regional hubs. Perceptions of low service quality have the potential to damage the tourism industry in South Africa and also deflect potential foreign investment opportunities. It is therefore critical that all the phases of the passenger value chain, which includes passenger check in, are world class, sustainable and that service quality is improved continuously in order to support the economy of South Africa and Africa at large. This study can be used by ACSA to understand what the customer says about the service quality resulting from the uptake and utilization of SSTs at check ins, and to further investigate deterrents to the effective use of the different SST platforms at ORTIA in order to improve passenger experience and customer satisfaction.

References

ACSA, (2014). Integrated Annual report http://www.airports.co.za/FinancialResults/2014%20Integrated%20Annual%20Report%202014.pdf [viewed October 2015].

Berenson, M., Levine, D. & Krehbiel, T. (2012). Basic Business Statistics: Concepts and Applications, 12th Ed, Pearson Education Limited, England.

Bogicevic, V., Yang, W., Bilgihan, A. & Bujisic, M. (2013). Airport service quality drivers of passenger satisfaction, *Tourism Review,* 68(4):3-18.

Boshoff, C. (2007). A psychometric assessment of E-S-QUAL: a scle to measure electronic service quality, *Journal of Electronic Commerce Research*, 8(1):101-113.

Chen, H. (2002). Benchmarking and quality improvement: a quality benchmarking employment approach. *International Journal of Quality & Reliability Management*, 19(6):757-73.

Chong, A.Y., Ooi, K., Lin, B. & Tan, B. (2010). Online banking adoption: an empirical analysis. *International Journal of Bank Marketing*, 28 (4): 267-287.

Curran, J.M. & Meuter, M. (2005). Self-service technology adoption: comparing three technologies. *Journal of Services Marketing,*19(2): 103-113.

Field, A. (2005). Discovering Statistics using SPSS, 2nd ed., Sage. London.

Fodness, D. & Murray, B. (2007). Passengers' expectations of airport service quality. *Journal of Services Marketing*, 21(7):492 – 506.

Gounaris S., Dimitriadis S. & Stathakopoulos, V. (2010). An examination of the effects of service quality and satisfaction on customers' behavioral intentions in e-shopping. *Journal of Services Marketing*, 24(2):142 – 156.

Govender, K. (2013), The Relationship between the Postgraduate Research Climate and Supervisor Research Service Quality. *Journal of Social Sciences (COES & RJJSS*), 2(3):146-158.

Graham, A. (2003). Managing Airports: An International Perspective, Elsevier, Oxford.

Ho, C. & Lin, W. (2010). Measuring service quality of internet banking: scale development and validation, *European Business Review,* 22(1):5-24.

Hsieh, Y., Roan, J., Pant, A., Hsieh, J., Chen, W., Lee, M. & Chiu, H. (2012). All for one but does one strategy work for all? building consumer loyalty in multi-channel distribution. *Managing Service Quality,* 22(3):310-335.

IATA Fast Travel Program (2015). www.iata.org/whatwedo/stb/fast-travel [viewed on 06 April 2015].

Karim, R. & Chowdhury T. (2014). Customer satisfaction on service quality in private commercial banking sector in Bangladesh, *British Journal of Marketing Studies,* 2 (2)1-11.

Kassim, N. & Abdullah, N. A. (2010). The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings: A cross cultural analysis. *Asia Pacific Journal of Marketing and Logistics,* 22(3):351-371.

Kline, R. (2011). Principles and practice of structural equation modeling, 3rd Edition, Guilford press, New York London.

Kotler, P. & Keller, K. (2012). Marketing Management, (Ed. 12), Pearson Education Inc., Prentice Hall, New Jersey, USA.

Lubbe, B., Douglas A. & Zambellis, J. (2011). An application of the airport service quality model in South Africa, *Journal of Air Transport Management,* doi: 10.1016/j.jairtraman.2010.08.01.

Lynch R. (2012), Competitive Strategy, Fourth Edition, Pearson Education Limited, England.

Makarem, S., Mudambi, S. & Podoshen, J. (2009). Satisfaction in technology-enabled service encounters.*Journal of Services Marketing,* 23(3):134 – 144.

Meuter, M., Ostrom, A., Roundtree, R. & Bitner, M. (2000). Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of Marketing,* 64(3):50-64.

Narteh, B. (2015). Perceived service quality and satisfaction of self-service technology, *International Journal of Quality & Reliability Management*, 32 (4): 361 – 380.

Nusair K. & Kandampully, J. (2008). The antecedents of customer satisfaction with online travel services: a conceptual model. *European Business Review*, 20(1):4–19.

Nusair, K. & Hua, N. (2010). Comparative assessment of structural equation modeling and multiple regression research methodologies: E-commerce context. *Tourism Management*, 31(3)314-324.

Parasuraman, A., Zeithaml, V.& Berry, L. (1985). A Conceptual Model of Service Quality and its Implication for Future Research. *Journal of Marketing*, 49:41-50.

Parasuraman, A., Zeithaml, V. & Berry, L. (1988). SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1):12-40.

Parasuraman, A., Zeithaml, V.A. & Malhotra, A. (2005). "E-S-QUAL: a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3):213-33.

Rhoades, D.L., Waguespack, B. Jr. & Young, S. (2000). Developing a quality index for US airports. *Managing Service Quality*, 10(4):257.

Robbins, P. & Judge, T. (2013). Organizational Behaviour, Edition 15, Pearson Education Inc., Prentice Hall.

Walker, R. & Johnson, L. (2006). Why consumers use and do not use technology-enabled services. *Journal of Services Marketing*, 20(2):125-135.

Watkinston M., (2013). The Ten Principles Behind Great Customer Experiences, Financial Times, FT Publishing, Pearson Education Limited, Edinburgh.

Yen, C. & Lu, H. (2008). Effects of e-service quality on loyalty intention: an empirical study in online auction. *Managing Service Quality: An International Journal*, 10(2):127 – 146.

Zeithaml, V., Parasuraman, A. & Malhorta, A. (2002). Service quality delivery through web sites: a critical review of extant knowledge, *Journal of the Academy of Marketing Science*, 30(4):362-75.

Zoltan A. (2006). Financial Services and the Evolution of Self-service, Viewed on 10 January 2015 at www.fischerjordan.com [viewed 15 September 2016].