# Scale for Measuring Perceived Service Quality of Public Service in Sri Lanka: With Special Reference to Divisional Secretariats in Gampaha District

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## Abstract

The most accepted SERVQUAL is heavily applied to measure the service quality of Business to Customer (B2C) profit oriented organizations than for non-profit organizations. Thus this paper describes the development of a 19-item instrument for assessing customer perceptions of service quality in public service with special reference to Divisional Secretariats in Sri Lanka. To do so, both qualitative and quantitative methods were utilized in three fundamental stages recommended by Churchill (1979) and Parasuraman et.al, (1988). In following their footsteps, initially a qualitative research was undertaken in five Divisional Secretariats within Gampaha District through interviews with 50 customers from different backgrounds and affiliations which produced 42-items with eight factors emerged. These 42-items were included in a questionnaire and quantitative study was undertaken with 100 respondents who were current or recent service beneficiaries of Divisional Secretariats within Gampatha District. Ninety five questionnaires were returned and found to be useful, which represents a 92% response rate. More than half (55%) of the respondents were male between the ages of 48-57(35%).To ensure the reliability and validity of the measures of service quality construct, mainly reliability test, split-half reliability and factor analysis, were used. Finally, 41-items were deduced in to 19-items and a new scale was developed to measure the service quality of Divisional Secretariats with 5 dimensions Responsiveness, Communication, Tangible, Empathy and Assurance. Among these responsiveness dimensions could be the least important and the empathy dimension was of most concern to customers. Regarding the limitations of the study in this respect, only the perception items were considered. The sample size was 100 and it was selected only from Gampaha District with the use of judgmental sampling as one of the non- probabilistic sampling techniques. The use of one of the probabilistic techniques would provide the chance of generalizing the results more confidently. As a closing note, further studies with large sample size which covers the all island using this newly developed scale to measure the service quality of Divisional Secretariats and replication studies with other public organizations would be fruitful for further generalizations of the newly developed scale.

**Keywords: Service Quality, SERVQUAL, Pubic Service, Divisional Secretariats**

## INTRODUCTION

The main aim of public sector organizations is to serve the community. As far as Sri Lanka is concerned, the need for public sector quality and productivity has been talked about very much, not just over the past few years, but over decades. The government, is therefore, burdened with several issues such as public sector reforms, unemployment, poverty alleviation and most importantly eliminating fraud and corruption. Public officers must therefore learn to appreciate the need to provide high quality service that the citizens demand while establishing managerial autonomy. Therefore, to measure the service quality of existing public service is very important to identify the areas to be improved. Unlike goods quality, which can be measured objectively by such indicators as durability and number of defects (Crosby 1979; Garvin 1983), service quality is an abstract and elusive construct because of three features unique to services: intangibility, heterogeneity, and inseparability of production and consumption (Parasuraman, et.al, 1985).

Service quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis (Lewis and booms 1983). Thus the service quality is fundamental for both profit and nonprofit oriented organizations. The most accepted SERVQUAL is heavily applied to measure the service quality of Business to Customer (B2C) profit oriented organizations than for non-profit organizations. In relation to public service in Sri Lanka there are many issues have been reported regarding the service quality not just over the past few years, but over decades. It has been observed that the literature, there are few studies have applied SERVQUAL to measure the level of service quality provided by some public institutions. But no studies are available related to Divisional Secretariats in Sri Lanka. Also, there is a need of a research to develop unique service quality measures for public service in Sri Lanka since Sri Lankan public services has given least attention for develop unique service quality measures to measure their service quality. Thus, the purpose of this study is to develop measures to examine customer perceptions on service quality over the public sector organizations with reference to Divisional Secretariats.

Divisional Secretariats are the key public service organizations control by Ministry of Public Administration and Management which provide many social services such Civil Registration, Issuing of Permits/Licenses, Payment of Pensions, Samurdhi Program, Social welfare, Social

Benefits and development programs. Therefore the objective of this study was two-fold; (1) to develop items for measuring service quality of public service in Sri Lanka (2) to evaluate their reliability and validity.

## LITERATURE

Over the past several years, there have been a variety of debates in the literature in consideration of service quality conceptualization and measurement. There a son was apparent that service quality may achieve two important crucial goals for a service organization that are finding and retaining satisfied or repetitive customers. In fact, service quality can be defined as a customer's perception of the overall superiority of an organization's excellence in providing service (Zeithaml, 1998).

Parasuraman et al. (1985; 1988) suggested that the customers' appraisal of the overall service quality depend on the gap between the actual performance and their expectations. Also, they claimed that customers evaluate service quality by using five criteria such as tangibles reliability, responsiveness, assurance, and empathy. Among these tangible dimensions could be the least important and the reliability dimension was of most concern to customers. After that these authors developed an instrument called SERVQUAL that has been the most widely used tool in measuring customer's perception of service quality in B2C organizations. Numerous researchers conducted the five dimension model in different sectors in different countries that some researches confirmed the five dimension model (e.g. Gabbie & Neill, 1996; Bojanic & Rosen, 1994; Mehta & Durvasula, 1998; Lam & Zhang, 1998) but some others failed (e.g. Carman, 1990; Babakus & Boller, 1992; Brown, Churchill & Peter, 1993; Ryan & Cliff, 1996). In consideration of other significant studies in the literature, it seems that service quality concept includes technical and functional quality (Gronroos, 1984); service product, service environment, and service delivery (Rust& Oliver, 1994); and interaction quality, physical environment quality, and outcome quality (Brady & Cronin, 2001).

Although, a lot of studies have been examined and practiced SERVQUAL model as a framework in measuring service quality, there has also been extensive criticism directed towards this measure in the marketing literature. These criticisms have mainly revolved around the interpretation and implementation of the instrument in the service industry

(Newman, 2001; Arasli et al., 2005). One of the biggest problems in the usage of SERVQUAL measurement is its dimensional structure that the researchers in different contexts reported different factors for expectations, perceptions and gap scores. Thus, shortcomings concerning its universality and divergent and convergent validity issues were have also been questioned (Buttle, 1996; Carmen, 1990; Cronin & Taylor, 1994). Despite the criticism, SERVQUAL has been widely used since it "…provides the basic skeleton…which can be adapted or supplemented to fit the characteristics or specific research needs of a particular organization…"(Parasuraman et al., 1988 ,p. 31).While there are some practitioners, scholars and academics who believe that this topic seems to come to the end of its life in the literature in the 2000's, still there are some opponent researchers who thinks that some industries did not hear the siren call of this concept and more adaptations and theoretical applications are required in their field. For example, Khan (2003) suggested ECOSERV for measuring quality expectations in ecotourism.

Even though, several scale have been replicated, adapted and developed to measure services such as SERVQUAL (Parasuraman et al., 1985; 1988), SERVPERF (Cronin & Taylor, 1992; 1994) in hotels, clubs and travel agencies, LODGSERV (Knutson, et al., 1990) in hotels DINESERV (Stevens, Knutson & Patton, 1995) in food and beverage establishments, SITEQUAL (Yoo & Donthu, 2001) in internet shopping, SERVPERVAL (Petrick, 2002) in airlines, SYSTRA-SQ (Aldlaigan & Buttle, 2002) in bank services, E-S-QUAL (Parasuraman, Zeithaml & Malhotra, 2005) in electronic services, SELEB (Toncar et al., 2006) in education services, RENTQUAL (Erdogan & Bavik, 2008) in car rental services and scale not named (Law & Hsu, 2006) in hotel web sites. However, less attention has been paid to the development of measures of service quality in public services.

This study aims to fill this gap in the relevant literature. Ozer (1999) recommended the development of industry specific quality measurements for a better fit to the nature of the industry. Nor et al. (2010) states that public sector organizations, which provide customer service is one of the important factors that gives significant contribution to build good reputation and credibility in the community. Public complaints of long queues, poor service and poor physical facilities are not adequate to affect the image and the quality level of service in the public sector. In echoing to this, the current study attempts to develop new measures for assessing the perceived service quality in public services. To do so, eight steps

approach proposed by Churchill (1979) and modified and used by Parasuraman, et al. (1988) will be followed. These eight steps are in turn: "specify domain of construct, generate sample of items, collect data, purify the measure, assess reliability with new data, assess construct validity and finally develop norms" (Churchill, 1979, p. 66). To operationalize these steps, grounded approach (Tabachnick & Fidell, 1996) will be employed by the use of both quantitative- in form of interview and qualitative-in form of close ended questionnaire techniques. Churchill & Peter (1980, p. 538) concluded that "…although measures in social sciences are never universally valid for all applications and in fact, the development of valid measures is a never-ending process, better measurement can only increase the quality of marketing research and theory…".

## METHODOLOGY

Churchill (1979) stressed the necessity of constructing a sound conceptual specification while developing a new measurement. In this sense, fifty interviews were conducted on Public Days (every week Wednesdays) in May and June 2016 with customers within the five Divisional Secretariats in Gampaha District where a judgmental sampling approach was used. Interviewees asked open-ended questions about their expectations, criteria and past experiences about services. Moreover, additional ad-hoc questions were asked to clarify the given responses and enhance the productivity of the interview process. Interviewees were selected from five Divisional Secretariats within the Gampaha District. Each interview last between 5-10 minutes and tape recorded. No incentive given to respondents.

Recorded interviews were studied by following the guidelines of a content analysis to create compositions of all answers. Subsequently statements related to the respondents' quality expectations from services were carefully highlighted. Researchers generated 42 distinctive statements using SERVQUAL model for the content categorization. In order to form the factors statements with similar characteristics were grouped. The grouping process was carried out individually and collectively and resulted with the identification of eight factors. They are Access, Certainty, Communication, Coordination, Courtesy, Reliability, Responsiveness and Tangible. Then a quantitative study was under taken to develop unique service quality measurement for Divisional Secretariats in Sri Lanka.

## ANALYSIS AND RESULTS

Resulting 42-items transformed in to pilot questionnaire and used to collect data for first stage validation. This stage is mainly serving the confirmation purpose of newly developed scales' psychometric properties (Chu & Murrmann, 2006). A seven-point Likert scale (Likert, 1932) ranging from (1) 'strongly disagree' to (7) 'strongly agree' was used. The sample of the pilot study consisted of 100 respondents from Gampaha District. The questionnaire was translated in to Sinhala and both Sinhala & English questionnaires distributed accordingly as required by the respondents. To qualify for the study, respondents had to have used the service from Divisional Secretariats during the past three months. Hundred questionnaires were distributed using non-probability judgmental sampling technique to respondents and they were requested to fill out the questionnaires in a self-administered manner. Ninety five questionnaires were returned and found to be useful only ninety two, which represents a 92% response rate. More than half (55%) of the respondents were male between the ages of 48-57(35%). The respondents' last visit to Divisional Secretariat indicates as follows.

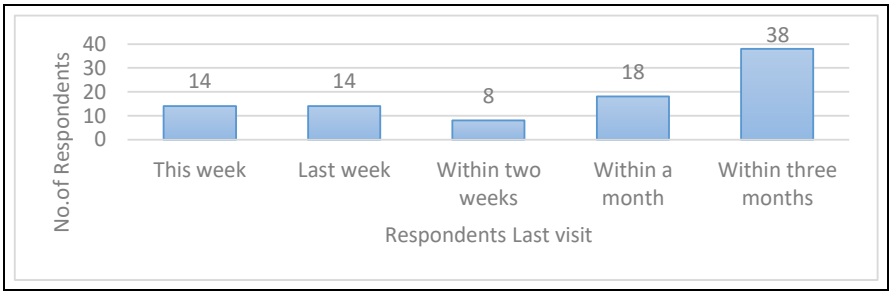


Figure 1: The respondents' last visit to Divisional Secretariat

Churchill (1979) and Parasuraman et al. (1988) suggested that the validation of an instrument begins with the computation of Cronbach's alpha coefficient, item-to-total correlation and exploratory factor analysis (EFA). The Cronbach's Alpha value for the 42 items was .884. There was no item to be deleted. Corrected Item-Total Correlation is the correlations between each item and the total score from the questionnaire. In a reliable scale all items should correlate with the total. So, it should be looked for items that don't correlate with the overall score from the scale: if any of these values are less than about .3 then there are a problem, because it means that a particular item does not correlate very well with the scale overall. Items with low correlations may have to be dropped. Nunnally (1970) recommended omission of the items (<.3) with low corrected item-to-total correlations. The first stages of this scale

development, totally 10 items were deleted from the instrument; (Table 1) for the results of Item-Total Statistics with remaining 32-items.

**Table 1 : Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .876 | .884 | 42 |

**Table2:Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q1 | 155.0326 | 585.373 | .373 | .732 | .873 |
| Q2 | 155.8152 | 589.009 | .385 | .724 | .873 |
| Q3 | 155.0326 | 589.812 | .379 | .686 | .873 |
| Q4 | 156.0109 | 612.934 | **.037** | .525 | .879 |
| Q5 | 155.8261 | 583.398 | .493 | .645 | .871 |
| Q6 | 154.8043 | 589.983 | .429 | .812 | .872 |
| Q7 | 155.6739 | 612.244 | **.063** | .654 | .878 |
| Q8 | 155.5543 | 593.393 | .360 | .785 | .875 |
| Q9 | 155.6739 | 582.464 | .478 | .814 | .871 |
| Q10 | 155.6304 | 603.642 | **.130** | .676 | .878 |
| Q11 | 155.8261 | 609.024 | **.081** | .733 | .878 |
| Q12 | 155.0326 | 581.504 | .495 | .752 | .871 |
| Q13 | 155.5761 | 596.686 | .350 | .755 | .875 |
| Q14 | 155.7609 | 568.975 | .618 | .905 | .868 |
| Q15 | 155.7391 | 565.404 | .672 | .902 | .867 |
| Q16 | 155.3152 | 575.053 | .541 | .888 | .870 |
| Q17 | 155.3587 | 574.320 | .609 | .893 | .869 |
| Q18 | 155.2391 | 577.722 | .607 | .876 | .869 |
| Q19 | 155.1196 | 581.008 | .558 | .867 | .870 |
| Q20 | 155.1630 | 572.314 | .631 | .874 | .869 |
| Q21 | 155.2717 | 601.101 | .387 | .798 | .875 |
| Q22 | 155.5978 | 608.661 | **.118** | .690 | .877 |
| Q23 | 155.9891 | 613.901 | **.027** | .661 | .879 |
| Q24 | 156.2391 | 591.986 | **.136** | .709 | .883 |
| Q25 | 155.6087 | 591.603 | .391 | .869 | .873 |
| Q26 | 155.3152 | 603.471 | **.162** | .878 | .877 |
| Q27 | 156.0435 | 584.372 | .508 | .732 | .871 |
| Q28 | 155.9130 | 583.113 | .427 | .798 | .872 |
| Q29 | 155.9674 | 599.241 | .301 | .693 | .877 |
| Q30 | 156.2065 | 584.561 | .456 | .931 | .872 |
| Q31 | 155.8696 | 590.576 | .378 | .898 | .873 |
| Q32 | 155.5217 | 583.131 | .541 | .859 | .871 |
| Q33 | 155.6413 | 579.419 | .609 | .843 | .870 |
| Q34 | 154.9348 | 592.743 | .343 | .860 | .874 |
| Q35 | 155.7609 | 579.700 | .584 | .831 | .870 |
| Q36 | 155.7826 | 623.667 | **-.122** | .701 | .881 |
| Q37 | 155.3478 | 583.526 | .517 | .819 | .871 |
| Q38 | 154.9891 | 596.253 | .303 | .794 | .874 |
| Q39 | 155.5978 | 580.749 | .479 | .818 | .871 |
| Q40 | 155.2717 | 586.266 | .397 | .873 | .873 |
| Q41 | 155.7283 | 583.870 | .508 | .822 | .871 |
| Q42 | 155.4783 | 602.516 | **.172** | .638 | .877 |

**Table 3 : Rotated Component Matrix[a]**

| | Component | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Q1 | .167 | -.063 | .152 | .259 | .324 | .259 | .068 | **.672** |
| Q2 | .165 | .373 | -.182 | .074 | .084 | **.643** | .112 | .081 |
| Q3 | -.010 | .148 | .093 | **.622** | -.174 | .274 | .091 | .060 |
| Q5 | .331 | .237 | .100 | .051 | -.048 | .380 | **.524** | -.005 |
| Q6 | .002 | .052 | .074 | **.704** | .444 | .047 | .163 | .111 |
| Q8 | .039 | -.106 | .154 | .164 | .029 | -.066 | **.846** | .141 |
| Q9 | .084 | .164 | -.033 | .390 | .361 | .142 | **.576** | -.095 |
| Q12 | -.146 | .224 | .329 | .392 | .140 | .326 | .499 | -.164 |
| Q13 | .115 | .494 | -.050 | -.065 | -.396 | .301 | .057 | -.034 |
| Q14 | .280 | **.759** | .018 | .152 | -.052 | .212 | .057 | .022 |
| Q15 | .275 | **.784** | .117 | .197 | .032 | .137 | .081 | .075 |
| Q16 | .136 | **.807** | .146 | .219 | .242 | -.021 | -.163 | .094 |
| Q17 | .176 | .483 | -.019 | **.567** | .080 | .017 | .199 | .043 |
| Q18 | .237 | .410 | .076 | **.624** | .134 | -.179 | .202 | .198 |
| Q19 | .052 | **.559** | .032 | .128 | .349 | .267 | .253 | -.031 |
| Q20 | .199 | .132 | .241 | .342 | .311 | .480 | .199 | .256 |
| Q21 | -.004 | .075 | .147 | .110 | **.840** | .144 | .010 | -.013 |
| Q25 | .499 | .300 | -.021 | .007 | -.029 | **.568** | -.318 | -.174 |
| Q27 | **.591** | -.106 | .224 | .159 | .010 | .385 | .084 | .040 |
| Q28 | .394 | .373 | .320 | -.113 | .278 | -.203 | .308 | -.195 |
| Q29 | -.011 | .288 | .072 | .160 | -.291 | -.035 | .007 | **.668** |
| Q30 | **.657** | .201 | .204 | .283 | -.300 | .023 | -.033 | -.280 |
| Q31 | .445 | .018 | .119 | .594 | -.005 | .143 | -.020 | -.485 |
| Q32 | **.825** | .278 | .003 | .033 | .009 | .017 | .077 | .013 |
| Q33 | **.738** | .363 | .153 | .032 | .145 | .062 | -.056 | .004 |
| Q34 | .499 | .036 | .025 | .018 | **.566** | -.190 | .193 | -.037 |
| Q35 | **.725** | .195 | .096 | .020 | .104 | .216 | .147 | .192 |
| Q37 | .329 | -.028 | **.594** | .427 | .240 | -.163 | -.034 | .149 |
| Q38 | .034 | .136 | **.835** | -.072 | .136 | -.008 | .045 | -.134 |
| Q39 | .215 | .446 | **.516** | .020 | -.328 | .182 | -.022 | .211 |
| Q40 | .217 | -.016 | **.767** | .118 | -.014 | -.112 | .171 | .163 |
| Q41 | .016 | .023 | **.680** | .174 | .085 | .512 | .124 | .055 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 15 iterations.

Then a Factor loadings obtained from EFA with Varimax rotation were further considered to test the factors and eliminate the poor performing items. Therefore as the second stage of this process Q12, Q13, Q28 & Q31 was deleted from the instrument; (Table 2) and Table 3 indicates the summary of 28 items which loaded to eight factors.

**Table 3 : Summary of Factor Lording**

| | | Factor-1 | Factor-2 | Factor-3 | Factor-4 | Factor-5 | Factor-6 | Factor-7 | Factor-8 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Q27 | .591 | | | | | | | |
| 2 | Q30 | .657 | | | | | | | |
| 3 | Q32 | .825 | | | | | | | |
| 4 | Q33 | .738 | | | | | | | |
| 5 | Q35 | .725 | | | | | | | |
| 6 | Q14 | | .759 | | | | | | |
| 7 | Q15 | | .784 | | | | | | |
| 8 | Q16 | | .807 | | | | | | |
| 9 | Q19 | | .559 | | | | | | |
| 10 | Q37 | | | .594 | | | | | |
| 11 | Q38 | | | .835 | | | | | |
| 12 | Q39 | | | .516 | | | | | |
| 13 | Q40 | | | .767 | | | | | |
| 14 | Q41 | | | .680 | | | | | |
| 15 | Q3 | | | | .622 | | | | |
| 16 | Q6 | | | | .704 | | | | |
| 17 | Q17 | | | | .567 | | | | |
| 18 | Q18 | | | | .624 | | | | |
| 19 | Q21 | | | | | .840 | | | |
| 20 | Q34 | | | | | .566 | | | |
| 21 | Q2 | | | | | | .643 | | |
| 22 | Q20 | | | | | | .480 | | |
| 23 | Q25 | | | | | | .568 | | |
| 24 | Q5 | | | | | | | .524 | |
| 25 | Q8 | | | | | | | .846 | |
| 26 | Q9 | | | | | | | .576 | |
| 27 | Q1 | | | | | | | | .672 |
| 28 | Q29 | | | | | | | | .668 |

The third stage of this scale development process, reliability and validity were tested for new eight factors. The reliability statistics of the data set was ensured with a Cronbach's Alpha value of more than .7 (Flynn et.al; 1994 cited Chen and Paluraj, 2010) the reliability of the instrument was ensured in term of consistency. Next step of the instrument development was to examine whether the deletion of any items could improve the Cronbach's Alpha value.

When ensuring construct validity Exploratory Factor Analysis with Principal Component Analysis should be carried-out. To examine whether items in the scale measures the theoretical construct (Service Quality) convergent and discriminant validity have to be ensued. If an item loads significantly <.5 (Field, 2009, p. 648) on the factor, it is measuring the convergent validity is prevalent and if it ensures that no other items are measured by the concept discriminant validity could be established.

Each factor explains a percent of the total variance. Factors that do not explain much variance Charles W. Mueller (1978) might not be worth including in the final model. It takes some

iteration to come up with the optimal number of factors. Reliability and validity analysis of each factor's as fallows.

**Factor 1**

**Table 4 : Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .837 | .839 | 5 |

**Table 5 : Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q27 | 14.2609 | 17.975 | .533 | .344 | .833 |
| Q30 | 14.4239 | 16.818 | .576 | .410 | .824 |
| Q32 | 13.7391 | 16.415 | .730 | .604 | .780 |
| Q33 | 13.8587 | 16.738 | .699 | .536 | .789 |
| Q35 | 13.9783 | 16.681 | .674 | .569 | .795 |

The Cronbach's Alpha value for the five items included in factor 1 was .839. There was no item to be deleted and the values in the column labeled Corrected Item-Total Correlation are above 5.

**Table 6: Summary -Factor 1**

| **No of Items** | | | **Absolute loading** |
|---|---|---|---|
| **1** | Q27 | Employee in Divisional Secretariat are willingness to accept complaints or criticisms and at the same time | **.681** |
| **2** | Q30 | Employee in Divisional Secretariat always being available to deliver the service | **.725** |
| **3** | Q32 | Employee in Divisional Secretariat will be efficiency | **.854** |
| **4** | Q33 | Employee in Divisional Secretariat always readiness to provide service | **.827** |
| **5** | Q35 | Employee in Divisional Secretariat should never too busy to respond to customer's requests | **.813** |

**Total Variance Explained 61.24%**

All items had strong loadings on the construct, they were supposed to measure indicating unidimensionality and construct validity. Total Variance Explained was 61.24%.

**Factor 2**

**Table 7: Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .857 | .855 | 4 |

**Table 8: Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q14 | 11.8696 | 14.071 | .720 | .608 | .810 |
| Q15 | 11.8478 | 13.427 | .800 | .685 | .774 |
| Q16 | 11.4239 | 14.159 | .724 | .539 | .808 |
| Q19 | 11.2283 | 17.167 | .571 | .348 | .867 |

The Cronbach's Alpha value for the four items included in factor 2 was .855. There was an item to be deleted. It was Q19. To increase the Alpha value Q19 deleted from the scale.

**Table 9: Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .867 | .867 | 3 |

**Table 10: Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q14 | 7.6413 | 8.101 | .744 | .606 | .815 |
| Q15 | 7.6196 | 7.689 | .819 | .680 | .745 |
| Q16 | 7.1957 | 8.621 | .680 | .482 | .863 |

The new Cronbach's Alpha value for the five items included in factor 2 was .867. There was no item to be deleted and the values in the column labeled Corrected Item-Total Correlation are above.3.

**Table 11: Summary -Factor 2**

| **No of Items** | | | **Absolute loading** |
|---|---|---|---|
| **1** | Q14 | Unit functions of the Divisional Secretariat very well together as a team | **.890** |
| **2** | Q15 | Employees should have effective one to one communication | **.927** |
| **3** | Q16 | Employee in Divisional Secretariat will be polite and friendly | **.849** |

**Total Variance Explained 79.08 %**

All items had strong loadings on the construct, they were supposed to measure indicating unidimensionality and construct validity. Total Variance Explained was 79.08%.

**Factor 3**

**Table 12 : Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .793 | .796 | 5 |

**Table 13 : Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q37 | 15.8043 | 18.577 | .566 | .389 | .757 |
| Q38 | 15.4457 | 17.788 | .606 | .387 | .744 |
| Q39 | 16.0543 | 18.316 | .469 | .249 | .790 |
| Q40 | 15.7283 | 16.354 | .651 | .454 | .728 |
| Q41 | 16.1848 | 18.328 | .588 | .361 | .751 |

The Cronbach's Alpha value for the five items included in factor 3 was .796. There was no item to be deleted and the values in the column labeled Corrected Item-Total Correlation are above.3.

**Table 14: Summary -Factor 3**

| **No of Items** | | | **Absolute loading** |
|---|---|---|---|
| **1** | Q37 | Divisional Secretariat allows the implementation of service which does not distinguish the class or status of the communities | **.740** |
| **2** | Q38 | Divisional Secretariat should be cleanliness and order | **.773** |
| **3** | Q39 | Divisional Secretariat have enough waiting area for customers | **.640** |
| **4** | Q40 | Divisional Secretariat will have sufficient service providers to provide expected service by customers | **.806** |
| **5** | Q41 | Divisional Secretariat will have Modern technology | **.748** |

**Total Variance Explained 55.25%**

All items had strong loadings on the construct, they were supposed to measure the unidimensionality and construct validity. Total Variance Explained was 55.25%.

**Factor 4**

**Table 15: Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .746 | .748 | 4 |

**Table 16: Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q3 | 12.6413 | 10.672 | .405 | .167 | .764 |
| Q6 | 12.4130 | 10.685 | .504 | .298 | .707 |
| Q17 | 12.9674 | 9.307 | .585 | .474 | .661 |
| Q18 | 12.8478 | 9.185 | .688 | .555 | .603 |

The Cronbach's Alpha value for the four items included in factor 2 was .748. There was an item to be deleted. It was Q3. To increase the Alpha value Q19 deleted from the scale.

**Table 17: Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .764 | .763 | 3 |

**Table 18: Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q6 | 8.0978 | 6.199 | .472 | .269 | .709 |
| Q17 | 8.6522 | 4.933 | .599 | .464 | .682 |
| Q18 | 8.5326 | 4.779 | .735 | .552 | .520 |

The new Cronbach's Alpha value for the three items included in factor 3 was .763. There was no item to be deleted and the values in the column labeled Corrected Item-Total Correlation are again all above.3.

**Table 19: Summary -Factor 4**

| **No of Items** | | | **Absolute loading** |
|---|---|---|---|
| **1** | Q6 | Employee in the Divisional Secretariat Should have the capability to answer customer's questions | **.533** |
| **2** | Q17 | Employee in Divisional Secretariat give explanations and instructions to their customers on a friendly way | **.697** |
| **3** | Q18 | Employee in Divisional Secretariat will respect for customers | **.818** |

**Total Variance Explained 68.25%**

All items had strong loadings on the construct, they were supposed to measure the unidimensionality and construct validity. Total Variance Explained was 68.25%.

**Factor 5**

**Table 20 : Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .584 | .596 | 2 |

**Table 21 : Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q21 | 4.4130 | 1.871 | .424 | .180 | . |
| Q34 | 4.0761 | 1.170 | .424 | .180 | . |

The Cronbach's Alpha value for the two items included in factor was .596. It was less than .7. Therefore this factor was deleted from the scale.

**Factor 6**

**Table 22 : Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .659 | .661 | 3 |

**Table 23 : Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q2 | 7.9239 | 4.862 | .519 | .280 | .492 |
| Q20 | 7.2717 | 5.343 | .414 | .173 | .640 |
| Q25 | 7.7174 | 5.590 | .482 | .250 | .550 |

The Cronbach's Alpha value for the three items included in factor 6 was .661.It was close to .7. Also there was no item to be deleted to increase the Cronbach's Alpha value but the values in the column labeled Corrected Item-Total Correlation are above.3, which is good.

**Table 24: Summary -Factor 6**

| **No of Items** | | | **Absolute loading** |
|---|---|---|---|
| **1** | Q2 | When customer required a service from Divisional Secretariat, it is easily accessible by telephone | **.813** |
| **2** | Q20 | Employee in Divisional Secretariat will treat customers courteously on the phone | **.716** |
| **3** | Q25 | Divisional Secretariat maintains the trustworthiness | **.785** |

**Total Variance Explained 59.68%**

All items had strong loadings on the construct, they were supposed to measure unidimensionality and construct validity. Total Variance Explained was 59.68%.

**Factor 7**

**Table 25: Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .627 | .628 | 3 |

**Table 26: Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q5 | 7.4674 | 6.933 | .387 | .151 | .595 |
| Q8 | 7.1957 | 5.038 | .486 | .239 | .459 |
| Q9 | 7.3152 | 6.262 | .450 | .209 | .512 |

The Cronbach's Alpha value for the three items included in factor 7 was .620. There was no item to be deleted to increase the Alpha value therefore these Q5,Q8 & Q9 were deleted from the scale.

**Factor 8**

**Table 27 : Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .430 | .430 | 2 |

**Table 28 : Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|---|
| Q1 | 3.3804 | 2.964 | .274 | .075 | . |
| Q29 | 4.3152 | 2.658 | .274 | .075 | . |

The Cronbach's Alpha value for the two items included in factor 8 was .430.It was less than .7. Therefore these Q1 & Q29 were deleted from the scale. Final stage of this scale development process, new factors were named as follows.

F1- Responsiveness F2- Communication

F3-Tangible F4-Empathy

F6-Assurance

There are only 19 items under five dimensions for the new sale to measure the service quality of Divisional Secretariats**.** To ensure more reliability of this measures Split –half reliability was concerned. This SPSS out- put indicates the all these data were supportive of the reliability of the measurement.

**Table 29: Reliability Statistics**

| | | | |
|---|---|---|---|
| Cronbach's Alpha | Part 1 | Value | .850 |
| | | N of Items | 10[a] |
| | Part 2 | Value | .827 |
| | | N of Items | 9[b] |
| | Total N of Items | | 19 |
| Correlation Between Forms | | | .610 |
| Spearman-Brown Coefficient | Equal Length | | .758 |
| | Unequal Length | | .758 |
| Guttman Split-Half Coefficient | | | .752 |

a. The items are: Q2, Q6, Q17, Q18, Q20, Q25, Q14, Q15, Q16, Q27.
b. The items are: Q30, Q32, Q33, Q35, Q37, Q38, Q39, Q40, Q41.

Again to ensure the reliability of this measure Composite Reliability (CR) and Average Varian Extracted (AVE) were calculated using following equations. The Composite Reliability indicates the reliability and internal consistency of a latent construct. A value of CR≥0.6 (Fornell & Larker,1981) is required in order to achieve composite reliability for a construct. The Average Variance Extracted indicates the average percentage of variation explained by the measuring items for a latent construct. AVE ≥0.5 (Fornell & Larker, 1981) is required for every construct.

**AVE**= $\sum K^2 /n$ K= factor loading of every item n = number of items in a model

**CR**= $(\sum K)^2/[(\sum K)^2+ (\sum 1-K^2)]$

**Table 30: AVE & CR values**

| | F1 | F2 | F3 | F4 | F6 |
|---|---|---|---|---|---|
| Average Variance Extracted (AVE) | .612 | .790 | .552 | .499 | .596 |
| Composite Reliability (CR) | .887 | .981 | .832 | .596 | .815 |

All AVE and CR values included in Table 28 indicates that there is a good reliability of this measures**.** In order to provide support for discriminant validity, Pearson correlations among the study factors were computed. For this purpose, composite scores for each factor were calculated by averaging scores representing that dimension. Table 29 shows the significant correlations among the factors. The highest correlation occurred between F2 and F4 (0.558) and reversely, the lowest correlation was found between F6 and F3 (0.284) Bauer,et.al (2006) recently assessed their newly developed scales' discriminant validity by utilizing conservative Fornell/Larcker test. Fornell & Larcker (1981) recommended that shared variance (i.e., square of the correlation) among any two constructs should be less than the average variance extracted (AVE) of each factor (Table30)

**Table 31: Pearson Correlation**

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

| | F1 | F2 | F3 | F4 | F6 |
|---|---|---|---|---|---|
| F1 | ***1*** | | | | |
| F2 | 0.518 | ***1*** | | | |
| F3 | 0.431 | 0.344 | ***1*** | | |
| F4 | 0.348 | 0.558 | 0.323 | ***1*** | |
| F6 | 0.531 | 0.522 | 0.284 | 0.406 | ***1*** |

**Table 32: Squired Multiple Correlation (SMC)**

| | F1 | F2 | F3 | F4 | F6 |
|---|---|---|---|---|---|
| F1 | ***0.612*** | | | | |
| F2 | 0.268 | ***0.790*** | | | |
| F3 | 0.186 | 0.118 | ***0.552*** | | |
| F4 | 0.121 | 0.311 | 0.104 | ***0.499*** | |
| F6 | 0.282 | 0.272 | 0.081 | 0.165 | ***0.596*** |

AVE shown as italic on diagonal

| | | | | | |
|---|---|---|---|---|---|
| **Mean** | **3.51** | **3.74** | **3.96** | **4.21** | **3.81** |
| **SD** | **1.01** | **1.38** | **1.03** | **1.08** | **1.06** |

AVE vs. SMC significantly indicates the discriminant validity of this measurement

Finally, the developed new scale with five dimensions is as follows.

**Table 33: New Questionnaire for measuring Service Quality of Divisional Secretariat**

| | | Rank | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | SD | Disagree | SD | Neutral | SA | **Agree** | SA |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | **F1- Responsiveness** | | | | | | | |
| 1 | Openness - Employee in Divisional Secretariat are willingness to accept complaints or criticisms and at the same time | | | | | | | |
| 2 | Employees in Divisional Secretariat always being available to deliver the service | | | | | | | |
| 3 | Employees in Divisional Secretariat will be efficiency | | | | | | | |
| 4 | Employees in Divisional Secretariat always readiness to provide service | | | | | | | |
| 5 | Employees in Divisional Secretariat should Never too busy to respond to customer's requests | | | | | | | |
| | **F2-Communiocation** | | | | | | | |
| 6 | Unit functions of the Divisional Secretariat very well together as a team | | | | | | | |
| 7 | Employees should have effective one to one communication | | | | | | | |
| 8 | Employees in Divisional Secretariat will be polite and friendly | | | | | | | |
| | **F3- Tangible** | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | Divisional Secretariat allows the implementation of service which does not distinguish the Class or status of the communities –Fair in service | | | | | | | |
| 10 | Divisional Secretariat should be Cleanliness and order | | | | | | | |
| 11 | Divisional Secretariat have Enough waiting area for customers | | | | | | | |
| 12 | Divisional Secretariat will have sufficient service providers to provide expected service by customers | | | | | | | |
| 13 | Divisional Secretariat will have Modern technology | | | | | | | |
| | **F4-Empathy** | | | | | | | |
| 14 | Employees in the Divisional Secretariat Should have the capability to answer customer's questions | | | | | | | |
| 15 | Employees in Divisional Secretariat give explanations and instructions to their customers on a friendly way | | | | | | | |
| 16 | Employees in Divisional Secretariat will Respect for customers | | | | | | | |
| | **F5- Assurance** | | | | | | | |
| 17 | When customer required a service from Divisional Secretariat, it is easily accessible by telephone | | | | | | | |
| 18 | Employees in Divisional Secretariat will teat customers courteously on the phone | | | | | | | |
| 19 | Divisional Secretariat maintains the trustworthiness | | | | | | | |

## DISCUSSION AND CONCLUSION

This paper aims to develop a measurement scale measure services quality of Divisional Secretariats as a case. To do so scale development steps recommended by Churchill (1979) and Parasuraman et al. (1988) followed. Qualitative study was under taken to develop 42-items emerge eight factors. They are Access, Certainty, Communication, Coordination, Courtesy, Reliability, Responsiveness and Tangible. After that quantitative study was employed to purify the scale items, examine dimensionality, reliability, factor structure and validity. Finally,19-item scale with 5 factors Responsiveness, Communication, Tangible, Empathy, and Assurance. Among these responsiveness dimensions could be the least important and the empathy dimension was of most concern to customers. This study contributed to the conceptual and methodological advancement of service quality and public sector literature by developing new scale to measure service quality perception of the customers of Divisional Secretariats.

Analysis of findings revealed that empathy, with the mean score of 4.21 is the most important factor in public services. Respondents stated Employee in the Divisional Secretariat should have the capability to answer customer's questions and give explanations and instructions to them on a friendly way. Also customers expect the respect from contact personnel. Second most important factor found to be the tangible, mean score is 3.96. Respondents expect more facilities like cleanliness and order, enough waiting area, modern technology, enough service providers and fair in service. Assurance found to be the next most important factor (mean score 3.81). Customers should have the easy accessible by telephone, courtesy and trustworthiness. Communication mean score is 3.74. Respondents reported that effective one to one communication between the employees and the team work is very important to provide a better service. Responsiveness has the lowest mean score it is 3.51. Respondents reported that they expect, service providers always being available and readiness to provide the service. Also they never too busy to respond to beneficiary's requests. In this study responsiveness is the least important factor. The reason for this low ranking can be the fact that the government has allocated a public's day for every week to serve more efficient service for beneficiaries and the employees are always being available on public's day to deliver the service.

However, in the SERVQUAL model development process Parasuraman et.al (1988) used four clusters like Banks, Credit Card Companies, Repair - Maintenance Companies and Telephone Companies. Finally, analysis of findings revealed that reliability is consistently the most critical dimension. Assurance is the second most important dimension in all four cases. Tangibles is more important in the case of the bank than in the other three firms, while the reverse was true for responsiveness. Empathy is the least important dimension in all four cases.

Comparison with SERVQUAL and new scale as follows;

| ITEMS OF NEW SCALE | ITEMS OF SERVQUAL |
|---|---|
| **RESPONSIVENESS** | |
| Openness - Employee are willingness to accept complaints or criticisms and at the same time | It is not realistic for customers to expect prompt service from employees of these firms |
| Employee always being available to deliver the service | They should be expected to tell customers exactly when services will be performed |
| Employee will be efficiency | Their employees always have to be willing to help customers |
| Employee are always readiness to provide service | should never too busy to respond to customer requests promptly |
| should never too busy to respond to customer's requests | |
| **TANGIBLE** | |
| Fair in service | The appearance of the physical facilities of these firms should be in keeping with the type of services provided. |
| Cleanliness and order | Employees are well dressed and appear neat. |
| Enough waiting area for customers | Physical facilities are visually appealing. |
| Modern Technology | Up-to-date equipment. |
| sufficient service providers | |
| **EMPATHY** | |
| Employee Should have the capability to answer customer's questions | These firms should not be expected to give customers individual attention. |
| Employee give explanations and instructions to their customers on a friendly way | Employees of these firms cannot be expected to give customers personal attention |
| Employee will Respect for customers | It is unrealistic to expect employees to know what the needs of their customers are. |
| | It is unrealistic to expect these firms to have their customers' best interests at heart. |
| | They shouldn't be expected to have operating hours convenient to all their customers. |
| **ASSURANCE** | |
| When customer required a service from Divisional Secretariat, it is easily accessible by telephone | Customers should be able to feel safe in their transactions with these firms' employees |
| Employee in Divisional Secretariat will teat customers courteously on the phone | Their employees should be polite |
| Divisional Secretariat maintains the trustworthiness | Customers should be able to trust employees of these firms |
| | Their employees should get adequate support from these firms to do their jobs well |
| **COMMUNICATION** | |

| | **RELIABILITY** |
|---|---|
| Unit functions of the Divisional Secretariat very well together as a team | When these firms promise to do something by a certain time, they should do so. |
| Employees should have effective one to one communication | When customers have problems, these firms should be sympathetic and reassuring. |
| Employee in Divisional Secretariat will be polite and friendly | These firms should be dependable |
| | They should provide their services at the time they promise to do so. |
| | They should keep their records accurately |

## LIMITATIONS AND FUTURE STUDIES

The findings of this research should be interpreted in the light of the following limitations. There is continuing debate on using either gap scores that is perception minus expectation (Parasuraman et al., 1986; 1991) or just perceptions (Cronin & Taylor, 1992). The first limitations with a sample distribution, having the respondents fill out two questionnaires; one before the service usage and another after was not possible due to time and follow up constraints. As Carman (1990) cogently discussed both; expectation and perception measures most of the time cannot be used simultaneously. Regarding the limitations of the study in this respect, only the perception items were conducted.

These second limitation is the use of judgmental sampling technique as one of the non-probabilistic sampling techniques. Perhaps the use of one of the probabilistic techniques would provide the chance of generalizing the results more confidently. The sample size was 100 and it was selected only from Gampaha District. Also the original questionnaire was translated in to Sinhala and sometimes the real meanings were expected from the items should be changed.

As a closing note, further studies can be recommended with large sample size which covers the all island using this newly developed sale to measure the service quality of Divisional Secretariats and replication studies with other public organizations would be fruitful for further generalizations of the newly developed scale.

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