A 2018 CUSTOMER SATISFACTION SURVEY WITH USERS OF A SUBSIDISED PRIVATE BUS SERVICE IN CAPE TOWN, SOUTH AFRICA

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ABSTRACT

Golden Arrow Bus Services (Pty) Ltd. (GABS) is the largest private bus company in the Western Cape province of South Africa. It operates subsidised, scheduled transport services to commuters in Cape Town Metropolitan Municipality under a contract with the Western Cape Department of Transport. To independently assess service quality, the company has commissioned the Cape Peninsula University of Technology to undertake biennial customer satisfaction surveys. The survey's 2018 iteration was conducted during the week of 10 to 14 September 2018 with a sample of n=2677 quasi-randomly selected customers interviewed during morning and afternoon peak hours at six bus termini. The main section of the questionnaire measured satisfaction using a perceived service quality (PSQ) scale consisting of 20 individual service quality items. Overall satisfaction was measured by aggregating individual item scores into a PSQ index and was also separately measured directly using a ten-point scale. A gap scoring technique was used to measure the relative importance of the service quality items, enabling an importance-performance analysis (IPA) to be conducted (cf. Martilla, 1977). Data was also collected on demographic characteristics and service usage. Self-reported customer satisfaction was reasonably high (a mean of 7.2 on a scale from 1 to 10). Items for which mean customer satisfaction was the highest were "Ease of getting on and off the bus," "Driving ability of drivers," and "Reliability of buses not to break down." Items for which mean customer satisfaction was lowest were "Condition of bus stops and shelters," "Level of safety from crime," and "Level of crowding on buses." The PSQ scale was found to be internally consistent in terms of Cronbach's Alpha, and the PSQ index was found to correlate strongly with service usage indicators. The PSQ scale is suitable as a tool for measuring customer satisfaction with bus services in a South African context.

1. INTRODUCTION

1.1 Background

Golden Arrow Bus Services (Pty) Ltd. (GABS) is the largest private bus company in the Western Cape, with a fleet of 1040 buses. The company provides subsidised, scheduled transport services to commuters under a contract with Western Cape Department of Transport. GABS operates over 3100 routes, serves approximately 220 000 passengers daily, and its buses travel about 55.4 million kilometres per year (John Dammert, personal communication, 8 April 2019). Service quality in public transport is a matter of great importance not only to public transport users and operators, but also to the wider society,

since quality improvements can lead to increased use of public transport, resulting in reduced traffic congestion, air pollution and energy consumption (Eboli & Mazzulla, 2008, pp. 509-510).

Tyrinopoulos and Aifadopoulou (2008) note that many large and medium-sized public transport operators use quality control systems within which customer satisfaction surveys play an important role. Gatta and Marcucci (2007) note that public transport has been moving from a production-oriented towards a more customer-oriented approach, with inclusion of customer-oriented quality requirements now a standard practice in contracts. In the Cape Town context, the Comprehensive Integrated Transport Plan (CITP) foresees an imminent change from interim contracts to tendered contracts, a process within which service quality evaluations will play a vital role (Transport and Urban Development Authority, 2013, p. 62). Accordingly, GABS has since 2012 commissioned researchers at the Cape Peninsula University of Technology (CPUT) to undertake a biennial customer satisfaction survey with its passengers. This paper pertains to the 2018 iteration of this survey.

1.2 Aim of research

The 2018 GABS customer satisfaction survey was a contract research project funded by GABS but undertaken independently. Its primary aims were to develop a measurement tool capable of comprehensively measuring customer satisfaction with bus services in a South African context, and to use this tool to assess customer satisfaction with GABS. Secondary aims included obtaining a demographic profile of GABS customers and identifying patterns in service usage. These secondary aims make the survey useful not only as a quality assurance exercise but also as a foundation for evidence-based marketing and operational planning.

1.3 Scope of research

The geographical scope of the research was the Cape Town Metropolitan Municipality that is serviced by GABS. Six termini were randomly selected within the municipality and customers were randomly selected and surveyed over the course of a five-day work week (10-14 September 2018). Data collection had originally been planned for May, in line with previous biennial surveys, but was postponed for four months due to the 2018 National Bus Strike and the lingering impact it may have had on customer satisfaction. In order to meet the primary research aim, a customised perceived service quality (PSQ) index was developed consisting of twenty individual items spanning all relevant service quality attributes. To measure the relative importance of these individual items to overall customer satisfaction level, an impact score technique was used.

2. LITERATURE REVIEW

Perceived service quality may be defined as “a global judgment, or attitude, relating to the superiority of the service” (Parasuraman et al., 1988, p. 16). There is no clear consensus regarding the definition of customer satisfaction (Spreng & Mackoy, 1996, p. 201), but most definitions entail an “evaluative, affective, or emotional response” (Oliver, 1989, p. 1). The use of customer satisfaction as a measure of perceived service quality originated in the field of market research and is now widespread in the transportation industry (Hu and Jen, 2006).

Eboli and Mazzulla (2007) proposed a tool for measuring customer satisfaction in public transport and tested it on university students in Cosenza, Italy who travel by bus. Their questionnaire measured satisfaction and importance on ten-point scales for sixteen service items. Stradling et al (2007) compared users' actual experiences with their perceptions of the ideal bus experience across 68 individual service quality items. Tyrinopoulos and Antoniou (2008) used eleven quality attributes to compare three public transport systems in Greece, identifying "a well-coordinated and well-structured transportation environment" to be the top policy priority (p. 269). Hensher, Stopher, and Bullock (2003) designed a Service Quality Index specifically for use in the provision of commercial bus contracts. They identified 13 service attributes that they tested on bus passengers in Sydney, Australia. Hu and Jen (2006) researched passengers' perceptions of service quality for the bus system in Taipei, Taiwan. Lai and Chen (2011) looked more specifically at how service quality and satisfaction affect intentions of users of a rapid transit system in Taiwan to continue or discontinue using the service. Redman et al (2013) divided service quality attributes into two broad categories: physical and perceived.

Eboli and Mazzulla (2008) adopt a stated preference approach to service quality, asking respondents to choose a preference between their current transport experience and two hypothetical alternatives. Cantwell, Caulfield, and O'Mahony (2009) also used a stated preference design for their questionnaire, which they sent by email to companies in Ireland, asking that it be distributed to employees who commute into the Dublin city centre. Krizek and El-Geneidy (2007) argued that accurate measurement of public perceptions about a particular transport service requires including both users *and non-users* in the survey. This is an insightful idea, but raises the difficult logistical problem of how to reach non-users. Eboli and Mazzulla (2011) compared objective measures of service quality (e.g., operational data) with subjective measures (e.g. customer satisfaction data). Similarly, Wall and McDonald (2007) analysed service quality of the bus service in Winchester, U.K. by comparing survey data with patronage data obtained from the local bus company. Olsson et al (2012) used a wholly subjective approach, focusing on context-specific well-being of customers rather than their satisfaction with specific aspects of the transport service.

Eboli and Mazzulla (2009) developed a new metric called the Heterogeneous Customer Satisfaction Index that weights each customer's satisfaction ratings according to the importance ratings given to the various items by that customer. Stradling, Anable, and Carreno (2007) used an importance-performance analysis (IPA) to combine importance and performance measures for public transport service attributes; they conceived of performance negatively in terms of user disgruntlement. Transportation Research Board (1999) criticises the idea of measuring the importance of individual service quality items directly by asking users to rate their importance on a numerical scale. Instead, they advocate an indirect approach that estimates the contribution of each service quality item to overall satisfaction; items with a greater contribution are deemed more important. In particular, they propose a gap scoring technique that entails, for each service quality item, asking customers whether they have experienced a problem with this part of the service in the past 30 days. They then calculate the difference in mean overall satisfaction score between customers who did not recently have a problem with this aspect of the service and those who did recently have a problem. If a particular "gap score" is large, it suggests that that service quality item is relatively important to customer satisfaction.

The present research drew on these previous studies for its notion of perceived service quality and for ideas on specific service quality items to measure, and for the gap scoring technique as a simple but ingenious way to measure the relative importance of individual

service quality aspects. Methodological sources that proved helpful in designing the questionnaire included Converse and Presser (1986), Lohr (1999), Bradburn et al (2004), and Vagias (2006).

3. METHODOLOGY

3.1 Questionnaire content

The GABS customer satisfaction survey questionnaire has evolved over the biennial iterations undertaken since 2012, although changes have been constrained by the desire to ensure results are comparable across years. The 2018 questionnaire was eight A4 pages in length and was trilingual (English, IsiXhosa, Afrikaans). The cover page included a recruitment script, three screening questions designed to exclude ineligible participants (e.g., those who were not GABS customers, who had already participated, or who were below age twelve), and metadata fields relating to the time, location, and enumerator for that questionnaire. (The researchers received ethical clearance from a duly constituted Research Ethics Committee, which approved the inclusion of minors aged twelve and above.) This was followed by twenty individual PSQ items (see Table 1). For each item, respondents were asked to rate their satisfaction with this part of the service on a scale from 1 ("very dissatisfied") to 5 ("very satisfied"), and were also asked whether this part of the service had given then any problem recently (within the last 30 days). Respondents were then asked to rate their overall satisfaction with the service on a scale from 1 to 10. A series of questions about current and future use of services followed, such as how long the customer had been using the service, what payment method and type of ticket they usually use, their main purpose for using the bus, how often they use the bus and other transport services, and whether they intend to continue using the service. Finally, customers were asked to provide basic demographic details, including sex, age, population group, employment, study, and disability statuses, highest education level completed, household monthly take-home income, household monthly transport expenditure, vehicle and cell phone ownership, and whether the customer has a driver's license.

Table 1: Individual service quality items

Affordability of Fares	Reliability of buses not to break down
Distances you must walk to reach bus stop or terminus	Driving ability of bus drivers
Waiting time at bus stop/terminus	Condition of bus stops/shelters
Travel time after boarding the bus	Temperature level inside bus
Timetable (hours when bus service is available)	Levels of noise and vibration on bus
Range of routes available	Levels of crowding on bus
Availability of route and timetable information	Other passengers' behaviour on bus
Convenience of fare payment system	Level of safety from traffic accidents
Ease of getting on and off bus	Level of safety from crime at bus stops and terminals and on bus
Attractiveness and cleanliness of buses	Helpfulness of Staff

3.2 Sampling and data collection procedure

The study population consisted of current GABS customers. A two-stage clustered random sampling procedure was used to select a representative sample. The first stage consisted of selecting six termini used by GABS. Three termini were sampled purposively (Cape

Town CBD, Mitchells Plain, Khayelitsha) due to their size and/or position on main trunk routes, while three other termini were sampled randomly, with selection probabilities weighted according to passenger volumes as per data available from City of Cape Town (2005) and Transport and Urban Development Authority (2013). The three termini selected in this way were Bellville, Claremont, and Killarney. The second stage consisted of selecting individual customers at these six termini during peak hours (06:00-09:30 and 15:00-18:30) over a five-day work week (10-14 September 2018). Enumerators were trained to choose a small integer *x* (e.g., 3 or 4) and then to approach the *x*th customer to cross a designated point, e.g., a line in the pavement. This is not technically random sampling (it is closer to systematic sampling), but helps to eliminate enumerator-related selection biases. A pilot survey was conducted on 3 September to test out the questionnaire and logistical arrangements and to provide enumerators with practice. Enumerators consisted of 48 students from the Mathematical Sciences programme at CPUT, working in groups of four, who were specially trained to minimise bias in participant selection. Informed consent was obtained from prospective participants orally and the survey was then administered by the enumerators using a face-to-face interview recorded on a paper questionnaire. Enumerator teams were rotated between different termini and shifts (morning vs. afternoon) in order to spread out possible interviewer effect biases.

A sample size of 2500 had been requested by GABS; it was determined using the method of Thompson (1987) that this would enable an acceptable level of precision for estimating multinomial proportions (such as the percentage of respondents choosing each response to a particular question). The actual number of respondents surveyed was 2677, of which 187 questionnaires were incomplete. Data from incomplete questionnaires was still used, provided that more than half the satisfaction items were complete. In these cases, a missing value imputation technique was used to impute missing values. Duplicate data entry (on which see Wahi et al, 2008) was used to minimise data capturing errors: all questionnaire data was captured twice into MS Excel spreadsheets that were checked for discrepancies using a computer script with discrepancies then corrected.

4. RESULTS

Statistical analysis of the data was conducted using R software (R Core Team, 2018).

4.1 Demographic and service usage profile

The data indicate the median age of customers is in the 30s, that female customers outnumber males, and that the majority of customers self-identify as Black African. About one-third of customers are currently studying at some level, while about two-thirds are currently employed. Over one-quarter of customers have a driver's license, and nearly half come from a household that owns at least one vehicle. Using an interval-censored regression technique, the mean monthly household take-home income for customers was estimated at about R7000, although this question had a very high non-response rate due to its sensitivity (72%). Using interval-censored regression, the mean monthly expenditure on transport by customers' households was estimated at just over R700 per month (with, again, a high non-response rate of 52%). This suggests that customers' households are spending, on average, just over 10% of their monthly take-home income on transport. However, the high risk of non-response bias and measurement bias means that these amounts are not altogether reliable. Full demographic results are reported in Table 2.

Table 2: Demographic characteristics

Characteristic	Sample Proportion as % (with 95% Confidence Interval)	Characteristic	Sample Proportion as % (with 95% Confidence Interval)
Age		Has disability	
12-19	17.1 (15.1, 19.1)	*Yes*	5.79 (4.94, 6.69)
20-29	31.0 (29.1, 33.0)	*No*	94.2 (93.4, 95.1)
30-39	25.0 (23.1, 27.0)	Has driver's license	
40-49	15.1 (13.2, 17.1)	*Yes*	26.3 (24.6, 28.1)
50-59	8.54 (6.58, 10.5)	*No*	73.7 (71.9, 75.5)
60+	3.23 (1.28, 5.24)	Vehicles owned by household	
Sex		*None*	53.8 (51.7, 56.0)
Male	44.2 (42.2, 46.3)	*One*	30.6 (28.5, 32.8)
Female	55.8 (53.8, 57.8)	*Two or more*	15.5 (13.4, 17.7)
Population Group		Monthly Household Income (take-home)	
Black African	60.1 (58.1, 62.1)	*R0-R1000*	3.12 (0, 6.52)
Coloured	36.9 (34.9, 38.9)	*R1001-R2000*	5.42 (2.03, 8.82)
White	2.49 (0.481, 4.49)	*R2001-R3000*	11.4 (7.99, 14.8)
Indian or Asian	0.361 (0, 2.37)	*R3001-R5000*	22.5 (19.1, 25.9)
Other	0.16 (0, 2.17)	*R5001-R7000*	20.2 (16.8, 23.6)
Study Status		*R7001-R9000*	10.2 (6.78, 13.6)
Not currently studying	68.2 (66.4, 70.1)	*R9001-R12000*	11.1 (7.72, 14.5)
Studying (primary)	0.984 (0, 2.85)	*R12001-R20000*	8.81 (5.42, 12.2)
Studying (secondary)	14.8 (12.9, 16.6)	*R20001-R32000*	5.01 (1.63, 8.41)
Studying (tertiary)	16.0 (14.2, 17.9)	*>R32000*	2.30 (0, 5.70)
Highest Level of Education Completed		Monthly Household Transport Expenditure	
No schooling	2.72 (0.67, 4.80)	*R0-R100*	0.938 (0, 3.68)
Grade R to Grade 9	10.2 (8.17, 12.3)	*R101-R200*	2.74 (0, 5.48)
Grade 10	9.47 (7.41, 11.5)	*R201-R300*	7.04 (4.3, 9.78)
Grade 11	16.3 (14.2, 18.3)	*R301-R500*	17.5 (14.8, 20.3)
Matric	39.1 (37.0, 41.2)	*R501-R700*	32.9 (30.2, 35.7)
Matric + Tertiary Certificate	8.66 (6.61, 10.70)	*R701-R900*	17.0 (14.3, 19.8)
Diploma	7.73 (5.67, 9.80)	*R901-R1200*	10.7 (7.97, 13.5)
Degree or higher	5.85 (3.80, 7.93)	*R1201-R1500*	3.44 (0.704, 6.18)
Has worked during past month		*R1501-R2000*	4.07 (1.33, 6.81)
Yes	67.8 (65.9, 69.8)	*R2001-R3500*	2.89 (0.156, 5.63)
No	32.2 (30.2, 34.1)	*>R3500*	0.704 (0, 3.45)

Coming to service usage results (Table 3), over half of GABS customers have been using the service for five years or less. Most customers prefer automated payment methods (smartcard; clipcard) to cash. A weekly ticket is by far the most popular type of ticket purchased. Over 70% of customers indicate that they use GABS to get to work, and most of the remainder use it to get to school. The median duration of customers' commutes (one way) is between 45-60 minutes. About 85% of customers intend to continue using the service. Over 90% of customers use the service at least four days per week. The most common alternative form of transport used by GABS customers is taxis; most GABS customers almost never use trains or MyCiti buses. Close to half of GABS customers use a private vehicle at least once per week.

Table 3: GABS customer transport usage characteristics

Characteristic	Relative Frequency % (with 95% Confidence Interval)	Characteristic	Relative Frequency % (with 95% Confidence Interval)
How Long Using GABS		Frequency of Use of GABS	
0-2 years	22.5 (20.5, 24.6)	*1 day/week or less*	3.19 (1.20, 5.21)
2-5 years	36.2 (34.1, 38.2)	*2-3 days/week*	5.98 (3.99, 8.00)
5-10 years	23.4 (21.4, 25.5)	*4-5 days/week*	59.0 (57.0, 61.0)
10-20 years	11.5 (9.44, 13.5)	*6-7 days/week*	31.8 (29.8, 33.8)
>20 years	6.52 (4.5, 8.6)	Frequency of Use of MyCiti	
Usual Method of Payment for GABS		*<1 day/month*	72.1 (69.3, 75.0)
Smartcard	44.4 (42.3, 46.5)	*1-3 days/month*	5.7 (2.91, 8.61)
Clipcard	39.2 (37.1, 41.3)	*1 day/week*	9.2 (6.4, 12.1)
Cash	16.4 (14.3, 18.6)	*2-3 days/week*	7.68 (4.89, 10.6)
Usual Type of GABS Ticket		*4-7 days/week*	5.36 (2.56, 8.27)
Single	10.1 (8.39, 11.9)	Frequency of Use of Taxis	
Weekly	72.2 (70.5, 74.0)	*<1 day/month*	25.7 (23.1, 28.5)
Monthly	17.6 (15.9, 19.4)	*1-3 days/month*	11.5 (8.83, 14.2)
Main Purpose of Using GABS		*1 day/week*	19.9 (17.3, 22.6)
Work	72.3 (70.6, 74.1)	*2-3 days/week*	28.5 (25.9, 31.2)
School	24.8 (23.0, 26.6)	*4-7 days/week*	14.4 (11.8, 17.2)
Shopping	1.4 (0, 3.2)	Frequency of Use of Trains	
Other	1.48 (0, 3.28)	*<1 day/month*	75.0 (72.3, 77.8)
Duration of Trip (Work and School Users)		*1-3 days/month*	7.65 (4.9, 10.4)
<30 min	11.9 (9.85, 14.1)	*1 day/week*	8.0 (5.26, 10.8)
30-45 min	29.5 (27.4, 31.6)	*2-3 days/week*	4.78 (2.03, 7.56)
45-60 min	22.3 (20.3, 24.5)	*4-7 days/week*	4.54 (1.79, 7.33)
60-90 min	24.5 (22.5, 26.7)	Frequency of Use of Private Vehicles	
>90 min	11.7 (9.64, 13.9)	*<1 day/month*	48.3 (45.3, 51.6)
Intends to Continue Using GABS		*1-3 days/month*	8.98 (5.96, 12.2)
Certainly	85.1 (83.7, 86.5)	*1 day/week*	15.8 (12.8, 19.0)
Probably	12.4 (11.1, 13.8)	*2-3 days/week*	17.3 (14.3, 20.5)
Prob. or Cert. Not	2.52 (1.18, 3.92)	*4-7 days/week*	9.57 (6.54, 12.8)

4.2 Perceived service quality

Results for the 20 individual service quality items (Figure 1) show that the three items with highest satisfaction scores are “Ease of getting on and off bus,” “Driving ability of drivers,” and “Reliability of buses not to break down.” Over three-quarters of customers gave satisfaction scores of 4 or 5 out of 5 on these items. The three items with the lowest satisfaction scores are “Condition of bus stops/shelters,” “Level of safety from crime at bus stops and terminals and on bus,” and “Levels of crowding on buses.” For each of these items, between one-third and half of customers gave satisfaction scores of 1 or 2 out of 5. The Cronbach’s Alpha score for the 20-item PSQ scale was 0.84, indicating an acceptable degree of internal consistency (Santos, 1999). The 20 individual item scores were rescaled to range from 0 to 4 and then aggregated to obtain a PSQ index scored on a scale from 0 (minimum PSQ) to 80 (maximum PSQ) (see Figure 2). The distribution is skewed to the right and the average score was estimated at 52.5, indicating a moderately high level of overall satisfaction. This figure largely agrees with the overall satisfaction scores that customers gave directly (Table 4), which had an average of 7.2 on a scale from 1 to 10.

Table 4: Overall satisfaction scores (asked directly)

Score	Relative Frequency % (with 95% Confidence Interval)	Score	Relative Frequency % (with 95% Confidence Interval)
1	1.66 (0, 3.60)	*6*	11.2 (9.33, 13.2)
2	0.694 (0, 2.64)	*7*	23.1 (21.2, 25.0)
3	1.70 (0, 3.64)	*8*	26.8 (25.0, 28.8)
4	2.43 (0.54, 4.37)	*9*	13.7 (11.8, 15.6)
5	10.2 (8.29, 12.1)	*10*	8.52 (6.63, 10.5)

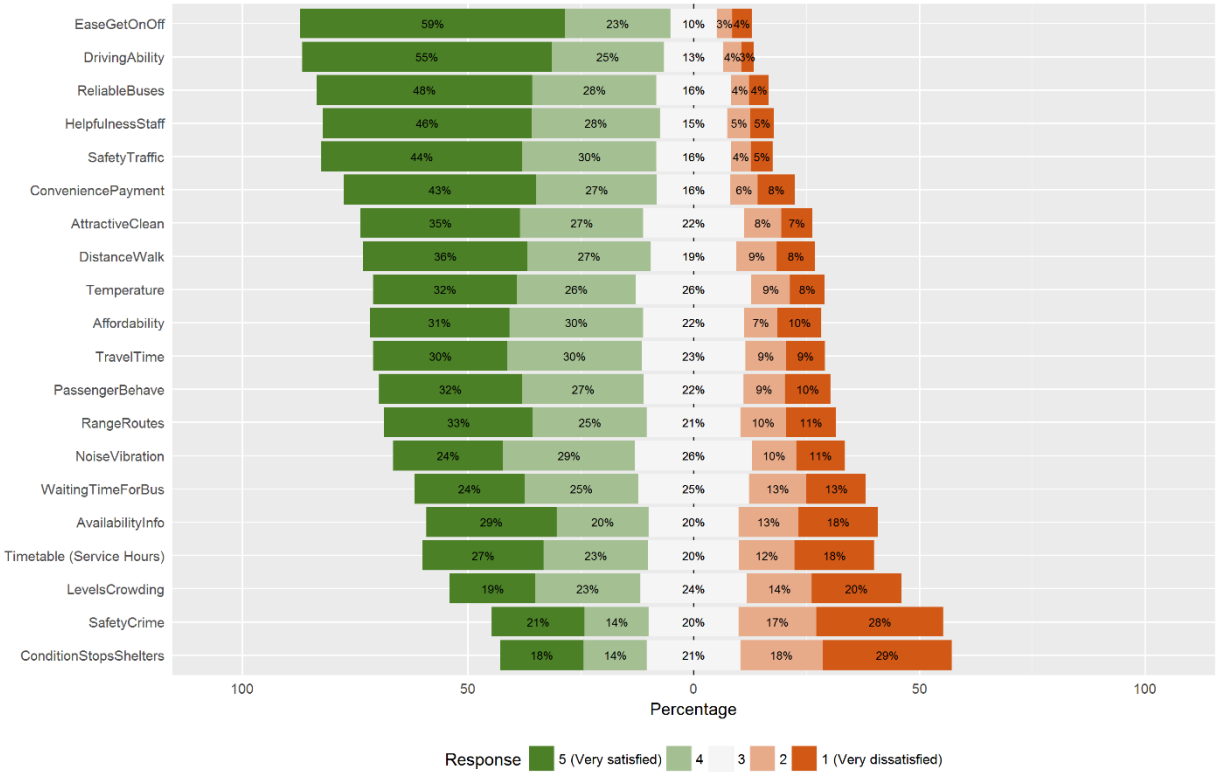

Figure 1: Response distribution for individual satisfaction items

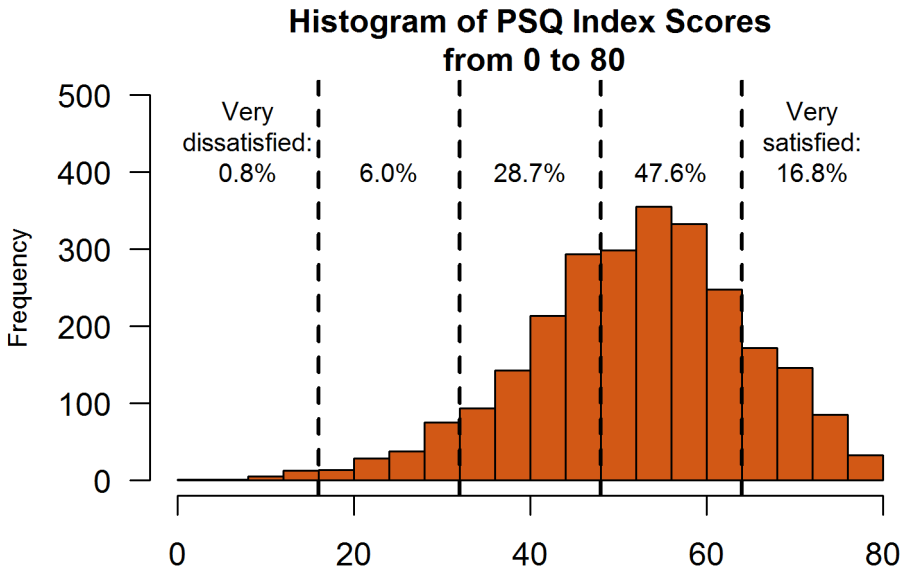

Figure 2: Histogram of PSQ Index scores

4.3 Gap scores and importance-performance analysis

To assess the relative importance to customers of the individual service quality items, the aforementioned gap scoring technique was used. The gap score for each item (Figure 3) represents the average difference in overall satisfaction between customers who *did not* report having recently experienced a problem with this aspect of the service and customers who *did* report having recently experienced a problem with this aspect of the service. The three items with the highest gap scores were "Helpfulness of Staff," "Affordability of Fares," and "Reliability of Buses not to Break Down," suggesting that these aspects of the service are of greatest overall importance to customers. The three items with the lowest gap scores were "Condition of bus stops/shelters," "Level of safety from crime at bus stops and terminals and on bus," and "Distances you must walk to reach bus stop or terminus." This suggests that, relatively speaking, these aspects of the service are less important to overall customer satisfaction. It must be conceded that assigning low importance to these items, especially safety from crime, is counterintuitive and conflicts with some qualitative data collected in the same survey via open-ended questions. This calls into question the effectiveness of the gap score technique relative to a conventional, direct measure of importance.

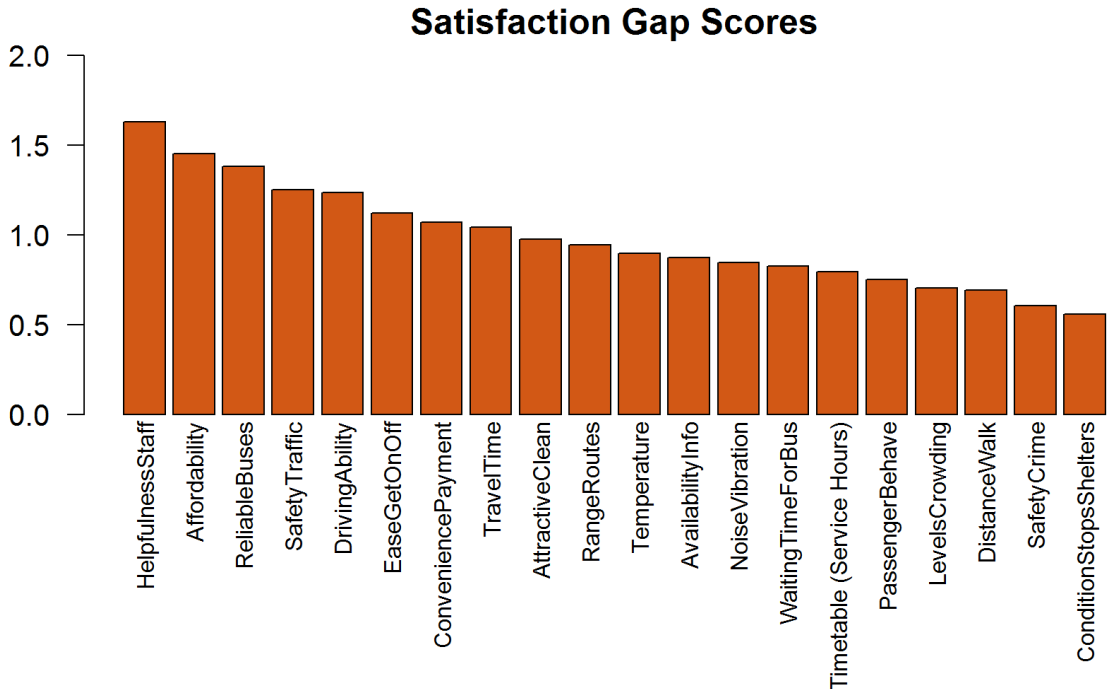

Figure 3: Gap scores of individual service quality items

Using the mean satisfaction score as a performance metric and the gap score as an importance metric for each service quality item, an importance-performance analysis was conducted. While the graph is not displayed due to space constraints, its upward slope suggested that GABS is generally performing well in precisely those service quality aspects that are most important to customers. This is a promising sign but could alternatively reflect the lack of independence between satisfaction and importance measures due to the gap score method. Items in the upper left quadrant (where performance is relatively low but importance relatively high) were "Travel time after boarding the bus" and "Range of routes available"; these should be prioritised for service improvement.

4.4 Relationship between perceived service quality and service usage

Kendall's rank correlation method was used to test for an association between PSQ index score and certain service usage indicators; a conservative significance level of 1% was used for these hypothesis tests. It was found that PSQ index score correlates positively with a customer's intention to continue using GABS (p-value=5.6×10^{-14}), meaning that customers with higher PSQ index scores tend to be more likely to continue using the service. No association was found between PSQ index score and how long a customer has been using GABS (p-value=0.092) or how frequently a customer uses GABS (p-value=0.29). However, a negative association was found between PSQ index score and frequency of taxi use (p-value=4.7×10^{-4}), meaning that customers who are less satisfied with GABS use taxis more often. Moreover, a negative association was found between PSQ index score and duration of usual bus trip (p-value=9.2×10^{-21}). The same directional statistical associations were found if the directly measured overall satisfaction score (from 1 to 10) was used as the satisfaction metric instead of the PSQ index score. These associations indicate that the PSQ index presented herein is a reliable measurement tool for customer satisfaction with bus transport services in a South African context.

5. CONCLUSION

This paper has presented the methods and results of a customer satisfaction survey undertaken during September 2018 with customers of Golden Arrow Bus Services (GABS) in Cape Town, South Africa. The research was able to achieve its primary aim of comprehensively measuring customer satisfaction with the service, which was done by means of a 20-item perceived service quality (PSQ) scale and an index calculated by aggregating the individual items. The PSQ scale was developed using a thorough literature review as well as the experience drawn from three previous GABS customer satisfaction surveys. The PSQ scale performed well in terms of internal consistency (as measured by Cronbach's Alpha) and the index performed well in terms of its association with key service usage variables. This suggests that the PSQ scale is suitable for use in customer satisfaction research on bus transport in the South African context and possibly beyond. The research was also able to achieve its secondary aims of profiling the demographic and service usage characteristics of GABS customers. The survey results suggest that most customers are reasonably satisfied with the GABS service and intend to continue using it. Using the gap score technique, the service quality items that are most important to GABS customers were determined to be "Helpfulness of Staff," "Affordability of Fares," and "Reliability of Buses not to Break Down." An importance-performance analysis suggests that GABS is generally performing well in the areas most important to customers, but that "Travel time after boarding the bus" and "Range of routes available" represent areas to prioritise for improvement.

This survey was undertaken as a contract research project funded by GABS but undertaken by CPUT Department of Mathematics and Physics independently and without interference. The contract between CPUT and GABS allowed for use of the results for research publications subject to permission from GABS, which permission has been duly granted.

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