ANALYSING RELATIONSHIPS AMONG FRONTLINE EMPLOYEE PERCEPTIONS OF REWARDS, ATTITUDES AND SERVICE QUALITY IN BANKING CALL CENTRES: AN INTERNAL MARKETING PERSPECTIVE

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Chapter 7: Data Analysis - Part 1

Initial Data Analysis

7.1 Introduction

Chapter 6 outlined the methodology adopted for data collection. This chapter discusses the initial phase of data analysis carried out on the data obtained from the frontline employees in the call centres. Initial data analysis was done on the responses received using statistical software SPSS 10.0. Later further analysis, such as confirmatory factor analysis, was done using advanced statistical technique, structural equation modelling, with software AMOS 4.0 (Arbuckle, 1999).

Initial data analysis encompasses testing the data for assumptions, treatment of missing data, obtaining factor structure by conducting exploratory and confirmatory factor analysis, assessing dimensionality, testing reliability and validity of the measuring instruments, and analysing descriptive statistics, including employee demographic data. These issues are discussed in the following sections.

7.2 Data Assumptions Testing

Examining data and testing for statistical assumptions are an essential part of data analysis procedure. It helps to avoid any 'hidden' problems that may underlie and later cause problems when advanced statistical techniques are applied to the data (Hair et al., 1998). The following sections deal with the testing for statistical assumptions that are deemed necessary for statistical analysis like multivariate techniques and structural equation modelling. Hair et al. (1998) suggest that these assumptions should be tested twice, first for the separate variables, and second for the variate. Hence, these

suggestions were followed while testing for the assumptions underlying the statistical techniques.

7.2.1 Normality

Normality refers to the shape of the data distribution for a variable, and its correspondence to the normal distribution (Hair et al., 1998). Both graphical plots, such as histograms and normal probability plots, and statistical tests like the Kolmogorov-Smirnov test were used to assess normality, both for the individual variable and the variate.

In the case of the Kolmogorov-Smirnov test, the dispersion for most of the indicators was found to be skewed. However, since statistical tests are more sensitive to sample size (Norusis, 2000), normality was further assessed through histograms and normal probability plots. Mostly, data were found to be normally distributed for almost all the variables and their corresponding variates, and no major problems of non-normality could be detected.

Moreover, according to Hair et al. (1998), the effects of non-normality tend to diminish in larger sample sizes (n>100). Since the sample size was reasonably large (n=342), and the graphical methods indicated normality in most of the cases (more than 90%), it was assumed that the data variables were normally distributed.

7.2.2 Linearity

In order to test linearity, scatterplots of the variables were examined to identify any non-linear patterns in the data. Further, residual and partial regression plots were also

examined to assess linearity. Examination of these plots did not reveal any apparent non-linear relationships. Since no consistent curvilinear pattern in the residuals could be found in the above mentioned graphical methods, it is presumed, based on Hair et al. 1998, that the data satisfy the assumption of linearity.

7.2.3 Additivity

Assessing additivity is in a way re-confirming the tests of linearity. The interaction terms were checked through regression, and the results further clarified upon the assumption of additivity.

7.2.4 Heteroscedasticity

Data were also checked for the assumption of heteroscedasticity, that is, the presence of unequal variances. This assumption was checked using residual plots, as suggested in Hair et al. (1998). No consistent pattern could be found, hence confirming that the variances were found to be constant throughout. In other terms, the data were found to be satisfactorily meeting the assumption of homoscedasticity.

7.2.5 Multi-collinearity

This assumption was checked by estimating the VIF values. According to Hair et al. (1998), there exists a problem of multi-collinearity if the VIF values are found to be greater than 10. However, as shown in Appendix A7.1, since none of the VIF values exceeded 10, it can be safely concluded that the data did not suffer from the problem of multi-collinearity.

Like testing data for statistical assumptions, treatment of missing data is also an essential part of data analysis procedure. The next section discusses how the missing data were dealt with in order to prepare data for further statistical analysis.

7.3 Treatment of Missing Data

The missing data process is "any systematic event external to the respondent (such as data entry errors or data collection problems) or action on the part of the respondents (such as refusal to answer)" (Hair et al., 1998, p. 46). Missing data could lead to 'hidden' biases of the results, and also may have implications for the sample size available for analysis. Hence, such data cannot be ignored and should be dealt with carefully.

Out of the 363 questionnaires returned, 21 were not sufficiently complete, as most of the questions (over 90%) were either not answered or the whole questionnaire was left completely blank. Hence, these were ultimately deleted from further analysis. This, in turn, yielded 342 useable questionnaires.

Among these 342 questionnaires, only 14 cases indicated missing data. According to Hair et al. (1998), the researcher must examine the missing data carefully in order to identify any particular patterns that could indicate reasons behind the non-response. It is also suggested by Hair et al. (1998) to first ascertain the degree of randomness present in the missing data, and then decide upon the remedy accordingly. Hence, the missing data cases were closely examined. Since the values were found to be missing randomly across variables and cases, and no particular pattern could be determined, it was assumed that the data were missing completely at random (MCAR). Hence, the most widely used method of imputation, mean substitution, was employed. The missing

values for a variable were replaced with the mean value of that variable, based on all valid responses, as suggested by Hair et al. (1998) and which has also been applied in other studies (see Verhoef et al., 2002).

7.4 Factor Analysis

This section deals with the factor analysis carried out on the data in order to define a set of common underlying dimensions, known as factors, from among the measurement items (variables) used in the questionnaire. Though factor analysis could be carried out either from an exploratory or a confirmatory perspective (Hair et al., 1998), it is proposed to first carry out an exploratory factor analysis on the data, and then later on apply confirmatory factor analysis to confirm the factor structure so obtained through exploratory factor analysis. In this section, first the exploratory factor analysis will be discussed, followed by the reliability analysis, and then the confirmatory factor analysis will be carried out to confirm the factor structure so obtained.

7.4.1 Exploratory Factor Analysis

The main purpose of exploratory factor analysis is to define the fundamental constructs or dimensions (factors) assumed to underlie the original variables (Gorsuch, 1983). Hence, it can be applied to serve the twin purposes of data summarisation and data reduction without losing much of the information contained in the variables.

7.4.1.1 Factors to be Considered or Assumptions Underlying Factor Analysis

According to Hair et al. (1998), there are a number of considerations that should be employed in order to carry out factor analysis effectively. As regards the sample size, it should preferably be 100 or more, with a minimum of 50. Another consideration is with

respect to the ratio of observations to variables analysed. The preferable ratio is 10:1, while the minimum is at least a ratio of 5:1. Next, there should be sufficient correlations in the data matrix to justify factor analysis, and visual inspection should reveal a substantial number of correlations greater than .30.

Also, the Bartlett test of sphericity should be looked at, to determine the significance of the correlation matrix in terms of significant correlations among at least some of the variables. However, since the Bartlett test is sensitive to sample size, the measure of sampling adequacy (MSA) should also be looked at to determine the appropriateness of factor analysis through the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. According to Hair et al. (1998), MSA values below .5 are unacceptable, while values exceeding .7 or .8 are considered to be good enough to justify continuation with factor analysis.

7.4.1.2 Choice of Factor Extraction Method and Rotational Method

According to Hair et al. (1998), both the common factor and principal components methods are widely used, and the debate over which method is more appropriate to use still continues to prevail (Gorsuch, 1990; Mulaik, 1990). However, it is also noted that the complications and limitations of common factor analysis have contributed to the widespread use of principal component analysis (Hair et al., 1998). Hence, based on the recommendations of Churchill (1995), and suggestions of Hair et al. (1998), the principal components method was considered appropriate for this study.

Most of the direct unrotated factor solutions obtained are often difficult to interpret. Hence, rotation is necessary, as it improves the interpretation of the results and helps the

researcher to derive some meaningful factors. However, if the unrotated solution is interpreted as meaningful, then rotation may not be necessary (Hair et al., 1998). As regards rotational method, a choice is to be made between orthogonal and oblique rotation. Orthogonal rotation creates factors that are uncorrelated to each other, and hence minimises the risk of multi-collinearity. Whereas, in the oblique rotational method, the dimensions are not assumed to be uncorrelated with each other (Hair et al., 1998). Hence, based on the recommendations of Hair et al. (1998), the orthogonal method of rotation was chosen, since the study dealt with a number of variables, most of them correlated with each other. Hence, it would be useful to create factors through orthogonal rotation that are uncorrelated with each other. In this way, to a certain extent, the problem of multi-collinearity would also be taken care of by factor analysis. Thus, the principal component method along with Varimax rotation was employed.

7.4.1.3 Criteria for Number of Factors to be Extracted

Hair et al. (1998) suggest various criteria for deciding on the number of factors to be extracted, such as latent root/eigenvalue criterion, a priori criterion, percentage of variance criterion, scree test criterion, and heterogeneity of the respondents. However, seldom is the choice of factors based on a single criterion. Hence, for the purpose of this study, several criteria were chosen and used in determining the number of factors to be extracted. Factors were initially extracted according to the eigenvalues >1 criterion, and this was further verified using scree plots. Also, the guidelines given by Hair et al. (1998) regarding the identification of significant factor loadings based on sample size, number of variables, and factors (p. 112), were also considered in factor analysis. Following the suggestions of Hair et al. (1998), a more conservative approach was

followed considering the number of variables included in the study, and only those factor loadings exceeding +/- .45 were considered in obtaining the factor solutions.

7.4.1.4 Three Phases of Exploratory Factor Analysis

As regards the choice of variables to be included in a particular factor analysis, Hair et al. (1998) suggest that, "if the researcher indiscriminately includes a large number of variables and hopes that factor analysis will 'figure it out', then the possibility of poor results is high" (p. 97). Therefore, it is important to understand the conceptual basis for any variables to be included. Even though exploratory factor analysis is not truly confirmatory, it is intended to evaluate the proposed dimensionality. Hence, the factor analysis can be effective when conceptually defined dimensions can be represented by the factors so derived.

Keeping the above in mind, it was decided not to carry out a factor analysis on all the variables taken together, but rather three different factor analyses were carried out on variables which were segregated according to the antecedent variables, intervening variables and outcome variables. Hence, exploratory factor analysis was conducted in three phases, one on variables relating to rewards, the second on variables relating to organisational commitment, and the third on variables relating to service quality. This kind of fragmented approach, based on some theoretical or conceptual underpinning, has also been applied in various other studies involving many variables (see Boshoff & Tait, 1996; Boshoff & Allen, 2000).

7.4.1.4.1 Rewards Exploratory Factor Analysis

In the case of rewards, there were 48 variables, 25 relating to intrinsic rewards and 23 relating to extrinsic rewards. As discussed in Chapter 6, most of the variables were adapted from established scales in the literature, and some of them were either introduced or modified according to exploratory in-depth interviews, and further modified following the initial pilot survey. Though, more or less, the dimensions underlying these variables were already known, exploratory factor analysis was thought to be useful in determining the factors underlying these variables, along with confirmatory factor analysis to be followed later on.

Following the recommendations discussed above by Hair et al. (1998), first justification was sought to proceed with this factor analysis. Apart from the sample size being >100 (n=342), the ratio of total number of observations to variables included was also satisfactory (7.13:1), though just above the minimum threshold of 5:1. The Bartlett test of sphericity indicated significance of the correlation matrix (approx. chi-square=9432.726, df=1081, sig.=.000), and KMO measure of sampling adequacy was clearly above the .70 value (KMO=.860), indicating appropriateness to continue with the factor analysis.

Principal component method of extraction, along with Varimax orthogonal rotation, was employed. This method extracted 12 factors (Appendix A7.2), all with eigenvalues over 1 (Appendix A7.3). However, some of the variables loaded on more than one factor, while some failed to significantly load on any factor. The following paragraphs will discuss these factors and their corresponding variables, one by one in detail, under two broad heads, extrinsic rewards and intrinsic rewards.

Extrinsic Rewards

As shown in Appendix A7.2 (also see this Appendix for full detail of items), items relating to working conditions (Factor 11), pay satisfaction (Factor 4), fringe benefits (Factor 12), promotional opportunities (Factor 8), supervision (Factor 1), and team support (Factor 6) loaded significantly (loadings above .45) on their respective factors. However, one item of extrinsic exchange, EE1, loaded on two factors, one on Factor 8, relating to items of promotional opportunities, and the other on Factor 5, comprising items of extrinsic exchange. Since this item had the highest loading on Factor 5, and it originally belonged to the construct 'extrinsic exchange', it was included on this factor (Factor 5) according to suggestions of Hair et al. (1998). This was further confirmed through reliability analysis and confirmatory factor analysis conducted in later sections (see Sections 7.4.2 and 7.4.3).

Intrinsic Rewards

As shown in Appendix A7.2, items relating to role clarity (Factor 2), autonomy (Factor 3), and training (Factor 9) loaded significantly on their respective factors. However, there were a few other items that did not load according to their theoretical constructs.

As regards participation construct, the first item, PT1, did not load significantly on any of the factors, while the other two items, PT2, and PT3, loaded on Factor 1, containing items belonging to the 'supervision' construct (See Appendix A7.2 for full detail of these items). However, the decision on inclusion or exclusion of items as regards this scale was to be considered after conducting reliability analysis and confirmatory factor analysis, as discussed later.

The third item relating to the construct skill variety, SV3, loaded on more than one factor (Factors 3 and 8). Hair et al. (1998) state that in selecting the factor structure, one should not blindly follow the factor solution, and one needs to carefully decide on the variables to be included in the factor structure according to theoretical underpinnings, and some logic based on rational reasoning and judgement. Since skill variety is also a characteristic of the job like autonomy, this item was included in Factor 3 (autonomy), instead of Factor 8 (promotional opportunities). Moreover, this item of skill variety had the highest factor loading on Factor 3. The remaining two items of the skill variety construct loaded significantly on a distinct factor (Factor 10).

As regards feedback, the first item, FD1, did not load significantly on any of the factors. The other two items relating to 'feedback from others', FD2 and FD3, loaded on Factor 7, along with the items originally belonging to the construct 'intrinsic exchange'. Hence, this factor (Factor 7) was named as 'feedback' since praise and recognition was also a form of feedback received by the employees from their superiors. Thus, it resulted in the two conceptual scales of 'feedback' and 'intrinsic exchange' being merged into one scale, 'feedback', that comprised two items from the 'feedback' scale, and two from the 'intrinsic exchange' scale.

However, the new factor structure as proposed by the results of the exploratory factor analysis was examined through the reliability analysis. Then, confirmatory factor analysis was carried out to confirm the factor structure so obtained.

7.4.1.4.2 Organisational Commitment Exploratory Factor Analysis

The variables for organisational commitment were derived from the Meyer et al. (1993) three-component scale that comprises 18 items, six items for each component of commitment. However, though the scale has been used widely, and has accepted levels of reliability and validity (as noted in earlier chapters), exploratory factor analysis was used to explore the dimensions or factors that underlie their corresponding variables.

There was enough justification to proceed further with this factor analysis. Apart from the sample size being >100 (n=342), the ratio of total number of observations to variables included was also satisfactory (19:1). The Bartlett test of sphericity indicated significance of the correlation matrix (approx. chi-square=2186.836, df=136, sig.=.000), and KMO measure of sampling adequacy was clearly above the.70 value (KMO=.864), indicating appropriateness to continue further with the factor analysis.

As described earlier, principal component method of extraction, along with Varimax orthogonal rotation was employed for the factor analysis. As expected, all the items loaded significantly on three factors, as indicated in the scale given by Meyer et al. (1993) except for the second item in the Affective Commitment scale (AC2) (Appendix A7.4). The second item in the Affective Commitment scale did not load significantly on any of the factors. All items, except AC2, loaded significantly on three distinct factors (Appendix A7.4).

These constructs obtained after exploratory factor analysis were almost similar to the theoretical constructs as conceptualised by Meyer et al. (1993). The only exception was that the Affective Commitment scale comprised five items instead of six (AC2 being deleted due to poor factor loading), while the other two factors comprised six items

each. Hence, as per the theoretical scale (Meyer et al., 1993), the three factors were labelled Normative Commitment (Factor 1), Affective Commitment (Factor 2), and Continuance Commitment (Factor 3) respectively.

7.4.1.4.3 Job Satisfaction

Exploratory factor analysis relating to job satisfaction items was not carried out individually. Two reasons justified this decision; one, that the scale was adapted from literature and is widely used (as mentioned in Chapter 6), and second, that there were only two items in the scale. Hence, the scale was tested through the reliability analysis followed by confirmatory factor analysis.

7.4.1.4.4 Service Quality Exploratory Factor Analysis

Service quality has been studied mostly with five dimensions (Parasuraman et al., 1990), though the literature also supports nine (Carman, 1990), three (McDougall & Levesque, 1992), two (Mels et al., 1997), and even a one factor (Cronin & Taylor, 1992; 1994; Hartline & Ferrell, 1996) service quality solution. The service quality items were factor analysed in order to find out the factor structure of these constructs with the particular data obtained for the study.

Following the guidelines given by Hair et al. (1998), as discussed earlier, all the assumptions underlying factor analysis were carefully examined, and were found to be satisfactory for proceeding with further factor analysis (n=342; the ratio of total number of observations to variables=34.2:1; Bartlett test of sphericity=approx. chi-square=1592.113, df=45, sig.=.000, and KMO measure of sampling adequacy =.904).

The principal component method, along with Varimax rotation, was applied. The factor solution indicated that all the items of the service quality scale significantly loaded on one factor (Factor 1) (Appendix A7.5). However, this factor structure was further confirmed using reliability analysis and confirmatory factor analysis, as discussed in the later sections of the chapter.

Service quality thus emerged as a one-factor construct, with all the items loading significantly on this factor 'service quality'. As discussed earlier in Chapter 6, only those items were taken that pertained to only one attribute, that is, the service quality of frontline employees. This approach has been followed by various researchers in the literature, and has resulted in (intrinsic) service quality being a one -factor solution in their studies as well (see Boshoff & Mels, 1995; Hartline & Ferrell, 1996, Boshoff & Tait, 1996). Hence, as expected, service quality resulted in a one-factor solution.

7.4.1.4.5 Section Summary

Though exploratory factor analysis gives the researcher an initial basis to form factors, these factor solutions have however, to be verified by computing their respective reliabilities, and further by conducting confirmatory factor analysis. Only after referring to the results of reliability indicators and confirmatory factor analysis, the final factor solutions would then be determined for further analysis.

The next section discusses the reliability analysis carried out to verify the factor structure so obtained.

7.4.2 Reliability Assessment

Another important issue to be considered in assessment of a measure is its reliability. "Reliability is an assessment of the degree of consistency between multiple measurements of a variable" (Hair et al., 1998, p. 117). The issue of reliability is most important in social sciences, because the measuring instruments that are employed are rarely completely valid (Nachmias & Nachmias, 1996). Thus, the reliability of a measuring instrument indicates the extent to which a measure contains variable errors.

There are several methods to assess reliability of a scale like test-retest method, split-half method and parallel-forms technique (Nachmias & Nachmias, 1996; Aaker et al., 1995). However, Cronbach's alpha (1951) reliability co-efficient continues to be one of the most popular methods applied in social science research in assessing reliability of the entire scale (Hair et al., 1998). It is also suggested that apart from Cronbach's alpha, which measures the reliability of the entire scale, either of the two measures relating to each separate item in the scale should also be examined (Hair et al., 1998). They are item-to-total correlation and inter-item correlations. The acceptable values for item-to-total correlation should exceed .50 while those for the inter-item correlations should be greater than .30. The value of Cronbach's alpha should not be less than .70 (Nunnally, 1978).

Hence, for the purpose of assessing reliability of the scales so formed through exploratory factor analysis, the measures stated above were calculated, and are discussed in the following sections.

7.4.2.1 Rewards

First, the reliability analysis was conducted on the factors classified as 'rewards', to verify the factor solutions as obtained through exploratory factor analysis. As discussed in Section 7.4.1.4.1, there were a few modifications made to the original scales following the exploratory factor analysis. As regards extrinsic rewards, the scale comprising 'supervision' items was modified to include items belonging to the 'participation' construct. As regards intrinsic rewards, modifications were made to the following scales: (1) participation scale - items on this scale were included in the 'supervision' scale, (2) skill variety and autonomy scales - one item from the 'skill variety' scale loaded on the 'autonomy' scale, and (3) feedback and intrinsic exchange scales - these two scales were merged together into one scale, as two of the three items belonging to the 'feedback' scale loaded significantly on the factor comprising 'intrinsic exchange' items.

Hence, reliability analysis was carried out to justify the modifications made to the above-mentioned scales, and also to verify the factor solution as regards the other scales. First, the modifications were justified, and then all the scales were verified.

Reliability analysis conducted on the 'supervision scale' did not however support the modifications made to this scale (Appendix A7.6). The two 'participation' items, which loaded on this factor in the exploratory analysis, could not be included in the supervision scale. Both these items had the lowest squared multiple correlations and lowest item-to- total correlation as against other items in the scale. One of the items also had insufficient item-to-total correlation value (less than .5). Moreover, the statistic 'alpha value if item deleted' also indicated that it would be prudent to drop these two

items from this scale. However, although 'participation' was considered an important construct for the study, it would not be useful if the entire construct was deleted from the analysis. Hence, an unrestricted exploratory factor analysis was once again conducted on items included on this factor 'supervision'. As shown in Appendix A7.7, two factors were extracted instead of one. One factor relates to the items belonging originally to the 'supervision' construct, and the other factor relates to items belonging originally to the 'participation in decision making' scale. Hence, it would not be useful if these items were taken on a single scale, as they were clearly indicating two different constructs. A reliability analysis was conducted once again on these two factors separately (Appendix A7.8), and the reliability results indicated and supported a two-factor solution, instead of one. However, the final decision relating to these constructs was left to be confirmed by the confirmatory factor analysis.

As regards the reliability analysis conducted on the 'autonomy' scale (Appendix A7.9), the first item, SV3, that originally belonged to the construct 'skill variety' but loaded on the 'autonomy' construct (Factor 3) in the exploratory factor analysis, depicted low item-to-total correlation (<.5), as well as low inter-item correlation(<.3). Moreover, the statistic 'alpha if item deleted' also indicated that the alpha value would improve if the item were deleted from the scale. Hence, this item was deleted from this factor, as the modifications made following the exploratory analysis could not be justified.

Also, in the case of the 'feedback' scale, the reliability analysis was conducted, since this scale comprised items that originally belonged to two different scales ('feedback' and 'intrinsic exchange'), but loaded on a single factor in exploratory analysis. Upon inspection of statistical analysis (Appendix A7.10), one item, FD2, depicted low item-

total correlation (<.5), and it was justified to delete this item from the scale, as its deletion not only improved the alpha value of the scale, but also made the interpretation of the scale more meaningful (as suggested by Hair et al., 1998). Hence, the modified scale was further modified and refined by deleting one item from the feedback scale, FD2. This scale now comprised one item from the feedback scale, FD3, and two items from the intrinsic exchange scale. Since this scale now consisted of items relating to supervisor's feedback only, it was re-named 'intrinsic exchange'. This scale demonstrated satisfactory results in the reliability analysis (see Appendix A7.8).

After assessing the reliabilities of the modified scales and making changes accordingly, all the factor solutions were assessed for their reliabilities. As shown in Appendix A7.8, all the scales indicate reliability co-efficients greater than the recommended threshold of .70. All the items (except two[1]) in these scales also demonstrate a value greater than .50 in the column 'item-to-total correlation'. Thus, all the scales classified under 'rewards' are considered reliable.

7.4.2.2 Organisational Commitment

The three scales, affective commitment, normative commitment and continuance commitment scales were also tested for reliability (Appendix A7.11). As shown in Appendix A7.11, all the items in the Affective Commitment scale indicated 'item-to-total correlation value greater than 0.5, thus satisfying the criterion given by Hair et al. (1998). Also, the alpha co-efficient of the entire scale is greater than 0.7 (alpha value=0.82), thus establishing reliability of the scale.

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[1] One item in team support scale and in training scale depicted slightly low item-to-total correlation values. However, the values were within the limits of .3 to.6 as suggested by Green et al.(1988) and since these items represented important aspects of their respective scales, they were not deleted.

Though the entire Continuance Commitment scale displays sufficient reliability (alpha value=0.78), three items (CC1, CC5, & CC6) showed item-to-total correlation values less than 0.5 (as recommended by Hair et al., 1998). However, the statistic of 'alpha if item deleted' was then looked at to arrive at a decision regarding these items. In all the cases, the statistic indicated that the deletion of these items would further reduce the Cronbach's alpha value of the scale, and their removal would be detrimental to the scale's reliability. Hence, these items were not deleted from the scale.

In the case of normative commitment, all the items in the scale indicated 'item-to-total correlation' values greater than 0.5. The entire scale also depicted an alpha co-efficient of 0.85, which is above the value of 0.7, thus indicating scale reliability.

Thus, all the three scales displayed satisfactory alpha values (>.7), and are considered reliable.

7.4.2.3 Service Quality

The service quality scale was also tested for reliability (Appendix A7.12). All the items in the scale indicated item-to-total correlation values above 0.5. Also, the 'alpha if item deleted' statistic was calculated. This statistic also indicated that all the items included in the scale were statistically justified. The alpha co-efficient for the entire service quality scale is 0.897, thus indicating good reliability of the scale.

7.4.2.4 Job Satisfaction

As shown in Appendix A7.13, Job Satisfaction scale can be considered to be reliable.

7.4.2.5 Section Summary

Based on the reliability analysis carried out for all the scales, it is clear that the scales measuring the constructs in the model are all reliable. However, the factor structure so obtained was once again tested through the confirmatory factor analysis, obtaining further reliability statistics for each scale, such as construct reliabilities and Average Variance Extracted. The next section discusses the confirmatory factor analysis carried out on each these scales to determine and statistically confirm the final factor structure of the constructs, to enable further analysis.

7.4.3 Confirmatory Factor Analysis

This section discusses the confirmatory factor analysis (CFA) carried out on the antecedent, intervening and outcome variables to confirm and finalise the factor structure obtained through exploratory factor analysis and reliability analysis conducted so far, so as to proceed to the hypotheses testing stage. CFA was carried out using AMOS version 4.0. First, the rationale behind conducting the CFA is discussed, and then the analysis is discussed in the context of the variables studied.

7.4.3.1 Rationale

According to Hair et al. (1998), the main objectives of CFA are (1) to verify the proposed factor structure, and (2) to explore if any significant modifications are required.

On the other hand, exploratory factor analysis (EFA) is conducted with two main objectives - either to reveal the relationships underlying a set of variables or to reduce a set of variables to a smaller, more manageable number (Bacon, 1997). In either case, in EFA, the loading of any observed variable on any factor can assume any value. There

are no constraints on the variable loadings, as each variable has a loading on each factor. However, in confirmatory factor analysis (CFA), the researcher is allowed to specify which loadings and path coefficients are free to vary, and which are to be fixed at particular values. Here, the researcher can also specify whether the variables are independent of each other, or whether they co-vary; something that cannot be specified in exploratory factor analysis, since often the correlations between the factors are constrained to zero (Bollen, 1989). Thus, unlike in EFA, where the researcher has no control over which variables describe each factor, in CFA, the researcher has complete control over which variables describe each construct, resulting in a much smaller number of loadings.

Confirmatory factor analysis is also carried out to assess the discriminant and convergent validity of all latent constructs included in the model (Matsuno et al., 2002), as discussed later in the chapter. Thus, it is useful to carry out a CFA after the EFA has been conducted.

7.4.3.2 Measurement Models (Confirmatory Factor Analysis)

After having conducted exploratory factor analysis (as described in Section 7.4.1), confirmatory factor analysis is conducted by specifying the variables (items) that define each construct (factor). The following sections discuss the CFAs carried out on rewards (antecedents), three components of organisational commitment and job satisfaction (intervening variables), and service quality (outcome variable). Separate CFAs were carried out because of the large number of variables involved in the study. Moreover, it is an accepted practice to carry out separate CFAs for exogenous and endogenous constructs, because in CFA each construct is allowed to be correlated to other constructs

included in the CFA (Hair et al., 1998). This practice is also commonly followed in the literature (see Hartline & Ferrell, 1996).

Once the CFA model is specified, it is to be inspected for offending estimates. Offending estimates are "estimated co-efficients in either the structural or measurement models that exceed acceptable limits" (Hair et al., 1998, p. 610). Offending estimates could be (1) negative error variances or non-significant error variances for any construct, (2) standardised coefficients exceeding or very close to value one, (3) very large standard errors associated with any estimated coefficient. If the offending estimates are discovered, they should first be resolved according to the recommendations of Hair et al. (1998), before proceeding further with the results of the model. After the inspection of the offending estimates, the goodness-of-fit statistic is calculated across three fit measures (absolute fit, incremental fit, and parsimonious fit) to assess the overall fit of the model. This is done to ensure that the measurement model indicates an acceptable level of convergent and discriminant validity, so that the structural model could then be fitted for hypotheses testing (Matsuno et al., 2002).

Hence, following the suggestions of Hair et al. (1998), the measurement models or CFA models were specified for antecedents, intervening variables, and the outcome variables, separately. Each of the measurement models was first inspected for offending estimates, and then the goodness-of-fit statistic was calculated to assess the fit of the model. The entire process is now described below. (Refer Appendix A8.4 for a detailed description of all the fit measures used).

7.4.3.2.1 Rewards (Antecedents or Exogenous Constructs)

The measurement model for the exogenous constructs was specified. All the constructs (extrinsic and intrinsic rewards) relating to the antecedent 'rewards' were put together for the purpose of confirmatory factor analysis. Each construct was allowed to correlate with other constructs in the model, while constraining the measurement items and their error terms to be uncorrelated. The minimum number of indicators to be taken for a construct was also kept in mind while specifying the measurement model (Hair et al., 1998). Hence, constructs were represented with a minimum of two, ranging to a maximum of eight indicators per construct.

The CFA analysis displayed marginal fit across all the fit measures except RMSEA, but the model could not be accepted, as the RMSEA value was above .08[2] (Hair et al., 1998). Hence, the model was modified, guided by the results obtained through exploratory factor analysis and reliability analysis.

In the exploratory factor analysis (refer section 7.4.1.1), doubts were expressed over the factor 'supervision'. Two items of participation also loaded on this factor, but were not supported by the reliability analysis (Section 7.4.2.1). Hence, first a separate confirmatory factor analysis was carried out on this factor in order to see whether it was more appropriate to consider the scale as a one-factor or two-factor solution. First, a confirmatory factor analysis was carried out on this factor (as a one-factor solution), as extracted through exploratory factor analysis, and results were noted. For this CFA (Appendix A7.14), the RMSEA value was above .1, therefore the model could not be accepted. Then another confirmatory factor analysis was carried out, segregating this

[2] RMSEA or the 'root mean square error of approximation' is the discrepancy per degree of freedom, and values ranging from .05 -.08 are deemed acceptable (Hair et al., 1998).

factor into two factors, 'supervision' and 'participation', containing items as originally included in the questionnaire. This CFA model resulted in a RMSEA value of .058, which was well below the .08 limit, and hence this model was accepted. Also, the results of the two CFAs were compared (Appendix A7.14). The results clearly indicate that a two-factor solution is better than the one-factor solution, and items belonging to 'participation' should not be loaded onto the 'supervision' factor. Hence, 'participation' and 'supervision' were taken as two separate factors.

Once again, a CFA was carried out on all the factors relating to rewards, taking 'supervision' and 'participation' as two different constructs, and loading the items belonging to these constructs on the two factors respectively. Table 7.1 shows that the results depicted a good fit across all the three measures of goodness-of-fit. Also, no problems relating to offending estimates were found.

Appendix A7.15 displays the factor structure of all the constructs, along with their respective standardised item loadings, significance values and average factor loadings. It is clear from Appendix A7.15 that all the items loaded significantly on their respective factors ($p<.01$). Moreover, all the items, except two, had standardised loadings of above .5, as suggested by Hair et al. (1998). However, according to Fornell and Larcker (1981), the average of all item loadings on a particular factor should be equal to or greater than .5, and this criterion was successfully met by all the items loading on their respective constructs.

Table 7.1: Fit Satistics for Rewards CFA

Fit Measures	Recommended Criteria	Rewards CFA
Absolute fit measures		
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.837
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; Not over 0.1	.052
Likelihood- Ratio Chis-quare statistic	p-value >0.05	.000
Incremental Fit Measures		
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.903
Normed Fit Index (NFI)	No absolute threshold, Recommended 0.9 or above	.843
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.800
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.918
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above	.917
Parsimonious Fit Measures		
Normed chisquare (CMIN/df)	Acceptable ratio 2-5, not over 5	1.915

7.4.3.2.2 Three Components of Commitment and Job Satisfaction (Intervening Variables)

A CFA was conducted for the intervening variables, that is, the three components of organisational commitment (affective, normative and continuance) and job satisfaction. Table 7.2 shows that the model achieved good fit across all three fit measures, and no offending estimates were found.

The factor structure of all the constructs, along with their respective standardised item loadings, significance values and average factor loadings, is provided in Appendix A7.16. Though care was taken to include only those items that displayed significant standardised loadings (p<.05, and standardised value >/= .5), following the suggestions of Fornell and Larcker (1981), however, those items were also included in the factor structure though having a loading value of <.5, where the average of all item loadings on a construct exceeded the minimum value of .5.

Table7.2: Fit Statistics for Intervening Variables (Commitment and Job Satisfaction)

Fit Measures	Recommended Criteria	Intervening Variables CFA
Absolute fit measures		
Goodness-of-Fit Index (GFI)	No absolute threshold, but recommended 0.9 or above	.913
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; Not over 0.1	.057
Likelihood-Ratio Chi-square statistic	p-value >0.05	.000
Incremental Fit Measures		
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.929
Normed Fit Index (NFI)	No absolute threshold, Recommended 0.9 or above	.892
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.887
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.940
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above	.940
Parsimonious Fit Measures		
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	2.101

7.4.3.2.3 Service Quality (Outcome Variable or Endogenous Construct)

For service quality, a CFA was conducted with all the 10 items loading onto this factor, 'service quality' (as found in the EFA). As depicted in Table 7.3, the CFA displays very good fits across all the three fit measures. Also, as shown in Appendix A7.17, all the items loaded significantly on the construct, displaying an average factor loading of more than .5.

Table 7.3: Fit Statistics for Service Quality CFA

Fit Measures	Recommended Criteria	Service Quality CFA
Absolute fit measures		
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.967
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; Not over 0.1	.063
Likelihood-Ratio Chi-square statistic	p-value >0.05	.000
Incremental Fit Measures		
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.962
Normed Fit Index (NFI)	No absolute threshold, Recommended 0.9 or above	.964
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.927
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.979
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above	.979
Parsimonious Fit Measures		
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	2.339

Thus, a one-factor solution as obtained by EFA and supported by reliability analysis was further confirmed by the CFA.

7.4.3.3 Measurement-Model Fit

In addition to examining the overall goodness-of-fit criteria for the CFA model of any latent construct, Bagozzi and Heatherton (1994) recommend the computation of the construct/composite reliability of the scale by the use of parameters generated by CFA and the assessment of average variance extracted (AVE). This is essential, because it is possible to obtain satisfactory goodness-of-fit statistics and yet have unreliable measures with low construct reliability and low variance extracted. Also, composite reliabilities and average variance extracted, apart from calculating Cronbach's alpha values, were considered useful in determining the psychometric properties of the constructs.

Following the suggestions of Hair et al. (1998), once the measurement models were specified (CFA), each of the constructs was then evaluated separately by (1) examining the indicator loadings for statistical significance, and (2) assessing the composite reliability and variance extracted for each construct.

7.4.3.3.1 Examining the Indicator Loadings for Statistical Significance

For each variable, the p values associated with each of the loadings were inspected for statistical significance. All the p values exceeded the critical values for the .05 significance level and the .01 significance level as well[3] (See Appendices A7.15, A7.16 and A7.17). Hence, it is concluded that all the variables are significantly related to their

[3] Statistical significance is also determined by the value of critical ratio being >(+/-) 1.96.

specified constructs. Thus, the posited relationships among indicators and their constructs are verified.

7.4.3.3.2 Composite/Construct Reliabilities

In order to assess whether the specified indicators are sufficient in their representation of the constructs, the reliability of the indicators is computed (Hair et al., 1998). Reliability can be established by either (1) empirical estimation, or (2) specification by the researcher. The latter method is more suitable where single-item measures are used or where validated scales are used and the objective is replication of the effects found in prior studies. Since none of the two was employed, empirical estimation was chosen for establishing the reliability of the indicators.

"Reliability is a measure of the internal consistency of the construct indicators, depicting the degree to which they indicate the common latent construct" (Hair et al., 1998, p. 612). Though Cronbach's Alpha was computed as a measure of reliability for each construct (as discussed in Section 7.3.2), composite reliabilities were also computed for each construct to further verify the factor solutions confirmed through CFA. The threshold value for acceptable reliability is .70, though this is not an absolute standard, and values less than .70 are also acceptable depending upon the nature of research (Hair et al., 1998). The composite reliability of a construct is calculated by the formula:

$$\text{Construct reliability} = \frac{(\sum \text{standardised loading})^2}{(\sum \text{standardised loading})^2 + \sum \varepsilon j}$$

Standardised loadings are obtained directly from the CFA parameter output and εj is the measurement error for each indicator, which is also equal to 1.0 minus the reliability of the indicator, which is the square of the indicator's standardised loading.

Construct/composite reliabilities were calculated for all the constructs. As shown in Appendices A7.15, A7.16 and A7.17, all the construct/composite reliabilities calculated for each construct are found to be above the threshold limit of .7, depicting satisfactory reliabilities of the construct measures (Hair et al., 1998).

7.4.3.3.3 Average Variance Extracted

Another measure to assess the reliability of the construct is the variance extracted measure, or average variance extracted (AVE). This measure reflects the overall amount of variance in the indicators accounted for by the latent construct (Hair et al., 1998). The higher the values of variance extracted, the more representative are the indicators of the latent construct. It is a complementary measure to the construct- reliability value, and is calculated by the formula:

$$\text{Variance extracted} = \frac{\sum(\text{standardised loading}^2)}{\sum(\text{standardised loading})^2 + \sum \varepsilon j}$$

According to Hair et al. (1998) variance extracted value should exceed .50 for a construct, although again there is no absolute threshold limit.

As shown in Appendices A7.15, A7.16 and A7.17, the average variance extracted values were computed for each construct. The values satisfied the .50 limit in all the

cases except for one construct. However, though the rest of the indicators (EFA, Cronbach's alpha, significance of indicator loadings and composite reliability values) lend support for this construct[4], it was not deleted. Moreover, according to Hair et al. (1998), although .50 is considered as an acceptable value, there has been no threshold limit established, and also AVE is considered to be a complementary measure to the construct reliability value.

7.4.3.3.4 Final Factor Structure

In the analysis results discussed in Section 7.4.3, the measurement models exhibited strong psychometric properties - composite reliabilities for each of the constructs ranged from 0.7 to 0.9. The standardised regression coefficient for each variable loading on a particular construct in the measurement models was significant (p values<0.01). Thus, all the items depicted strong convergent validity by loading significantly on their respective factors.

Hence, based on the exploratory factor analysis, Cronbach's alpha values, and the results of confirmatory factor analysis in terms of the fit statistics, significance of indicator loadings, composite reliabilities and average variance extracted diagnostics, the factor structure was finalised (Appendices A7.15, A7.16 and A7.17) to be used for hypotheses testing through the structural model developed in the next chapter.

However, although the factor structure was tested and confirmed, it is important to assess the dimensionality and validity of the constructs so obtained. The following section discusses these issues.

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[4] The AVE for Continuance Commitment construct is .40

7.5 Dimensionality and Validity

This section discusses the dimensionality and validity of the measures that represent the factors extracted in the exploratory factor analysis, and confirmed through the confirmatory factor analysis. First, the dimensionality of the measures is addressed in terms of assessing the unidimensionality of each of the construct measures. This is followed by assessment of validity, in terms of establishing convergent, content and discriminant validity, for each of the constructs.

7.5.1 Dimensionality Assessment

Most of the scales used by researchers involve the underlying principle of unidimensionality (Nachmias & Nachmias, 1996). According to this principle, all items in the scale should reflect a single dimension, that is, the items measuring a particular construct should be strongly associated with each other and represent a single concept (Nachmias & Nachmias, 1996; Hair et al., 1998).

According to Hair et al. (1998), the test of unidimensionality is that the items representing a particular construct should load highly on a single factor which is representative of that construct. Unidimensionality can be assessed either by exploratory factor analysis or by confirmatory factor analysis (Hair et al., 1998).

Hair et al. (1998) provide the researcher with certain guidelines to determine the significant factor loadings based on sample size, with significance being based on a .05 significance level, a power level of 80 %, and standard errors assumed to be twice those of conventional correlation coefficients (p. 112). According to the table provided in Hair et al. (1998, p. 112), factor loadings above .35 are considered to be significant for

sample sizes ranging between 250-350. However, they also state that the larger the number of factors, the larger is the size of loading to be considered on later factors. Since this study involves a large number of factors to be extracted, especially in the case of rewards, a more conservative approach is followed, and the loading of .45 or more is considered to be significant.

Based on the analysis provided in Sections 7.4.1 (EFA) and 7.4.3 (CFA), unidimensionality of the measures representing the extracted factors is assessed and discussed in the sections below.

7.5.1.1 Rewards

As shown in Appendix A7.2, all the items significantly loaded onto their respective factors, indicating factor loadings ranging from .443 to .872. Hence, all items (except one item, PT2) have factor loadings greater than .45. Moreover, as discussed in Sections 7.4.2 (Reliability analysis) and 7.4.3 (CFA), this item was no longer considered as part of the 'supervision' construct, and as shown in Appendix A7.7, it depicts significant loading on the 'participation' construct. Moreover, the average factor loadings for each of the factors according to the EFA are above .50[5].

Also, from the results of the CFA (Appendix A7.15), and based on the results of standard regression weights (factor loadings) and average factor loadings, it can be concluded that all measures display unidimensionality.

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[5] Factor 1 (Supervision) - .741; Factor 2 (Role Clarity) -.738; Factor 3 (Autonomy) - .750; Factor 4(Pay satisfaction) -.864; Factor 5(Extrinsic Exchange) - .746; Factor 6 (Team support) - .682; Factor 7(Feedback) - .709; Factor 8(Promotional Opportunity) - .764; Factor 9 (Training) - .676; Factor 10 (Skill Variety) - .821; Factor 11(Working Conditions) - .829; Factor 12(Fringe Benefits) - .796

Hence, based on the examination of factor loadings of individual items in a scale and average factor loadings of the items in the scale, it can be concluded that the scales relating to the factors categorised as 'rewards' are unidimensional.

7.5.1.2 Organisational Commitment

Based on the exploratory factor analysis conducted in Section 7.4.1.4.2 (Appendix A7.4), it is clear that all the items included in their respective scales indicated factor loadings ranging from .585 to .823, thus satisfactorily emerging as significant for their respective constructs. Moreover, the average factor loadings for all the three factors were above .50 [6], further confirming the unidimensionality of these scales representing the three components of commitment, respectively. Also, as shown in Appendix A7.16, the individual factor loadings (>.45), along with the average factor loadings (>.50) sought in the CFA, lend support to the unidimensionality of the constructs.

7.5.1.3 Job Satisfaction

The confirmatory factor analysis carried out for job satisfaction items (Appendix A7.16) shows that the item loadings confirmed the scale to be unidimensional[7], with average factor loading being .878.

7.5.1.4 Service Quality

Based on the exploratory factor analysis conducted in Section 7.4.1.4.4 and as shown in Appendix A7.5, it can be concluded that the service quality scale is unidimensional. The individual factor loadings range from .614 to .818, while the average factor loading for

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[6] Average Factor loadings were: Factor one (Normative Commitment) - .721; Factor two (Affective Commitment) - .724; Factor three (Continuance commitment) -.686

[7] The factor loadings for both the job satisfaction items being .963 and .793

this particular factor came out to be .721. Also, the results of the CFA conducted (Appendix A7.17) lend support to the uni-dimensionality of the construct, depicting the individual loadings ranging from .551 to .772, with an average factor loading of .678 for the service quality construct. Hence, it can be concluded that the scale representing service quality construct is a uni-dimensional scale.

7.5.2 Validity Assessment

After assessing the dimensionality and reliability of the scales, it is also essential to check their validity. "Validity is the extent to which a scale or set of measures accurately represents the concept of interest" (Hair et al., 1998, p. 118). The three most accepted forms of validity are content, convergent, and discriminant validity, which are discussed in the following sections.

7.5.2.1 Content Validity

Content validity, also known as face validity, is the (subjective) assessment of the correspondence of the variables in a scale and its conceptual definition (Hair et al., 1998). As explained in Chapter 6, the questionnaire was piloted among the frontline employees of the call centre, and was also discussed and tested with academic colleagues and managers, to ensure that the items in the scale correspond to the concepts they are expected to conform to. Following the feedback relating to the entire survey design and the correspondence of the items with the concepts, content validity can be justified for the measures used in the questionnaire.

7.5.2.2 Convergent Validity

"Convergent validity assesses the degree to which two measures of the same concept are correlated" (Hair et al. 1998, p. 118). The two methods recommended to assess for the convergent validity of the measuring scales are (1) within-scale analysis, and (2) analysis of factor item loading (Flynn et al., 1995; Hair et al., 1998).

1. Within-Scale Analysis

Campbell and Fiske (1959) suggest that for convergent validity measures of the same factor should be correlated both within the factor and to the factor. For this purpose, the inter-item correlations (Appendix A7.18) and item-to-total correlations (Appendices A7.8, A7.11 and A7.12) for each factor were looked at. All items indicated values above the recommended range of 0.3 to 0.6 (Green et al., 1988) for average inter-item, as well as average item-to-total correlations. Also, as recommended by Hair et al. (1998), the eigenvalues for all factors exceeded the recommended minimum value of 1.0, thus passing the within-scale analysis (See Appendix A7.3).

2. Analysis of Factor Item Loadings

As shown in Appendices (A7.2, A7.4, A7.5 and A7.7), all items finally included in the constructs and loading onto their respective factors depicted factor loadings above the minimum value of +/-0.30, as suggested by Hair et al. (1998).

Thus, the above analyses suggest convergent validity for the measuring constructs.

Also, examination of the goodness-of fit statistic (Tables 7.1, 7.2 and 7.3) and the factor loadings (standard regression estimate) of the items loading onto their respective

constructs (Appendices A7.15, A7.16 and A7.17) in the CFA lend support for the convergent validity of the constructs (with item loadings being >.30).

7.5.2.3 Discriminant Validity

"Discriminant validity is the degree to which two conceptually similar concepts are distinct"(Hair et al. 1998, p. 118). According to Hair et al. (1998), the empirical test employed to test discriminant validity is correlation. Thus, discriminant validity is established if a measure does not correlate with other constructs from which it is supposed to differ. As shown in the correlation matrix (Appendix A7.19), it is clear that, except for three correlations, all other correlations have a value lower than 0.5. Also, the fit statistics of the constructs in CFA (Tables 7.1, 7.2, & 7.3) lend support to the discriminant validity of the constructs. Thus, it can be concluded that the measures bear low correlations and demonstrate discriminant validity.

7.6 Descriptives

This section discusses the descriptive statistics analysis. First, the means and standard deviations of all the items are analysed. This is followed by ANOVA to determine if the call centre employees across the four call centres are significantly different with respect to the demographic profile, as well as perceived service quality. The main findings are then discussed in order to ensure that the data collected across the four call centres is appropriate for further statistical analysis.

7.6.1 Means and Standard Deviations

The means and standard deviations of all the items are provided in Appendix A7.20. Most of the means lie around the value 3, and standard deviations vary between 1.3 to

0.7. However, in the case of service quality items, some items depict a slightly higher mean, and this matter was further investigated to encounter any bias arising out of the self-evaluation method. Managers were approached for providing a reasoning and justification for this sort of finding. Upon further investigation, the researcher was satisfied that the values obtained were representative of the reality. First, certain confidential reports on customer satisfaction and service quality provided by the bank's call centres were examined. All graphs and figures in these reports depicted high levels of service quality and customer satisfaction as perceived by the customers. Moreover, the managers further clarified that, in being an 'in-house' call centre, service quality and customer satisfaction were always taken seriously. In fact, service quality was one of the most important issues stressed from time to time and carefully monitored among employees. One of the managers remarked that," If the average service quality standard fell below the value 4 (considered an agreeable standard of service quality in the questionnaire), it was a major issue of concern, and the bank could no longer afford to compete and thrive in the competitive business world." Hence, this high-end mean value of service quality was considered justified for an 'in-house' banking call centre.

7.6.2 Analysis of Variance for Four Call Centres (ANOVA)

As described in Chapter 6, data were collected from frontline employees working in the four call centres of the bank. Although assurance was obtained from the 'Head of Customer Services' as regards the homogeneity of data, it was felt prudent to conduct an ANOVA for the four call centres regarding the service quality perceptions and the demographic profile of the respondents.

7.6.2.1 Service Quality

The responses from the four call centres were examined to investigate if the employees across these call centres were significantly different with respect to service quality. Univariate analysis of Variance, ANOVA, was carried out for the four call centres taking the mean of service quality as the dependent variable. According to the results[8], there was no significant difference in respondents with respect to perceived service quality across the four call centres. Hence, the data collected were considered suitable for further statistical analysis.

7.6.2.2 Demographic Profile of the Respondents

ANOVA was conducted to examine if there were any significant differences in the demographic profile of the respondents across the four call centres. The results indicated that except for age, all the other demographics were not significant, at $p<.05$. However, another ANOVA was conducted to examine if age (or other demographic variables) had any significant effect on the service quality mean. The results[9] indicated that there was no significant difference in the responses of the frontline employees with respect to service quality based on age, gender, status or experience. Hence, age had no significant impact on the service quality mean, nor did any of the other demographic variables. Hence, the data were considered suitable for further statistical analysis.

7.7 Conclusion

This chapter has provided details of initial data analysis carried out on the data collected. The data assumption testing, exploratory factor analysis, confirmatory factor

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[8] ANOVA results- F=1.228, df (3), sig.=.299

[9] ANOVA results - (Dep. Variable-SQ) Age F(.509), df (1), sig. (.476) , Gender- F(2.062), df (1), sig. (.152); Status F(2.058), df (2), sig. (.129); Org. experience. F (1.458), df (1), sig. (.228)

analysis, tests of reliability, dimensionality and validity and the assessment of descriptives indicate that the data were good enough to progress towards advanced statistical analysis. As stated earlier, this chapter discusses only the initial data analysis that provides the researcher with reliable and valid data to be used for model and hypotheses testing. Advanced statistical methods for hypotheses testing including multivariate statistical techniques and structural equation modelling are employed in the next chapter.

Chapter 8: Data Analysis - Part 2

Structural Equation Modelling

8.1 Introduction

Chapter 7 discussed the factor structure obtained by using both exploratory factor analysis, as well as confirmatory factor analysis techniques, further verified by testing reliability, dimensionality and validity of the constructs. This chapter deals with structural equation modelling, the analysis technique adopted for model testing, and the final model achieved in the light of hypotheses discussed in Chapter 5. The following sections will discuss structural equation modelling analysis technique in terms of the rationale for choosing this technique for model testing and the procedures followed, along with AMOS, the software used. In this context, the initial model and fit analysis, revisions made to improve upon the initial model, and then, the final model and its fit measures achieved will also be discussed.

8.2 Structural Equation Modelling

Structural equation modelling is gaining wide acceptance among researchers in social sciences (Bollen & Long, 1993; Kelloway, 1998), and is used in this study to arrive at the final model and test the hypotheses therefrom. Structural equation modelling (SEM) is also known as analysis of covariance structures, or causal modelling (Arbuckle & Wothke, 1999). Like most multivariate techniques, SEM includes two kinds of variables, dependent and independent. In SEM, these variables are also called 'endogenous' and 'exogenous', respectively. Although various forms of SEM have been developed, the majority express linear relationships between variables (Bacon, 1997). Hence, most of the assumptions of multiple regression, such as independent

observations, linearity of all relationships and multivariate normality (Hair et al., 1998), apply to SEM as well.

Structural equation models describe relationships between variables. In this respect, they are similar to combining multiple regression and factor analysis (Bacon, 1997). However, SEM offers some additional advantage over these techniques, which is discussed in the following section.

8.2.1 Why Structural Equation Modelling

Structural equation modelling is considered to be an appropriate technique for true theory testing and empirical model building (Bollen & Long, 1993). It is useful in the estimation of multiple and interrelated dependence relationships (Fornell & Larcker, 1981). It also has the ability to represent unobserved concepts in these relationships and account for measurement error in the estimation process (Hair et al., 1998). It allows for constructs to be represented by several measures, thus providing the researcher with a more realistic and valid means of construct operationalisation. Thus, it allows the researcher to identify the 'true' relationship after measurement error is accounted for. Since this study involves the estimation of multiple and interrelated dependence relationships, this analysis technique, being associated with certain advantages as discussed, was chosen over other multivariate techniques for model and hypotheses testing.

8.2.2 AMOS

There are several softwares, like LISREL, EQS, AMOS, etc., which enable the researcher to empirically test a model using SEM. For the purpose of this study, AMOS version 4.0 was chosen because of the availability and user-friendliness of the software.

AMOS is the short form of 'Analysis of Moment Structures' (Arbuckle & Wothke, 1999), which uses a maximum likelihood procedure to estimate the free parameters of the model. Based on these estimates, covariances among the measures are computed and then these computations are compared with the sample covariances (Sergeant & Frenkel, 2000). Literature reveals that AMOS is being widely used in studies employing structural equation modelling as the analysis technique for hypotheses testing and empirical model building (see Dillon et al., 1996; Meyer & Smith, 2000; Sergeant & Frenkel, 2000).

8.3 Stages in Structural Equation Modelling

Hair et al. (1998) describe a seven-stage process of structural equation modelling: (1) developing a theoretically-based model, (2) constructing a path diagram of causal relationships, (3) converting the path diagram into a set of structural and measurement models, (4) choosing the input matrix type and estimating the proposed model, (5) assessing the identification of the structural model, (6) evaluating goodness-of-fit criteria, and (7) interpreting and modifying the model, if theoretically justified.

This seven-stage process was also implemented in this study to arrive at a final model depicting significant relationships among variables, by which the hypotheses of the

study would be tested. The following sections discuss each stage and describe the procedure of the seven-stage process adopted.

8.3.1 Developing a Theoretically-Based Model

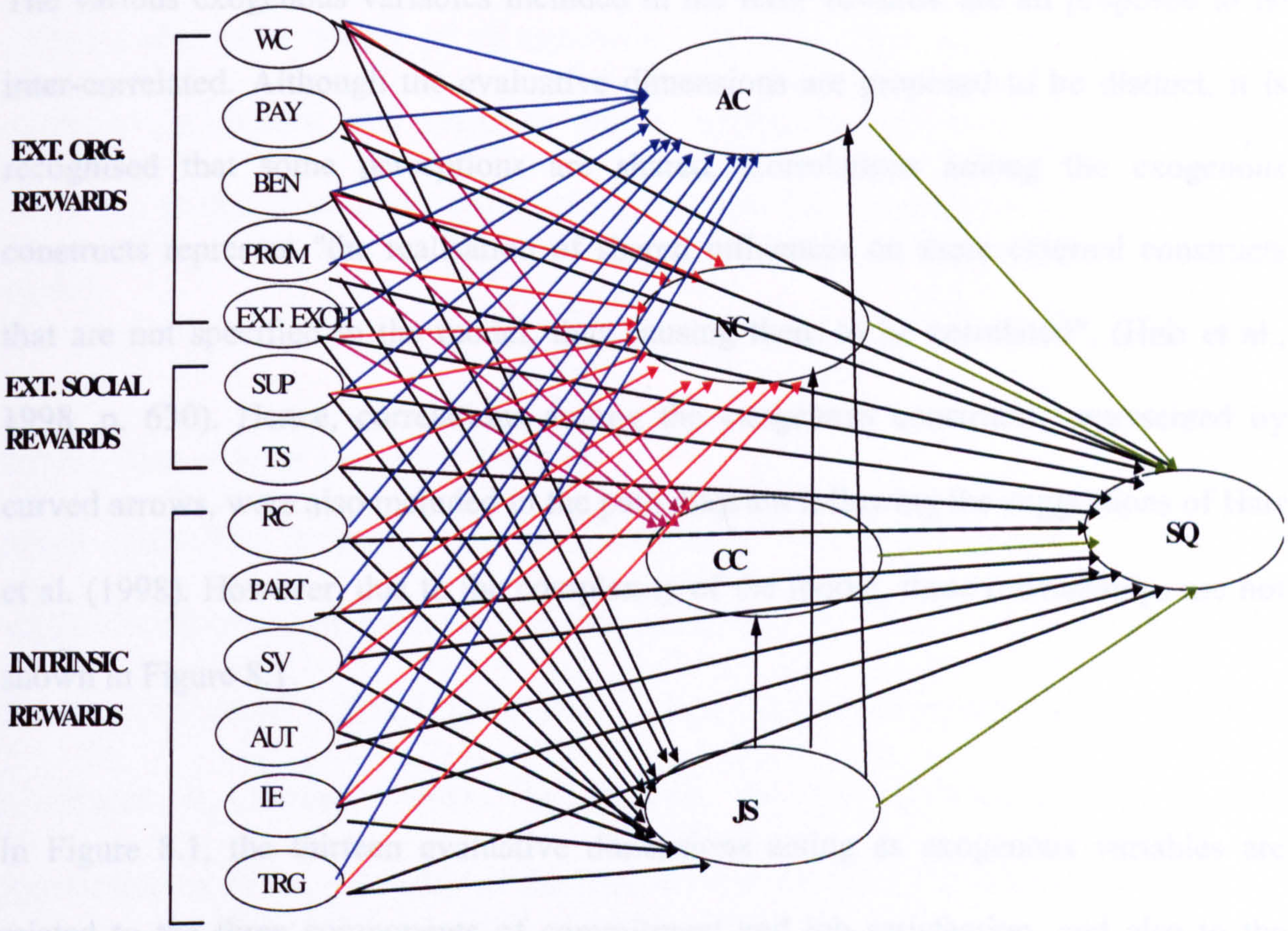
The first step in the seven-stage process is to develop a conceptual model for the study. As discussed in Chapter 5, a theoretically-based conceptual model was developed based on the literature review and exploratory interviews. However, while developing the model, practical concerns expressed by Hair et al. (1998) over the number of variables to be included for structural equation modelling were given due consideration. Care was also taken that a balance was struck so that a significant concept was not omitted just because of the numbers involved, and at the same time, the benefits achieved from having parsimonious and concise theoretical models were also kept in mind.

8.3.2 Constructing a Path Diagram of Causal Relationships

After a theoretically-based model was developed, the next stage was to develop a path diagram by defining the exogenous and endogenous constructs, and then linking the relationships in the path diagram. Path diagram is the "graphical portrayal of the complete set of relationships among the model's constructs" (Hair et al., 1998, p. 582). Path diagram is useful for the researcher, as it not only presents the predictive relationships among constructs (dependent-independent variable relationships), but also associative relationships (correlations) among constructs along with the indicators can be specified (Hair et al., 1998). Here, causal relationships are depicted by straight arrows, while curved arrows represent correlations between constructs or indicators, but no causation. Hence, both predictive as well as associative relationships are defined in the path diagram.

Thus, after having developed the conceptual model (as discussed in Chapter 5), a path diagram is constructed (Figure 8.1), depicting a series of causal relationships among the exogenous and endogenous constructs.

Figure 8.1: Path Diagram - Proposed Model



WC - Working Conditions, PAY - Pay Satisfaction, BEN - Satisfaction with Benefits, PROM - Promotional Opportunities, EXT EXCH - Extrinsic Exchange, SUP - Supervisions, TS - Team Support, RC - Role Clarity, PART - Participation, SV - Skill Variety, AUT - Autonomy, IE - Intrinsic Exchange, TRG - Training, AC - Affective Commitment, NC - Normative Commitment, CC - Continuance Commitment, JS - Job Satisfaction, SQ - Service Quality of Frontline Employees

The endogenous constructs are the constructs with one or more straight arrows leading to them, while the exogenous constructs are all constructs at the ends of the straight arrows leading into the endogenous variables. In the path diagram, rewards are exogenous variables, while the three components of commitment, job satisfaction and service quality are endogenous variables. The model is recursive or non-hierarchial, as it postulates one-way causal flow (Dillon & Goldstein, 1984).

The various exogenous variables included in the term 'rewards' are all proposed to be inter-correlated. Although the evaluative dimensions are proposed to be distinct, it is recognised that some perceptions are shared. Correlations among the exogenous constructs represent "the realisation of shared influences on these external constructs that are not specified in the model, thus causing them to be correlated", (Hair et al., 1998, p. 630). Hence, correlations among the exogenous constructs, represented by curved arrows, were also included in the path diagram following the suggestions of Hair et al. (1998). However, due to the complexity of the model, these relationships are not shown in Figure 8.1.

In Figure 8.1, the thirteen evaluative dimensions acting as exogenous variables are related to the three components of commitment and job satisfaction, and also to the outcome variable, service quality. The three components of commitment and job satisfaction are also posited to be predictors of service quality. Hence, rewards, three components of organisational commitment, job satisfaction, and service quality, are all linked with each other according to the respective nature of their relationships, as hypothesised in Chapter 5.

8.3.3 Converting the Path Diagram into a Set of Structural and Measurement Models

After developing the theoretical model and portraying it in the form of a path diagram, it is now required to specify the model in more formal terms, that is, by specifying the structural and measurement models. In this context, it is important to note that the measurement model needs to be defined first. This is because, since the focus of SEM is not on individual observations, as in other multivariate techniques, but on the pattern of relationships across respondents, the input for the programme is a correlation or variance-covariance matrix of all indicators. Therefore, first the measurement model needs to be defined that specifies which variables/indicators correspond to each construct, so that these latent construct scores could then be employed in the structural model.

8.3.3.1 One-step vs Two-Step Analysis

Many researchers propose a two-step analysis of structural equation modelling, in which the measurement model is first estimated, much like factor analysis, and then the measurement model is 'fixed' in the second stage when the structural model is estimated (Anderson & Gerbing, 1988). The rationale for this approach is that accurate representation of the reliability of the indicators is best accomplished in two steps to avoid the interaction of measurement and structural models. However, a single-step process with the simultaneous estimation of the both structural and measurement models is the best approach when the model possesses both strong theoretical rationale and highly reliable measures (Hair et al., 1998).

In the present research, since, relatively, a large number of constructs were included in the model, and these constructs were measured by multi-item scales, it resulted in a

latent variable model with multiple indicators. In order to avoid model complexity which could further prevent the researcher from finding a model fitting to the data (De Ruyter et al., 2001), a two-stage approach was followed (Anderson & Gerbing, 1988). The measurement models were first estimated and standardised regression co-efficients obtained, and then the structural model was estimated along with the measurement models. The measurement model was also used to assess the convergent and discriminant validity of the construct measures (Anderson & Gerbing, 1988), as discussed in Chapter 7. Thus, first a confirmatory factor analysis was done before structural equation modelling was carried out using AMOS 4.0.

8.3.3.2 Measurement Models (Confirmatory Factor Analysis)

The first stage in the two-stage process resulted in the estimation of measurement models. The measurement model specifies the correspondence of indicators to the constructs (Hair et al., 1998). Hence, to specify the measurement model, the researcher specifies the variables that define each construct. The measurement models estimated are described in Section 7.4.3, Chapter 7, discussing the confirmatory factor analysis. Thus, through a two-stage approach, reliable measures were achieved by first defining the measurement model that specified which variables/indicators correspond to each construct (as discussed under CFA), and then employing the latent construct scores in the structural model, as discussed in the section below.

8.3.3.3 Structural Model

The second stage of the analysis was an assessment of the structural model representing path analysis. The structural model translates the path diagram into a series of structural

equations based on the nature of relationships among the constructs as depicted in the path diagram.

There are various softwares that enable the researcher to specify the structural model like LISREL, AMOS, EQS, etc. (Tabachnik & Fidell, 2001) using structural equation modelling. While LISREL requires translating the path diagram into a series of structural equations for specifying the structural model (Hair et al., 1998), AMOS Graphics enables the researcher to work directly from the path diagram drawn (Arbuckle & Wothke, 1999; Byrne, 2001). Using AMOS Graphics version 4.0, the structural model was derived from the path diagram, employing the latent construct scores derived from the measurement models into the structural model. Hence, the structural model depicts the relationships among the exogenous constructs and endogenous constructs, as well as the indicators of each of the constructs, along with the measurement errors.

However, in this context, it is important to note that all the constructs were not represented in a similar manner. Constructs relating to rewards, the three components of commitment, and job satisfaction were represented using a total disaggregation approach, while a partial aggregation approach was used for representing the service quality construct in the structural model. The following section discusses the rationale behind the choice of approach for representation of the constructs in the structural model.

8.3.3.3.1 Choice of Approach for Representation of Constructs in Structural Model

Bagozzi and Heatherton (1994) propose four models for the representation of constructs at four levels of abstraction in the structural model:

1. Total aggregation model that represents the constructs in the 'composite form' formed by the sum of scores on all items in a scale,
2. Partial aggregation model that treats separate dimensions of a construct as indicators of a single latent variable, with each dimension being an aggregation of items,
3. Partial disaggregation model representing each dimension as a separate latent variable where the measures of dimensions are multiple indicators formed as aggregates of subsets of items, and
4. Total disaggregation model, also representing each dimension as a separate latent variable, but here each item in the scale is used as an indicator of the respective factor.

According to Bagozzi and Heatherton (1994), the total disaggregation approach is the most popular approach, and it is followed where the constructs are uni-dimensional and are represented by multi-item scales. Hence, each item in the scale is treated as an indicator of the respective construct (factor). Although, this approach offers a more 'molecular' representation than others, it is useful in cases where about 4-5 measures per factor are used, or where the purpose is scale development, item analysis, and modelling of method effects (Bagozzi & Heatherton, 1994). If the construct is represented by too many measures (items), this approach can be unwieldy, because of likely high levels of random error in typical items, and the many parameters that must be estimated (Bagozzi & Heatherton, 1994).

Therefore, while designing the structural model for the study, the total disaggregation approach was deemed appropriate for rewards and for the intervening variables (three components of commitment and job satisfaction), as the constructs were uni-dimensional and were represented by multi-item scales. However, in the case of the endogenous variable, service quality, the total disaggregation approach could not be followed. Rather, after extensive literature review and discussions with the experts, the partial aggregation approach was found to be more suitable for representing the service quality construct. The partial aggregation approach was adopted for the service quality construct for two reasons.

Firstly, the partial aggregation approach is suitable for representing a single-factor construct with certain known dimensions or multi-faceted constructs (Bagozzi & Heatherton, 1994). As discussed in Chapter 7, the service quality construct emerged as a single-factor solution. Although there is no agreement in the literature regarding the dimensionality of the service quality construct (Mels et al., 1997), the five dimensions as proposed by Parasuraman et al. (1988) are quite popular and well recognised. Hence, if the service quality construct were to be identified along with its dimensions in the structural model, the partial aggregation approach was found to be the most suitable for representing this construct. By using this approach, the service quality construct could be represented as a single factor solution, with all the dimensions still being identified at the same time.

Secondly, as discussed earlier, the total disaggregation approach is useful where about 4-5 measures per factor are used. In the case of factors with too many measures at hand, this approach can be unwieldy, because of likely high levels of random error in typical

items, and the many parameters that must be estimated (Bagozzi & Heatherton, 1994). Since the scale measuring the service quality construct comprised 10 items, the partial aggregation approach was adopted for the endogenous construct 'service quality', as opposed to the total disaggregation approach.

Thus, the service quality construct was represented in the structural model using the partial aggregation approach. This approach constitutes a more molecular representation of a latent construct, as opposed to the total aggregation approach, yet it retains the idea of a single underlying factor. The dimensions of the construct represent the indicators of an underlying factor, or in other words, the composites of items for each dimension are treated as indicators of a single factor, thus demonstrating that each of the multiple indicators measures a single underlying construct (Bagozzi & Heatherton, 1994). Composites are formed based on conceptual criteria of shared meaning of items within components, and of distinct meaning of items across components. Hence, using the conceptual criteria as provided by Parasuraman et al. (1988; 1990), the items taken from SERVQUAL were grouped according to their respective dimensions (see Appendix A8.1), and their average was taken to represent that particular dimension. Thus, the four dimensions of reliability, responsiveness, assurance and empathy were represented by the aggregate of the items belonging to these dimensions. These four dimensions represented the indicators of the underlying factor 'service quality'. Thus, this approach treats service quality as a hierarchical organisation of components under a single (service quality) latent variable, and yet represents the degree of correspondence between the construct and its measures, and takes into account the measurement error. It captures the hierarchical organisation of the service quality as a singular, general factor, with its four dimensions. Hence, the four dimensions (based on the Parasuraman et al.

(1988) study) relating to the construct (reliability, responsiveness, assurance and empathy) are also recognised, without treating them as separate factors. This kind of approach has been successfully applied in literature by researchers taking service quality as a single factor solution (Boshoff & Mels, 1995; Boshoff & Tait, 1996).

However, a CFA was performed on the service quality construct to test the representation of the partial aggregation model. No offending estimates were found, and the fit statistic was used to find out whether the model holds good. The goodness-of-fit statistic depicted satisfactory results (Appendix A8.2) suggesting that each of the multiple indicators measures a single underlying construct 'service quality', thereby confirming the construct validity of the scale (Campbell & Fiske, 1959; Cook & Campbell, 1979; Hull et al., 1991).

The main advantages of this approach are that separate parameter estimates are derived representing the degree of correspondence between the latent construct and its sub-dimensions, and at the same time, estimates of measurement error are provided. This allows the assessment of the reliability of measures and the opportunity to correct for the unreliability in prediction, if any, found based on standard statistical criteria. However, the disadvantage of this approach is that unique dimensions of the overall construct, if any, are obscured. Since service quality was found to be a 'one-factor' solution, having no unique dimensions or factors, the disadvantage associated with this approach was thus taken care of.

This approach has been successfully applied in literature by various researchers (Hull et al., 1991; Bagozzi & Heatherton, 1993; 1994) for multi-faceted constructs, and has also

been advocated to examine the convergent and discriminant validity of measures of a construct. Thus, the partial aggregation model was found to be appropriate to use for the dependent variable in the SEM.

8.3.3.3.2 Section Summary

As discussed, two approaches were used for representing the constructs in the structural model. As demonstrated in Appendix A8.3, the total disaggregation approach was followed for rewards, three components of commitment and job satisfaction constructs where each item in the scale was taken as indicator, while the service quality construct was represented using the partial aggregation approach where aggregates of items representing separate dimensions were taken as indicator variables.

8.3.4 Choosing Input Matrix Type and Estimating the Proposed Model

As discussed earlier in Section 8.3.3, the researcher is not required to specify the structural equations in AMOS Graphics. However, one can choose between correlations and covariances, depending upon the nature of output required (Hair et al., 1998).

The next step in this stage is looking for assumptions such as normality and linearity of the data, procedures dealing with handling missing data, the requirements as to sample size and model size, and finally, estimating the models. As discussed in Chapter 7, data were tested for the assumptions of normality and linearity of data. Also, the missing data were dealt with, as explained in Chapter 7.

Hair et al. (1998) recommend a sample size of 200, with increases occuring if misspecification in the model is suspected, if the model is very large or complex, data

are non-normal, or an alternative procedure rather than Maximum Likelihood Estimation (MLE) for model estimation is used. However, a sample size of 342, took care of most of the issues, especially relating to the complexity of the model.

8.3.5 Assessing the Identification of the Structural Model

The next stage after model estimation was to assess the identification of the structural model. An identification problem is the inability of the proposed model to generate unique estimates (Hair et al., 1998). Identification problems, if any, could be resolved by defining more constraints on the model, that is, by eliminating some of the estimated coefficients.

Thus, based on the guidelines provided by Hair et al. (1998), the above model was first inspected for possible symptoms of an identification problem such as (1) very large standard errors, (2) negative error variances, (3) inability of the program to invert the information matrix, or (4) high correlations (+/- .90 or greater) among estimated coefficients. No problems relating to identification were encountered. Hence, it was safe to proceed further with the fit analysis of the model, which is discussed in the next section.

8.3.6 Evaluating Goodness-of-Fit Criteria

Once the models are estimated and identified, the next stage is to inspect the results for offending estimates, and to assess the overall fit of the model. This section discusses the procedure for evaluating goodness-of-fit criteria. First, the model is inspected for any 'offending estimates', and then the model is assessed for overall model fit across the three fit measures.

8.3.6.1 Offending Estimates

The first step in evaluating the results for goodness-of-fit is inspection for 'offending estimates'. According to Hair et al. (1998), these are "estimated coefficients in either the structural or measurement models that exceed acceptable limits" (p. 610). Offending estimates could be (1) negative error variances or nonsignificant error variances for any construct, (2) standardised coefficients exceeding or very close to value one, (3) very large standard errors associated with any estimated coefficient. There are several remedies given in Hair et al. (1998), like fixing the error variance to a small positive value, or elimination of one or more constructs if the correlation between the constructs is high. According to Hair et al. (1998), if the offending estimates are discovered, they should first be resolved before proceeding further with the results of the model. The structural model results were inspected for offending estimates. However, none could be found, and the model results were then inspected for the overall model fit.

8.3.6.2 Overall Model Fit

The next step after offending estimate inspection is to assess the overall model fit, which includes measurement model fit, followed by structural model fit, with the goodness-of-fit measures. The measurement model fit has already been discussed in Section 7.4.3, Chapter 7. Hence, this section discusses the results as regards structural model fit.

"Goodness-of-fit measures the correspondence of the actual or observed input (covariance or correlation) matrix with that predicted from the proposed model" (Hair et al., 1998, p. 611). There are three types of goodness-of-fit measures: 1. Absolute fit measures, 2. Incremental fit measures, 3. Parsimonious fit measures.

Absolute fit measures assess only overall fit, with no adjustment for the degree of overfitting. Incremental fit measures compare the proposed model to a comparison model specified by the researcher. Parsimonious fit measures compare models with differing numbers of estimated coefficients, with the intent of determining the amount of fit achieved by each estimated coefficient. Since structural equation modelling has recently evolved, no single measure or set of measures emerges as the only measures needed. According to Hair et al. (1998), the researcher is encouraged to employ one or more measures from each type. The application of multiple fit measures would help in gaining consensus across different types of measures regarding the acceptability of the proposed model. Various measures within each class of goodness-of-fit measures are suggested. A more detailed explanation of all the fit measures is provided in Appendix A8.4.

Hence, based on the suggestions of Hair et al. (1998), not one, but multiple fit measures were used to assess the overall goodness-of-fit of the model across the three fit measures criteria, discussed below.

8.3.6.3 Fitting the Structural Model to the Data

The results show that the conceptual model fitted the data reasonably well. Three fit measures relating to absolute fit, incremental fit and parsimonious fit were taken to evaluate the goodness-of-fit criteria for the model. Therefore, a final decision to accept or reject a model was based on multiple fit indices, rather than relying on any one single measure (Bollen & Long, 1993; Hair et al., 1998). Though there are a number of measures used to evaluate the goodness-of-fit statistic, it is up to the researcher to select fit indices within the three fit measures. At the same time, the proliferation of fit indices has made the choice of an index difficult for a researcher (Tanaka, 1993). Some indices

like the chi-square statistic, GFI and AGFI vary with sample size and number of factors (Marsh et al., 1988; Bollen & Long, 1993; Hair et al., 1998), and hence the model fit should not rely on them exclusively. In the context of choosing fit indices, Bollen and Long (1993) recommend that, while reporting multiple fit indices, those should be chosen that represent different families of measures. Keeping in mind the suggestions of Bollen and Long (1993), for this study, absolute fit will be determined by the chi-square statistic, GFI and RMSEA, incremental fit by TLI, IFI, CFI and AGFI, and CMIN/df is used to determine the parsimonious fit of the model.

As shown in Table 8.1, the conceptual/proposed model achieved a satisfactory level of fit across all three fit measures.

Table 8.1: Fit Statistics of Conceptual / Proposed Model

Fit Measures	Recommended Criteria	Conceptual Model
Absolute fit measures		
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.803
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; Not over 0.1	.040
Likelihood-Ratio Chi-square statistic	p-value >0.05	.000
Incremental Fit Measures		
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.909
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.771
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.921
Comparative Fit Index (CFI)	No absolute threshold, Recommended 0.9 or above	.919
Parsimonious Fit Measures		
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	1.54

The results clearly show that the model fits well across all fit measures, except the chi-square statistic and AGFI. As regards the chi-square statistic, some doubts have been expressed over using this measure in isolation (Fornell & Larcker, 1981), as it is considered to be an excessively stringent test of the fit of a model. The chi-square test becomes more sensitive as the number of indicators rise in a model (Hair et al., 1998). The unsuitability of p-value as a criteria for model selection was also pointed out early in the development of analysis of moment structures (Joreskog, 1969). Hence its use is generally recommended in comparative model testing (Joreskog & Sorbom, 1982).

As regards AGFI, although the recommended value is .90, there is no established threshold. Moreover, studies have reported that fit indices like GFI and AGFI indicated less fit, as the number of factors in the model or the number of indicators per factor, are increased, e.g. it was noted that the GFI values varied from .939 to .805 as the respective number of indicators per factor increased from two to three to four, and similar findings were noted when the number of factors increased (Anderson & Gerbing, 1984). Hence, low values ranging from .851 to .771 on GFI and AGFI could be obtained, even when the models are correctly specified (Gerbing & Anderson, 1993). Since the proposed model of the study incorporates a large number of factors (and indicators per factor), the low values of GFI and AGFI are quite likely. Moreover, since sample size and degrees of freedom influence AGFI values, TLI has been suggested to be a better measure, as TLI values are relatively impervious to these effects (Gerbing & Anderson, 1993). In fact, GFI and AGFI values close to 0.8 have been reported in models considered to be of acceptable fit (see Mukherjee & Nath, 2003; Shamdasani & Mukherjee, 2002).

Moreover, AGFI is one with the other three measures used to assess the incremental fit of the model. Whilst the other three (TLI, CFI and ILI) are clearly above the recommended value (above .90), the lower value of AGFI does not necessarily imply poor incremental fit of the model since no single measure of overall fit should be relied on exclusively (Bollen & Long, 1993). "There can never be a best coefficient for assessing fit" states Steiger (1990, p. 179).

In the opinion of Browne and Mels (1992, p. 78), "The null hypothesis (of perfect fit) is implausible and that it does not help much to know whether or not the statistical test has been able to detect that it is false". However, it is recommended that a model with a GFI less than 0.80 (Tanaka & Huba, 1985), and RMSEA above 0.1 (Browne & Cudeck, 1989) should be rejected. The above conceptual model satisfies these initial requirements, and is considered for further improvements by considering modification indices.

However, before considering the model for modifications or revisions, it was first compared with a set of other competing models, following the suggestions of Hair et al. (1998). Two more competing models were designed based on theoretical considerations. The first competing model was designed by removing all the direct effects of rewards on service quality. In the second competing model, the direct effects of continuance commitment and job satisfaction were also removed, in addition to the removal of direct effects of rewards on service quality. As shown in Appendix A8.5, the proposed model emerged better than both the competing models. Also, Hair et al. (1998) suggest that if the proposed model is quite close to the other models as regards fit statistics, it should be accepted, but again, on a theoretical and empirical basis. Thus,

based on the suggestions of Hair et al. (1998), and the results provided in Appendix A8.5, the proposed model is accepted, as it emerged as the 'best' model available. This model is now considered for model modification.

The goal of model modification is to find a model "that not only fits the data well from a statistical point of view... but also has the property that every parameter of the model can be given a substantively meaningful interpretation" (Joreskog, 1993, p. 307). Hence, the model is considered for further improvements in the light of modification indices, as discussed below.

8.3.7 Model Revision - Modification Indices

A modification index (Sorbom, 1989) may be computed for each fixed and constrained parameter in the model. A modification index measures how much chi-square is expected to decrease if a particular constrained parameter is set free and the model reestimated. The largest modification index tells us which parameter to set free to improve the fit of the model (Joreskog, 1993). However, though modification indices improve upon the fit of the model, care is taken that only those parameters are set free that make sense based on theoretical underpinnings, in other words, the estimation of the targeted parameter should be substantively meaningful (Byrne, 2001).

Inspection of modification indices suggested several parameters. One such parameter is the direct effect of normative commitment on affective commitment. Though studying direct effect of one dimension of a multi-dimensional construct on the other is not common, support to this effect was however found in the literature (see Meyer et al.,

1990; Boshoff & Tait, 1996; Meyer & Smith, 2000). Hence, this parameter was added to the model, and the model was modified.

Further, modification indices suggested adding parameters that represented direct effects of team support and intrinsic exchange on the responsiveness dimension of service quality. Since the partial aggregation approach was followed, the dimensions of service quality could not be treated as separate factors. However, it was thought to be useful to find out what factors affected the various dimensions of service quality (though treated as components of a single underlying factor-service quality). Since the literature, as discussed in Section 5.6, Chapter 5, lent support for the effect of these constructs on service quality, these parameters (direct effects of team support and intrinsic exchange on responsiveness) were hence assumed to be theoretically justified, and were added to the model.

Besides suggesting regression paths among variables, there were certain other parameters recommended by modification indices that represented covariances between error terms. According to Byrne (2001), these measurement error covariances represent systematic rather than random measurement error in item responses. This is because they may derive from characteristics specific either to items or to the respondents (Aish & Joreskog, 1990). Another type of method effect responsible for such error covariances is a high degree of overlap in item content (Byrne, 2001). Such covariances occur when an item, although worded differently in a scale, essentially asks the same question, and this is generally found to be true with most of the instruments used in social research. Hence, even as regards error terms, only those that can be interpreted with some logic and seem meaningful should be allowed to covariate. Thus, following

the suggestions of Byrne (2001), only those parameters relating to the covariances between error terms belonging to items on the same scale were added.

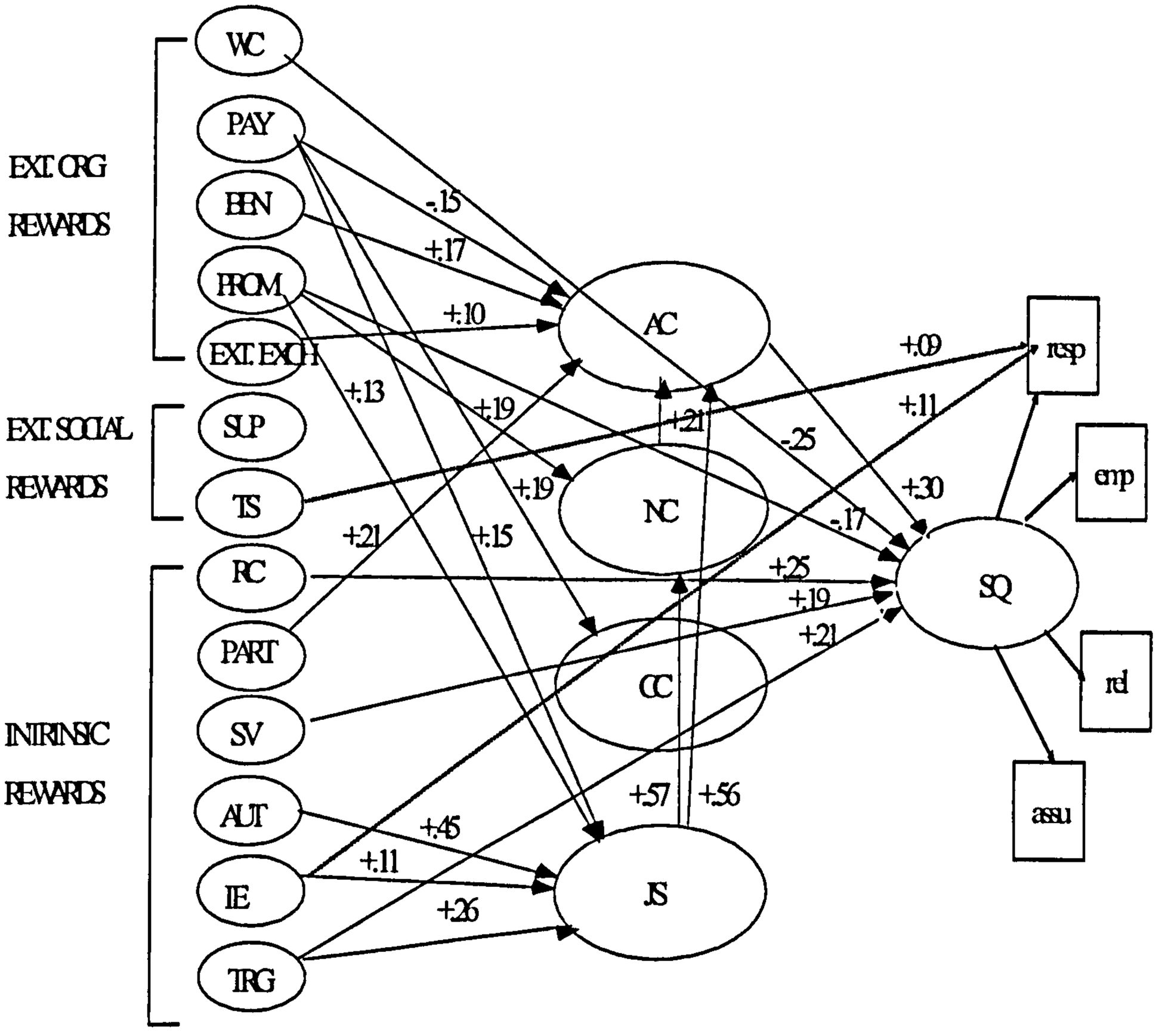
Hence, a conservative approach was followed as regards modification indices, and parameters were not added simply to improve the fit of the model. Rather, logic and theoretical justifications were given due consideration.

Also, the non-significant parameters (p>.10) were removed from the model following the suggestions of Novak et al. (2000). This step-by-step approach of model modification based on adding and removing parameters has been followed successfully by other researchers to arrive at the final model (see Sergeant & Frenkel, 2000). Hence, the proposed model was improved upon, and the final model arrived at is discussed in the next section, along with the fit statistics.

8.3.8 Final Structural Model and Model Fit

This section discusses the final model arrived at, along with the fit statistics. The path diagram relating to the final structural model is provided in Figure 8.2. The modelling results support most of the hypotheses, while some of the hypotheses could not be supported, which are discussed in the next chapter.

Figure 8.2: Path Diagram - Final Model



WC - Working Conditions, PAY - Pay Satisfaction, BEN - Satisfaction with Benefits, PROM - Promotional Opportunities, EXT EXCH - Extrinsic Exchange, SUP - Supervision, TS - Team Support, RC - Role Clarity, PART - Participation, SV - Skill Variety, AUT - Autonomy, IE - Intrinsic Exchange, TRG - Training, AC - Affective Commitment, NC - Normative Commitment, CC - Continuance Commitment, JS - Job Satisfaction, SQ - Service Quality of Frontline Employees (resp - Responsiveness, emp - Empathy, rel - Reliability, assu - Assurance)

As shown in Table 8.2, the final structural model (Figure 8.2) achieved a good level of fit, which surely demonstrates an improvement over the initially proposed model.

Table 8.2: Fit Statistics of Final Model

Fit Measures	Recommended Criteria	Final model
Absolute fit measures		
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.807
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; Not over 0.1	.038
Likelihood-Ratio Chi-square statistic	p-value >0.05	.000
Incremental Fit Measures		
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.919
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.780
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.927
Comparative Fit Index (CFI)	No absolute threshold, Recommended 0.9 or above	.926
Parsimonious Fit Measures		
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	1.48

In Table 8.2, satisfactory GFI and RMSEA values represent absolute fit of the model. Both the values of GFI (being over 0.8) and RMSEA (being below 0.08) support that the model is accepted. There is improvement in most of the values of fit indices in the final model after modifications as compared to the conceptual model results (Table 8.1). However, as discussed in Section 8.3.7, a more conservative approach, based on logic and theoretical justifications, was followed for incorporating parameters suggested by

modification indices, and parameters were not added simply to improve the fit of the model. Though the recommended value of GFI has normally been given as 0.9, although with no absolute threshold limit established (Hair et al., 1998), Williams and Hazer (1986) have stated that GFI values close to .85 represent a good fit. Moreover, as discussed in Section 8.3.6.3, GFI values are found to be sensitive to number of factors, and degrees of freedom (Anderson & Gerbing, 1984; Gerbing & Anderson, 1993). However, a more popular test of goodness-of-fit is the RMSEA value as "RMSEA and CFI are the most frequently reported fit indices" (Tabachnick & Fidell, 2001, p. 702). RMSEA value was well within the limits of being less than .08, as suggested by Browne and Cudeck (1989). Browne and Cudeck (1993) also suggest that RMSEA values about or below .05 indicate a close fit of the model in relation to degrees of freedom, and values below .08 indicate a reasonable fit. Thus, the RMSEA value of .038 reflects upon a strong result, thereby indicating a close fit of the model.

AGFI, TLI, IFI and CFI were also satisfactory (TLI, IFI and CFI being > 0.9), thus representing incremental fit of the model. Though the AGFI value was below the recommended limit, as explained earlier in Section 8.3.6.3, it could be accepted, considering all the other measures of incremental fit. Also, TLI is reported to be a better measure of incremental fit compared to AGFI, since TLI values are not affected by size or degrees of freedom (Gerbing & Anderson, 1993), while CFI is found to be the most popular and most frequently reported incremental fit index (Tabachnick & Fidell, 2001). In this context, both TLI and CFI values of the model are above 0.9, indicating a good incremental fit.

The calculation of the CMIN/df statistic takes into account the parsimony of the model, and the recommended minimum acceptable ratios generally range from 5 (Wheaton et al., 1977) to 2 (Byrne, 1989), with more conservative limits being 1-2 (Hair et al., 1998). Thus, the CMIN/df statistic with a value of 1.48 indicates a strong result, representing a good parsimonious fit of the model.

Hence, the final model satisfactorily passes all the three criteria (absolute fit, incremental fit and parsimonious fit) that determine goodness-of-fit for the model, and thus, it can be concluded that the final model represents an adequate fit to the data.

8.4 Conclusion

A structural model was developed based on the factor structure derived from the measurement models. The model was perfectly identified. It was also tested for overall model fit. First, it was inspected for any offending estimates, and then tested for goodness-of-fit statistics. The conceptual model was improved upon by adding significant and meaningful parameters derived from modification indices based on theoretical justification to the model, and by removing insignificant parameters from the model. The final model represented an acceptable level of fit to the data across all three fit measures. The next chapter discusses the results derived from this model in terms of testing the hypotheses and the conceptual model developed in Chapter 5.

Chapter 9: Key Findings and Discussion

9.1 Introduction

Chapter 8 discussed the seven-stage process followed in structural equation modelling to arrive at the final model for the study (Figure 9.1[1]), by which the hypotheses of the study would be tested. This chapter carries forward the discussion from the last chapter by discussing the key findings from the model derived in relation to testing of the hypotheses.

Figure 9.1 Path Diagram - Final Model

WC - Working Conditions; PAY - Pay Satisfaction; BEN - Satisfaction with Benefits; PROM - Promotional Opportunities; EXT EXCH - Extrinsic Exchange; SUP - Supervision; TS - Team Support; RC - Role Clarity; PART - Participation; SV - Skill Variety; AUT - Autonomy; IE - Intrinsic Exchange; TRG - Training; AC - Affective Commitment; NC - Normative Commitment; CC - Continuance Commitment; JS - Job Satisfaction; SQ - Service Quality of Frontline Employees (resp - Responsiveness, emp - Empathy, rel - Reliability, assu - Assurance)

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[1] This is the same path diagram that was discussed in Chapter 8 as Figure 8.2. To make the discussion more user-friendly, it is introduced here again in this chapter as Figure 9.1.

Firstly, the key findings or significant relationships exhibited in the model (Figure 9.1) are discussed in relation to the hypotheses framed for the study. Each sub-section deals with the stated hypothesis along with the results. This is followed by discussion of the results in the light of the literature reviewed.

9.2 Key Findings

This section discusses the results obtained through structural equation modelling in relation to the hypotheses framed for the study. The hypotheses, listed in Chapter 5, are compared with the results of the study. The comparison indicates which hypotheses are supported and which of them are not.

9.2.1 Working Conditions

The first extrinsic organisational reward taken in the model is working conditions. The hypotheses with regard to this reward were:

H1a: Working conditions will have a significant positive effect on job satisfaction

H1b: Working conditions will have a significant positive effect on affective commitment

H1c: Working conditions will have a significant positive effect on normative commitment

H1d: Working conditions will have a significant positive effect on continuance commitment

H1e: Working conditions will have a significant positive effect on service quality

Results indicated that hypotheses H1a, H1b, H1c and H1d could not be supported. This implies that working conditions had no effect on job satisfaction, or on any of the three components of commitment. However, as regards H1e, results indicate that working

conditions affect service quality significantly (p<.001), but negatively (r= -.248), and not as hypothesised. Hence, H1e was partially supported.

9.2.2 Pay Satisfaction

The hypotheses relating to the next extrinsic organisational reward, pay satisfaction, were:

H2a: Pay satisfaction will have a significant positive effect on job satisfaction

H2b: Pay satisfaction will have a significant positive effect on affective commitment

H2c: Pay satisfaction will have a significant positive effect on normative commitment

H2d: Pay satisfaction will have a significant positive effect on continuance commitment

H2e: Pay satisfaction will have a significant positive effect on service quality

Results indicated that the standardised regression coefficients for the direct effect of pay satisfaction on job satisfaction (r=0.148; p<.01), and on continuance commitment (r=0.187; p<.01) were significant. Thus, hypotheses H2a and H2d were accepted. The regression coefficients for the direct effects of pay satisfaction on normative commitment and service quality were insignificant. Hence, hypotheses H2c and H2e could not be supported. However, though the standardised regression coefficient of the direct path of pay satisfaction on affective commitment was significant (p<.01), the path depicted a negative relationship, as opposed to what had been hypothesised (r= -.155). Hence, H2b was partially supported.

9.2.3 Satisfaction with Fringe Benefits

As regards this construct, the following relationships were hypothesised:

H3a: Satisfaction with Fringe Benefits *will have a significant positive effect on job satisfaction*

H3b: Satisfaction with Fringe Benefits *will have a significant positive effect on affective commitment*

H3c: Satisfaction with Fringe Benefits *will have a significant positive effect on normative commitment*

H3d: Satisfaction with Fringe Benefits *will have a significant positive effect on continuance commitment*

H3e: Satisfaction with Fringe Benefits *will have a significant positive effect on service quality*

Results indicate support for H3b, as the standardised regression coefficient was positive ($r=0.165$) and significant ($p<.01$), implying that an increase in fringe benefits affects affective commitment positively. However, the rest of the hypotheses relating to this construct (H3a, H3c, H3d and H3e) could not be supported by the results of the study. Satisfaction with fringe benefits was not found to have significant effect on job satisfaction, normative commitment, continuance commitment or service quality.

9.2.4 Promotional Opportunities

Hypotheses 4a-e deal with this particular construct, and the hypothesised relationships are as follows:

H4a: Promotional opportunities will have a significant positive effect on job satisfaction

H4b: Promotional opportunities will have a significant positive effect on affective commitment

H4c: Promotional opportunities will have a significant positive effect on normative commitment

H4d: Promotional opportunities will have a significant positive effect on continuance commitment

H4e: Promotional opportunities will have a significant positive effect on service quality

Results indicated that the standardised regression coefficients for the direct paths of promotional opportunities on job satisfaction ($r=0.128$; $p<.05$) and normative commitment ($r= 0.191$; $p<.01$) were significant, thus lending support to H4a and H4c. The direct significant effect of promotional opportunities on affective commitment and continuance commitment was not found, and hence, H4b and H4d could not be supported. However, results indicate that there was a significant direct effect of promotional opportunities on service quality ($r= -.169$; $p<.05$). But, as is clear from the results, the effect was found to be negative, as opposed to what has been hypothesised, thus implying that H4e was partially supported.

9.2.5 Extrinsic Exchange

Hypotheses 5a-e deal with this construct and its relationships, as hypothesised in the model.

H5a: Extrinsic exchange will have a significant positive effect on job satisfaction

H5b: Extrinsic exchange will have a significant positive effect on affective commitment

H5c: Extrinsic exchange will have a significant positive effect on normative commitment

H5d: Extrinsic exchange will have a significant positive effect on continuance commitment

H5e: Extrinsic exchange will have a significant positive effect on service quality

No direct effects of extrinsic exchange were found to be significant on job satisfaction, normative commitment, continuance commitment, or service quality. Thus H5a, H5c, H5d and H5e could not be supported. The only path that was found to be significant was the direct effect of extrinsic exchange on affective commitment (r=.095; p<.10). Therefore H5b was the only hypothesis that was supported as regards this construct.

9.2.6 Supervision

Supervision was taken as the first extrinsic social reward. The hypotheses relating to supervision are:

H6a: Supervision will have a significant positive effect on job satisfaction

H6b: Supervision will have a significant positive effect on affective commitment

H6c: Supervision will have a significant positive effect on normative commitment

H6d: Supervision will have a significant positive effect on service quality

The results indicate that none of the above stated hypotheses could be supported. Surprisingly, it did not have a direct significant effect on any of the endogenous constructs in the model.

9.2.7 Team Support

The following effects were hypothesised in relation to this extrinsic social reward:

H7a: Team support will have a significant positive effect on job satisfaction

H7b: Team support will have a significant positive effect on affective commitment

H7c: Team support will have a significant positive effect on normative commitment

H7d: Team support will have a significant positive effect on service quality

According to the results, like supervision, this construct also did not have any significant effect on any of the endogenous constructs. Therefore Hypotheses 7a-c could not be accepted. However, following the partial aggregation approach as regards the service quality construct, this construct did display a significant direct effect with the responsiveness dimension of service quality($r= .087$; $p<.05$), even though it did not have a direct significant effect on the service quality construct as a whole. Hence, H7d could be construed as partially accepted.

9.2.8 Role Clarity

The following hypotheses were designed based on the relationship that this construct was expected to bear with other endogenous constructs in the model:

H8a: Role clarity will have a significant positive effect on job satisfaction

H8b: Role clarity will have a significant positive effect on affective commitment

H8c: Role clarity will have a significant positive effect on normative commitment

H8d: Role clarity will have a significant positive effect on service quality

Results indicated that role clarity was found to have a direct significant positive effect on the service quality construct only ($r=0.250$; $p<.001$). Hence, H8d is supported by the results of the study. However, since no direct significant effects could be found on job satisfaction, affective commitment or normative commitment, H8a-c could not be supported by the results of the study.

9.2.9 Participation in Decision Making

As regards participation in decision making, the following were hypothesised:

H9a: Participation in decision making will have a significant positive effect on job satisfaction

H9b: Participation in decision making will have a significant positive effect on affective commitment

H9c: Participation in decision making will have a significant positive effect on normative commitment

H9d: Participation in decision making will have a significant positive effect on service quality

Results indicated that participation had a direct significant positive effect only on the affective component of commitment ($r = .212$; $p < .001$). Hence, H9b is the only one among the hypotheses relating to participation in decision making supported by the results of the study. The rest, H9a, H9c and H9d, could not be supported, as no significant effects could be found on job satisfaction, normative commitment, or service quality.

9.2.10 Skill Variety

The following hypotheses were constructed as regards the effects of skill variety on other endogenous constructs in the model:

H10a: Skill variety will have a significant positive effect on job satisfaction

H10b: Skill variety will have a significant positive effect on affective commitment

H10c: Skill variety will have a significant positive effect on normative commitment

H10d: Skill variety will have a significant positive effect on service quality

The results indicated that skill variety directly and significantly affected service quality (r= .186; p<.01). However, since this variable was not found to have any significant effect on job satisfaction, affective commitment, or normative commitment, the rest of the hypotheses relating to this construct could not be supported.

9.2.11 Autonomy

The hypotheses dealing with this particular construct in the research framework are:

H11a: Task autonomy will have a significant positive effect on job satisfaction

H11b: Task autonomy will have a significant positive effect on affective commitment

H11c: Task autonomy will have a significant positive effect on normative commitment

H11d: Task autonomy will have a significant positive effect on service quality

According to the results, autonomy had a direct positive significant effect only on job satisfaction (r= .454; p<.01). Thus, only H11a was supported. The remaining hypotheses, H11b-d, could not be supported by the results of the study.

9.2.12 Feedback

As noted earlier, both exploratory and confirmatory factor analysis (discussed in Chapter 7) supported the view that the two constructs of 'feedback' and 'intrinsic exchange' be combined into a single factor named 'intrinsic exchange'. Hence, this factor is not taken separately for further analysis.

9.2.13 Training

Training is the next intrinsic reward in the model and the hypotheses in relation to this variable are:

H13a: Training will have a significant positive effect on job satisfaction

H13b: Training will have a significant positive effect on affective commitment

H13c: Training will have a significant positive effect on normative commitment

H13d: Training will have a significant positive effect on service quality

Results indicated that training had a significant direct positive effect on job satisfaction (r=.259, p<.001) and service quality (r=.213, p<.01). Therefore, H13a and H13d are supported by the results of the study. Since no direct significant effect of training was found on affective and normative commitment constructs, H13b and H13c could not be supported.

9.2.14 Intrinsic Exchange

The following are the hypotheses relating to intrinsic exchange:

H14a: Intrinsic exchange will have a significant positive effect on job satisfaction

H14b: Intrinsic exchange will have a significant positive effect on affective commitment

H14c: Intrinsic exchange will have a significant positive effect on normative commitment

H14d: Intrinsic exchange will have a significant positive effect on service quality

The results show that hypotheses H14b and H14c could not be supported. Hypothesis H14a was accepted, as intrinsic exchange had a direct significant positive effect on job satisfaction (r=.110, p<.05), but as regards service quality, like team support, it only affected the responsiveness dimension of the service quality construct (r=.104, p<.05). Hence, hypothesis H14d was partially supported.

9.2.15 Job Satisfaction

As regards job satisfaction, the following hypotheses were constructed:

H15a: Job Satisfaction will exert a positive effect on Service Quality of customer-contact employees

H15b: Job satisfaction will have a significant positive effect on affective commitment

H15c: Job satisfaction will have a significant positive effect on normative commitment

H15d: Job satisfaction will have a significant positive effect on continuance commitment

Results indicate that job satisfaction has a significant direct positive effect on affective commitment ($r = .560$, $p < .001$) and normative commitment ($r = .567$, $p < .001$) constructs. Hence, H15b and H15c are supported. However, due to lack of any significant relationship found with continuance commitment and service quality constructs, H15a and H15d could not be supported.

9.2.16 Affective Commitment

H16 hypothesised a positive direct significant effect of affective commitment on service quality as:

H16: Affective commitment will have a significant positive effect on service quality.

Results support this hypothesis, H16, as affective commitment was found to have a positive, direct and significant effect on the service quality construct ($r = .297$, $p < .001$).

9.2.17 Normative Commitment

H17 hypothesised normative commitment to have a direct significant effect on the service quality construct.

H17: Normative commitment will have a significant positive effect on service quality

However, this hypothesis, H17, could not be supported by the results of the study, as normative commitment was not found to affect service quality significantly.

9.2.18 Continuance Commitment

The following hypothesis predicted a negative relationship between continuance commitment and service quality:

H18: Continuance commitment will have a significant negative effect on service quality

However, the results of the study indicated that continuance commitment did not have any significant effect on the service quality construct. Therefore, H18 could not be supported.

9.2.19 Section Summary

Thus, following the results of the study, the hypotheses constructed were either supported or not supported. Table 9.1 provides a summary of all the hypotheses, and the results of the study.

Table 9.1 Results of Hypotheses Testing

HYPO-THESES	PATH	RESULT	STANDARDISED REGRESSION ESTIMATE (significance value)	(Std. Reg. estimate)
			Direct effects	Indirect effects
H1a	WC---------JS	Not Supported	p>.10	
H1b	WC--------AC	Not Supported	p>.10	
H1c	WC--------NC	Not Supported	p>.10	
H1d	WC--------CC	Not Supported	p>.10	
H1e	WC--------SQ	Partially Supported	-.248 (p<.001)	
H2a	PS----------JS	Supported	.148 (p<.01)	
H2b	PS---------AC	Partially Supported	-.155 (p<.01)	(.100)
H2c	PS---------NC	Not Supported	p>.10	(.084)
H2d	PS---------CC	Supported	.187 (p<.01)	
H2e	PS---------SQ	Not Supported	p>.10	
H3a	FB---------JS	Not Supported	p>.10	
H3b	FB---------AC	Supported	.165 (p<.01)	
H3c	FB---------NC	Not Supported	p>.10	
H3d	FB---------CC	Not Supported	p>.10	
H3e	FB---------SQ	Not Supported	p>.10	(.049)
H4a	PR----------JS	Supported	.128 (p<.05)	
H4b	PR---------AC	Not Supported	p>.10	(.126)
H4c	PR---------NC	Supported	.191 (p<.01)	(.072)
H4d	PR---------CC	Not Supported	p>.10	
H4e	PR---------SQ	Not Supported	-.169 (p<.05)	(.037)
H5a	EE----------JS	Not Supported	p>.10	
H5b	EE---------AC	Supported	.095 (p<.10)	
H5c	EE---------NC	Not Supported	p>.10	
H5d	EE---------CC	Not Supported	p>.10	
H5e	EE---------SQ	Not Supported	p>.10	(.028)
H6a	SUP--------JS	Not Supported	p>.10	
H6b	SUP-------AC	Not Supported	p>.10	
H6c	SUP---- --NC	Not Supported	p>.10	
H6d	SUP-------SQ	Not Supported	p>.10	
H7a	TS----------JS	Not Supported	p>.10	
H7b	TS---------AC	Not Supported	p>.10	
H7c	TS---------NC	Not Supported	p>.10	
H7d	TS----------SQ	Partially Supported		
H8a	RC----------JS	Not Supported	p>.10	
H8b	RC---------AC	Not Supported	p>.10	
H8c	RC---------NC	Not Supported	p>.10	
H8d	RC---------SQ	Supported	.250 (p<.001)	
H9a	PRT--------JS	Not Supported	p>.10	
H9b	PRT-------AC	Supported	.212 (p<.001)	
H9c	PRT-------NC	Not Supported	p>.10	
H9d	PRT-------SQ	Not Supported	p>.10	(.063)
H10a	SV---------JS	Not Supported	p>.10	
H10b	SV---------AC	Not Supported	p>.10	
H10c	SV---------NC	Not Supported	p>.10	
H10d	SV---------SQ	Supported	.186 (p<.01)	

Table 9.1 Results of the Study (contd.)

HYPO-THESES	PATH	RESULT	STANDARDISED REGRESSION ESTIMATE (significance value)	(Std. Reg. estimate)
			Direct effects	Indirect effects
H11a	AUT--------JS	Supported	.454 (p<.001)	
H11b	AUT--- ---AC	Not Supported	p>.10	
H11c	AUT-------NC	Not Supported	p>.10	
H11d	AUT-------SQ	Not Supported	p>.10	(.091)
H12a*	FD----------JS			
H12b*	FD---------AC			
H12c*	FD---------NC			
H12d*	FD---------SQ			
H13a	TR----------JS	Supported	.259 (p<.001)	
H13b	TR---------AC	Not Supported	p>.10	(.175)
H13c	TR---------NC	Not Supported	p>.10	(.147)
H13d	TR---------SQ	Supported	.213 p(<.01)	(.052)
H14a	IE----------JS	Supported	.110 (p<.05)	
H14b	IE----------AC	Not Supported	p>.10	(.075)
H14c	IE----------NC	Not Supported	p>.10	(.062)
H14d	IE----------SQ	Partially Supported		(.022)
H15a	JS----------SQ	Not Supported	p>.10	(.201)
H15b	JS----------AC	Supported	.560 (p<.001)	(.117)
H15c	JS----------NC	Supported	.567 (p<.001)	
H15d	JS----------CC	Not Supported	p>.10	
H16	AC---------SQ	Supported	.297 (p<.001)	
H17	NC---------SQ	Not Supported	p>.10	(.061)
H18	CC---------SQ	Not Supported	p>.10	
MI** (H14d)	IE------RESP		.104 (p<.05)	
MI** (H7d)	TS------RESP		.087 (p<.05)	
MI** (not hyp)	NC------AC		.206 (p<.01)	

* Following EFA and CFA, Feedback factor was not recognised and was merged with 'intrinsic exchange' factor

** Path indicated by modification indices

Although not framed as the hypothesis of the study, it was important to investigate the overall impact of intrinsic rewards and extrinsic rewards on service quality as compared to the individual effects of these rewards provided by the analysis. This would also be useful in determining the comparative significance of extrinsic and intrinsic rewards in relation to service quality. Hence, using multiple regression, first all the extrinsic rewards were entered with service quality. This was followed by entering all the intrinsic rewards in place of extrinsic rewards. The adjusted R^2 values were then

compared. As shown in Appendix A9.1, the adjusted R^2 value clearly indicates that intrinsic rewards are more significant in relation to service quality than extrinsic rewards.

As discussed in Section 9.2, the results of the study have led to the acceptance or rejection of the hypotheses constructed for the study. However, these results are now discussed in detail in the following section.

9.3 Discussion

This section discusses the key findings from the model (Figure 9.1) developed and fitted to the data using structural equation modelling. The discussion is organised according to the relationships found with the endogenous variables used in the study. First, the relationships with service quality are discussed, followed by discussion of the results in relation to the three components of commitment and job satisfaction.

9.3.1 Service Quality

The squared multiple correlation for service quality was found to be .38[2].

The results of the study, using structural equation modelling (Table 9.1) and multiple regression (Appendix A9.1), clearly indicate that intrinsic rewards are highly significant for service quality. As shown in Figure 9.1, most of the intrinsic rewards have a direct significant positive effect on the service quality construct. As discussed in Section 9.2, role clarity, skill variety and training have a direct significant effect on service quality, while autonomy, feedback and participation have an indirect positive effect - they either

[2] A variable's squared multiple correlation is the proportion of its variance that is accounted for by its predictors. The predictors accounted for 38% of the variance in service quality.

impact on service quality through commitment or through job satisfaction (see Table 9.1).

9.3.1.1 Intrinsic Rewards

Among intrinsic rewards, the results of the study indicated that role clarity, skill variety, and training were found to have a direct significant positive effect on service quality.

The results of the study also help understand the working and significance of role clarity in call centres. Role clarity emerged as a crucial variable in relation to service quality in a call centre environment. It was found to have the strongest effect on service quality when compared to other 'intrinsic rewards' variables.

Although the literature predicted a very weak or no direct relationship with service quality (Singh, 1993; Wetzels et al., 2000), it was thought to be of utmost importance during hypotheses construction, especially in a call centre setting, which is further confirmed by the results of the study. The lack of relationship with performance, as reported in other studies, could be a result of the nature of sample, as most previous studies were conducted in face-to-face encounters. In call centres, where supervisors and team members rarely participate in a call that is handled exclusively by the frontline employees (Sergeant & Frenkel, 2000), clarity of role is exactly what is needed while handling various types of calls and delivering quality service. Though researchers argue that a limited amount of role ambiguity in a service firm may be advantageous to a certain extent (Lyons, 1971), overall its impact is more likely to be 'dysfunctional' (Boshoff & Allen, 2000), especially in service situations concerning the frontline staff (Jackson & Schuler, 1985). Hence, the results of the study confirm that service quality

is significantly influenced by role clarity perceived by the frontline employees in banking call centres.

The next important intrinsic reward to have a direct significant positive effect on service quality is training. This finding conforms to the arguments found in the literature suggesting that training improves the service quality of frontline staff (Zeithaml et al., 1990, Schneider & Bowen, 1995; Dean, 2004). Although some studies conducted in face-to-face encounters have reported training to have no significant effect on performance (Boshoff & Allen, 2000), in call centres that are technology-driven work environments, training is considered mandatory and crucial for quality service (Korczynski et al., 2000; Dean, 2004). Frontline employees in call centres need training in technical and interactive skills in order to provide quality service to the customers, as training enables these frontline employees to work with confidence by providing them with the necessary knowledge and ability required to delivering quality service. Studies conducted in UK call centres have reported that frontline employees require a complex and largely unacknowledged set of personal skills while dealing with customers (Armistead et al., 2002), as they constantly face a great challenge in expressing themselves to customers over the phone (Fleischer, 2002). However, with the help of regular and continuous training, frontline employees working in call centres can control how they communicate with customers (Leidner, 1993; Fleischer, 2002). Besides providing technical knowledge and ability, training in call centres can be effectively used to help frontline employees 'identify with the customers' (Korczynski et al., 2000). As indicated by the results of the study, training frontline employees will significantly impact upon their service quality in banking call centres.

The results of the study also confirm that skill variety in call centres has a direct significant positive effect on the service quality construct. In the case of call centres, Belt (2002) notes that:

"Concerns have been expressed about the high rates of labour turnover present in the industry, with employers being accused of providing large numbers of part-time, low skilled, highly repetitive, pressurised and 'dead-end' jobs" (p. 51).

There is an increasing need to redesign these call centre jobs by adding more variety, and thereby reducing monotony in the work of frontline employees (Holman, 2002). Since monotonous and repetitive work in call centres is positively associated with emotional exhaustion (Deery et al., 2002), improving skill variety in jobs would enhance the quality of service delivered.

However, as mentioned earlier in Chapter 5, decisions concerning job design are greatly influenced by a firm's objectives (Kinnie et al., 2000). Customer-oriented organisations are likely to construct jobs that are more varied and less monotonous in nature, while organisations wanting to maximise call volume and minimise costs would design jobs that restrict employee discretion and limit the skills used by the employees. Organisations competing on service quality are more likely to construct jobs that enable frontline employees to display wider skills. In such organisations, frontline employees working in call centres could be allowed to deal with different types of calls, enabling them to integrate their product or service knowledge with their IT and customer service skills to provide a service that ultimately satisfies the customer (Frenkel et al., 1998). The results of the study support the contention presented in the literature regarding the need to redesign call centre jobs in terms of reducing monotony and repetitiveness of

the job, and improving upon skill variety. As is evident from the results of the study, this is likely to have a positive effect on the service quality of the frontline employees, especially those working in customer-oriented 'in-house' call centres.

The results of the study did not support the direct effects of autonomy, participation and feedback on the service quality construct, though literature has found autonomy (Tax & Brown, 1998; De Ruyter et al., 2001), participation in decision-making (Boshoff & Mels, 1995), and feedback (Schneider & Bowen, 1995; Frost & Kumar, 2001) to affect service quality significantly. One reason for this disparity could be that most of the research exploring these links has been conducted in face-to-face encounters. However, the lack of relationship could also be a feature of the particular call centre, where the study was conducted. It must be noted that there are three different types of call centres, such as transactions, sales and solutions (Wallace et al., 2000). Transactions are well-defined and simple tasks leaving little scope for autonomy, and this scope increases as we move from transactions to sales, and then to solutions which provide personalised professional services.

In this context, the four call centres studied can be broadly classified as transactions call centres. Here, the nature of work calls for little autonomy for delivering quality service, as the work practices are largely shaped by operational procedures and senior management (Sergeant & Frenkel, 2000). As discussed earlier, well-established detailed work guidelines providing role clarity, rather than task autonomy, seem to determine service quality in these call centres. However, autonomy or discretion enjoyed by the frontline employees of this bank, in terms of being flexible while servicing customers as regards call handling time (as discussed in exploratory interview findings in Chapter 5)

does affect service quality indirectly (see Table 9.1) through job satisfaction (Figure 9.1). Although being essential for service quality, autonomy does not impact on service quality directly.

Participation in decision making was also found to affect service quality indirectly (see Table 9.1) through affective commitment (see Figure 9.1). In call centres, most of the work is routinised, either with the help of advanced technology or with the already established procedures and guidelines. Participation in decision making is highly recommended in call centres, as frontline employees need to be conversant with the internal processes, especially regarding any decisions that concern their work (Gilmore & Moreland, 2000). Although desired, it does not determine service quality. As shown in the results of the study (Table 9.1), participation was not found to be significantly related to service quality, although its desirability in call centres can be justified by its positive indirect effect.

In this study, intrinsic exchange was not found to have any direct effect on service quality. In call centres, where performance-based rewards are limited, there seems to be little doubt about using intrinsic exchange as a motivating tool to encourage employees to consistently deliver quality service. However, the results found that feedback received in the form of praise and recognition from the superior does not affect service quality directly (Table 9.1). Although intrinsic exchange was not found to determine service quality, it still remains an important motivational tool, as it directly impacts on job satisfaction of the frontline employees, and thus affects their service quality indirectly.

9.3.1.2 Extrinsic Social Rewards

As is apparent from the results of the study (Table 9.1), extrinsic social rewards were not found to be effective in call centres with respect to service quality. This result is in contrast with the findings that consider these social rewards to be crucial for service quality (Parasuraman et al., 1990; Zeithaml et al., 1990).

Moreover, extrinsic social rewards were not found to affect any endogenous construct significantly. The results, especially with respect to service quality, support the findings in the literature that conform particularly to a call centre environment (see Sergeant & Frenkel, 2000; De Ruyter et al., 2001), which suggest that supervision and team support are not effective in call centres.

However, considering the path suggested by modification indices, although team support does not influence the service quality construct, it is found to have a direct positive effect on the responsiveness dimension of the construct. In call centres, since frontline employees are organised in teams, peer-based learning plays a pivotal role in acquiring additional work-related knowledge and "disseminating practical knowledge and norms associated with service quality" (Sergeant & Frenkel, 2000, p. 21). Team support in terms of co-operation and interaction achieved among the members of the team would help in enhancing the responsiveness of the frontline employees while delivering service quality and servicing customers. However, since responsiveness is not treated as a separate factor (according to the partial aggregation approach), the direct effect of team support on responsiveness is treated as its direct effect found on any indicator (or item) of an endogenous construct, and hence cannot be considered as significant as other findings.

The effectiveness of a call centre has often been characterised with the supportive environment created by considerate leaders (Cleveland & Mayben, 1997). However, contrary to expectations, supervision affected none of the endogenous variables in the study. Supervision was not found to have any effect (direct or indirect) on service quality. This could be attributed to the nature of work in which these frontline employees are engaged. In the face of highly structured, highly standardised, and high-technology work environments, it seems that 'supervision', in terms of supervisory consideration and satisfaction, has little role to play in determining the service quality of the employees (directly or indirectly). Because the interaction between the frontline employees and their superiors seems to be minimum during service encounters while servicing customers in call centres (Sergeant & Frenkel, 2000), the amount of influence that quality supervision could exert directly on the service quality also seems to be limited and doubtful.

The results of the study confirm that both team support and supervision do not influence service quality directly. Within the context of this finding, it is important to understand the nature of prevalent working practices. In call centres, supervisors and team members rarely participate in a call that has been fielded by a frontline employee, as the frontline employees primarily work on an individual basis (Frenkel et al., 1999). However, they do interact with their superiors in terms of referring calls to them that are difficult to handle or receiving coaching and feedback from them for better performance in future. They also receive some advice and support from their team members. However, as far as service quality is concerned, it seems that the supervisors or the team members do not support or influence service quality of the frontline employee during the crucial service encounters. The absence of direct effects of supervision and team support on

service quality found in the study could be a function of the specific work practices that operate in the service delivery system in these call centres. Therefore, no significant effect (direct or indirect) of supervision or team support could be found on service quality.

9.3.1.3 Extrinsic Organisational Rewards

As regards extrinsic organisational rewards, the findings are somewhat surprising. Despite the literature highlighting the significance of extrinsic rewards for performance (Steers & Porter, 1979; Jerome & Kleiner, 1995; Bowen et al., 1999; Armstrong, 2001), the results of the study indicate that they were not found to be effective for service quality in call centres. Out of the five extrinsic organisational rewards, only two (working conditions and promotional opportunities) displayed a direct significant impact on the service quality construct. The remaining three (pay, benefits and extrinsic exchange) affect service quality indirectly (see Table 9.1). Moreover, the direct effect of the two extrinsic organisational rewards on service quality was found to be negative.

The direct effects of working conditions and promotional opportunities are significant but negative. This could be because the effectiveness of these extrinsic rewards depends on whether they can be tied to performance directly (Lawler, 1973).

Good working conditions, if they do exist, exist for everyone in the organisation, especially on the frontline level. Hence, it is very difficult to differentiate between the working conditions enjoyed by a good performer from what is experienced by a poor performer. On the other hand, promotions are quite inflexible, as there are many situational factors that interfere with a direct performance-promotion system. Moreover,

having a promotion system based on service quality alone is quite unlikely. Therefore, since none of these extrinsic rewards can be tied directly with service quality alone, their effectiveness is likely to be doubtful, and could prove dysfunctional.

However, the question arises as to why these extrinsic organisational rewards bear a negative relationship with service quality. A possible explanation could be based on the unintended consequences sought as a result of tying extrinsic rewards to performance. According to some researchers (Lawler, 1973; Steers & Porter, 1979; 1991), there could be negative effects of tying extrinsic organisational rewards like pay or promotion to performance. One of the most common negative consequences relates to neglecting of certain aspects of performance by the employees. This implies that when such rewards are perceived by the employees to be linked with performance, employees tend to perform well in only those aspects of their performance that are measured. Thus, employees tend to neglect good performance in areas that are difficult to measure, which could prove very dysfunctional for the effectiveness of the organisation. In call centres, performance evaluation of frontline employees is usually carried out by their management using 'hard data' such as the number of calls handled, agent sales, productivity, and amount of errors (Brown & Maxwell, 2002; Tuten & Neidermeyer, 2004). Dimensions like empathy, assurance and responsiveness, relating to service quality, are not measured objectively. In a study conducted in financial services call centres, it was found out that performance productivity and quality are conceptually and empirically distinct aspects of frontline employees' performance in call centres (Singh, 2000). The results of the study also reported that frontline employees maintain productivity levels at the cost of quality, because of the visible and quantifiable nature of productivity (Singh, 2000). Since frontline employees are more likely to get extrinsic

organisational rewards such as promotion, based on productivity as compared to service quality, it could lead to a neglect by the employees in the area of service quality, and could prove dysfunctional. If the employees perceive extrinsic organisational rewards to be based on measures only relating to productivity, which do not reflect how good or bad the service quality has been, extrinsic organisational rewards would not be effective, and would fail to generate quality service. Since it is difficult to measure service quality objectively, it would be better if the extrinsic organisational rewards were not directly related to performance in call centres, and instead they were tied to organisational issues, and used for improving employees' job-related attitudes like organisational commitment and job satisfaction of frontline employees.

However, this does not imply that by improving working conditions or promotional opportunities available, service quality would diminish as a result of these improvements. But, linking up these rewards directly with performance, as part of internal marketing strategy, could have serious implications for service quality management. One such result from Table 9.1 explains this. Promotional opportunity displays a direct negative effect on service quality. However, if the indirect effect of promotional opportunities on service quality is viewed, the effect becomes positive. Similarly, extrinsic rewards like benefits and extrinsic exchange also display positive indirect effects on service quality. Hence, extrinsic organisational rewards are important for quality service delivery in call centres, as they do exert a positive indirect effect on service quality. They are especially important for enhancing organisational commitment or job satisfaction of the frontline employees (see Figure 9.1), and in doing so, they indirectly affect service quality.

Although there are hardly any studies in the literature that link up the extrinsic organisational rewards with service quality, one particular study conducted in face-to-face encounters in financial services does mention these findings, but somewhat in a different manner (Boshoff & Tait, 1996). In their study, these rewards were not taken separately, but were integrated into a single construct, 'extrinsic job satisfaction'. Even according to their study, extrinsic job satisfaction was found to have a negative direct impact on service quality. Boshoff and Tait (1996) remarked in their study that extrinsic rewards should be "linked to the acceptance of organisational goals, objectives, values and norms rather than to service quality performance directly" (p. 24). Hence, the results of the study confirm that in financial services, whether it is face-to-face encounter or service encounter in telephone call centres, extrinsic rewards should not be used to recognise service quality performance.

From the results of this study, it becomes clear that extrinsic organisational rewards should not be linked directly with service quality, instead they should be linked with organisational issues such as job satisfaction or organisational commitment of the frontline employees. Hence, this finding further necessitates the use of intervening variables like organisational commitment and job satisfaction in order to seek a positive relationship between service quality and the extrinsic organisational rewards in call centres. When these extrinsic organisational rewards influence service quality indirectly through variables like organisational commitment or job satisfaction, the effect is likely to be positive.

9.3.1.4 Affective, Normative and Continuance Commitment

In relation to service quality, different components of commitment display different results. As shown in Table 9.1, affective commitment displays a significant positive relationship with service quality. This result supports the arguments presented in the literature that affective commitment is positively related to performance (Allen & Meyer, 1990; Boshoff & Tait, 1996; Caruana et al., 1997; Boshoff & Allen, 2000). Employees who value organisational goals and identify with the organisation are likely to perform better than the employees who merely stay under an obligation (normative) or a particular need (continuance). Those employees who feel emotionally attached to the organisation, and who are 'affectively' committed to the organisation, would be willing to exert considerable effort on behalf of the organisation than those who are not.

However, the result is in contrast with the outcome of a few studies (e.g. Hartline & Ferrell, 1993; Wetzels et al., 2000) that state that committed employees may overemphasise the organisation's needs, which could prove detrimental to the interests of the customer. Since both these studies were conducted in face-to-face encounters and operationalised commitment as a uni-dimensional construct, the results could differ. The results of this study indicated that in call centres, affective commitment emerged as the only one of the three components of organisational commitment that has a significant positive direct effect on service quality. In fact affective commitment emerged as the only attitude variable to impact on service quality directly, as both job satisfaction and normative commitment were found to impact on service quality indirectly. One possible explanation for this positive outcome could also be that organisations like 'in-house' call centres, which are customer-oriented, have goals, values and objectives that align with the interests of the customers. Hence, frontline

employees' affective commitment, in terms of acceptance and promotion of these goals and values of the organisation, would only result in enhancing their service quality. Such call centres should expend internal marketing efforts towards increasing affective commitment of the frontline employees, and thereby making them both sales/business-oriented and customer-oriented as well (Boshoff & Tait, 1996; Caruana & Calleya, 1998). This would not only create a service-oriented culture in the organisation, but would also curb the growing problem of employee turnover in these call centres (Call Centres, 2001), since affective commitment is found to be negatively related to turnover or turnover intentions in call centres (De Ruyter et al., 2001). High employee turnover in call centres results in less-trained, less efficient, and less-experienced employees serving customers, which is deleterious for service quality, as a certain amount of tenure is required to achieve service excellence (Schneider, 1991). As is also evident from the results of the study, affective commitment is significant for service quality of frontline employees in banking call centres.

Normative commitment was not found to affect service quality significantly in call centres. These results are similar to the findings in the literature, reporting lack of a normative commitment-performance relationship (Caruana et al., 1997), though some studies do establish a weak positive relationship between the two (Meyer et al., 1993; Suliman & Iles, 2000a). Normative commitment develops due to the internalisation of normative pressures prior to entry or following entry into an organisation (Weiner, 1982). It may also develop as a feeling to reciprocate the rewards paid in advance or costs associated with employment incurred by the organisation (Scholl, 1981; Meyer & Allen, 1991). It implies 'reciprocity by obligation', as the receipt of special favours or investments from the organisation obliges the employee to remain with it. It could arise

due to reasons such as repaying back the organisation for valued high-technology training imparted to the frontline employees in the call centres. However, although normative commitment obliges an employee to remain in the organisation and be committed to it, it does not necessarily oblige him/her to perform well (Meyer & Allen, 1991). Hence, from the results of the study, normative commitment was not found to affect service quality significantly. However, the results indicated that normative commitment had an indirect positive effect on service quality (Table 9.1). It affects service quality indirectly through affective commitment, and hence is important in a call centre environment, and cannot be ignored. Employees who feel a sense of obligation to continue employment also develop an affective attachment towards the organisation, thus affecting their service quality indirectly.

On the other hand, continuance commitment displays no relationship with service quality in call centres (Table 9.1). This finding concurs with earlier literature that views continuance commitment as a discouraging and negative organisational aspect (Meyer et al., 1989; Meyer & Allen, 1991; Iles et al., 1996). Studies have found either a negative relationship (Meyer et al., 1989; Allen & Meyer, 1990; Iles et al., 1996) or have established no relationship (Meyer et al., 1993; Caruana et al., 1997) between continuance commitment and performance.

Meyer and Allen (1991) argue that anything that increases the costs associated with leaving an organisation has the potential to create continuance commitment. They also argue that continued employment in an organisation is a matter of necessity for the employee with high continuance commitment, and the nature of the link between continuance commitment and performance is likely to be dependent upon the

implications of that behaviour for employment. Hence, if he/she believes that continued employment requires considerable performance, he/she would be willing to exert considerable effort on behalf of the organisation, compared to situations where employment is more or less guaranteed. In this context, a non-significant relationship found between continuance commitment and service quality could be explained as follows.

Call centres are a growing industry offering many distinct advantages to the organisations in terms of substantial cost savings (Deery & Kinnie, 2002). In Europe, employment in call centres is expanding at an annual rate of 20%, adding 100,000 jobs per year (Datamonitor, 1998). However, a nationwide survey in Britain found that one in ten call centre employers in 2001 had a 'churn' rate of 49% or more, suggesting that nearly half of their staff resigned during the year (Call Centres, 2001). This is further evident from the primary data of the four call centres, as the average organisational tenure was found to be only 3.8 years. Since continuance commitment is found to be negatively related to the availability of job alternatives (Meyer & Allen, 1991) and positively related to organisational tenure (Becker, 1960), the 'need' to stay with the organisation does not seem to determine the level of service quality of the frontline employees. With many job opportunities being available in call centre industry, the frontline employees do not feel the need to enhance their service quality to secure their employment with a particular organisation. Therefore, continuance commitment does not affect service quality of frontline employees in call centres.

Also, skills required in call centres are mainly acquired through training, and are easily transferable from one call centre to another. This leads to a vicious circle of high

employee turnover, and 'low-cost HR practices' (Batt, 2000). As continuance commitment is a direct function of the costs associated with leaving the organisation (Meyer & Allen, 1991), poor HR practices experienced in call centres offer no inducements to these employees to enhance their service quality for the 'need to stay' in an organisation (continuance commitment). Thus, continuance commitment fails to affect the service quality of frontline employees.

As expected, different components of commitment displayed different consequences. Among the three components of commitment, affective commitment emerged as the most significant component with respect to service quality. This was followed by normative commitment that displayed an indirect effect. However, continuance commitment was not found to affect service quality (directly or indirectly).

9.3.1.5 Job Satisfaction

Contrary to the expectations and arguments found in the literature (Atkins et al., 1996; Hartline & Ferrell, 1996; De Ruyter et al., 2001), the results of the study did not find job satisfaction to affect service quality directly and significantly. Although satisfaction/dissatisfaction of frontline employees in call centres is found to spill over to customers in the form of better/poor service quality leading to customer satisfaction/dissatisfaction (Batt & Moynihan, 2002), the results of the study indicate that job satisfaction does not determine service quality directly. In previous studies confirming links between job satisfaction and service quality (e.g. Atkins et al., 1996; Hartline & Ferrell, 1996; De Ruyter et al., 2001), the relationships were investigated at the aggregate level rather than the individual, and hence, the results could differ. This implies that in these studies the relationships were observed at the organisation level,

and the individual job satisfaction was detected at the collective level, which further implies that the job satisfaction of an employee may not have been matched with the service quality of the same employee. However, the results of the present study confirm the findings of another study that reported a lack of relationship between job satisfaction and service quality, and where the job satisfaction-service quality relationship was investigated at the individual level (e.g. Herrington & Lomax, 1999).

A few studies conducted in call centres (e.g. Sergeant & Frenkel, 2000) have found job satisfaction to affect service quality indirectly through organisational commitment. The indirect effects reported in this study (Table 9.1) confirm these call centre findings (Sergeant & Frenkel, 2000), as job satisfaction was found to have an indirect positive effect on service quality through organisational commitment (affective commitment) (see Figure 9.1).

As noted in Chapter 3, organisational commitment and job satisfaction are two distinct constructs. Mowday et al. (1982) argue that "commitment emphasises attachment to the employing organisation, including its goals and values, whereas satisfaction emphasises the specific task environment where an employee performs his or her duties" (p. 28). Thus, attitudes that employees have towards the organisation (organisational commitment) are more important for influencing service quality, compared to attitudes that employees form about their jobs (perceived job satisfaction). However, this does not mean that job satisfaction is no longer important for quality service. As indicated by the results of the study, job satisfaction experienced by the employees affects their service quality indirectly through enhancing affective commitment (see Table 9.1 and Figure 9.1). This implies that employees' response to the experience of specific job tasks

reflected in their perceived job satisfaction, does influence their response to beliefs about the organisation in terms of their affective commitment, which further influences their service quality.

9.3.2 Organisational Commitment

This section discusses the results of the model with respect to the second endogenous variable, organisational commitment. A three-component model of organisational commitment was hypothesised and confirmed by the results of the study. The discussion will begin firstly with the three-component model of organisational commitment, and is followed by discussing the results according to each component of commitment, separately.

The results support the concept of a three-component model of commitment (Allen & Meyer, 1990) and accept organisational commitment as a multi-faceted construct As shown in Appendix A7.4, all three components (affective, continuance and normative) were found to be distinct. The alpha values and construct reliability values obtained for the normative commitment scale in this study (Appendices A7.11 and A7.16) are an improvement over other studies, as previous studies have regarded normative commitment as a weak concept, due to its poor reliability value (Travaglione et al., 1998; Suliman & Iles, 2000b). This could be explained by the revised scales used in this study (Meyer et al., 1993), compared to the original scales (Allen & Meyer, 1990) used in other studies, or, as being due to the differences that exist in the cultural background of the employees studied (Suliman & Iles, 2000a). The correlations between affective commitment and normative commitment scales (see Appendix A7.19) support the results of other studies, which suggest that feelings of affective attachment and sense of

obligation to an organisation are not independent of one another (Meyer, 1997). The lack of correlation between affective commitment and continuance commitment (see Appendix A7.19) further confirms the results of other studies (Allen & Meyer, 1990; Suliman & Iles, 2000a; 2000b). As expected, the consequence of each of the three components of commitment was found to be different, and concurs with the findings from other studies (Allen & Meyer, 1996; Meyer & Allen, 1997; Suliman & Iles, 2000b). Affective commitment was found to be the only component to have a significant positive and direct effect on service quality. This was followed by normative commitment that displayed an indirect positive effect on service quality. However, continuance commitment did not prove to be effective, as it was not found to be significantly related with service quality.

The findings of the study will now be discussed with respect to each component of commitment, beginning with affective commitment.

9.3.2.1 Affective Commitment

In this section, first the results with respect to the relationship between rewards and affective commitment will be discussed. This will be followed by the discussion regarding the effect of the other two components of commitment on affective commitment. Finally, the impact of job satisfaction on affective commitment will be discussed. The squared multiple correlation[3] for affective commitment was found to be .75.

[3] A variable's squared multiple correlation is the proportion of its variance that is accounted for by its predictors (Arbuckle and Wothke, 1999). Hence, the predictors accounted for 75 % of the variance in affective commitment.

9.3.2.1.1 Intrinsic Rewards

Among intrinsic rewards, only 'participation in decision making' was found to have a direct significant positive effect on affective commitment (see Table 9.1). This finding confirms the results found in the literature (Meyer & Allen, 1991; Boshoff & Mels, 1995) that suggest that involving employees in participating in important decisions concerning their job does promote affective commitment. In call centre environments, the status of frontline employees is often relatively low, and work practices are largely shaped by operational procedures and call centre management (Sergeant & Frenkel, 2000). In such a work environment, the opportunity to participate in decisions regarding their job is highly appreciated by the frontline employees. Involving frontline employees in the decision making process instils a sense of 'emotional attachment' towards their organisation, as they feel 'a part of the organisation'. It is especially likely to be useful if they are involved in decisions concerning issues relating to performance evaluation, in terms of setting realistic objectives regarding service levels. This is likely to promote the frontline employees' attachment towards the organisation and their acceptance of organisational goals, which will be reflected in their enhanced affective commitment towards the organisation.

As shown in Table 9.1, surprisingly, other intrinsic rewards like role clarity, training, intrinsic exchange, autonomy, and skill variety were not found to have direct significant effects on affective commitment. In this study, most of the links between such intrinsic rewards and affective commitment appear to be mediated by job satisfaction. In Table 9.1, training, autonomy and intrinsic exchange affect affective commitment indirectly through job satisfaction (see Figure 9.1). However, skill variety and role clarity did not have any effect, direct or indirect, on affective commitment.

The results are in contrast with the research findings that support the view that intrinsic rewards are more powerful determinants of organisational commitment than extrinsic rewards (Brief & Aldag, 1980; O'Reilly & Caldwell, 1980; Eby et al., 1999). Likewise, the results contradict the findings of those researchers who have found training (Saks, 1995), intrinsic exchange (Young et al., 1998), autonomy (Flynn & Tannenbaum, 1993; Eby et al., 1999), role clarity (Wetzels et al., 2000) and skill variety (Young et al., 1998) to influence affective commitment significantly. However, the results confirm the findings of Meyer and Smith (2000) who reported HRM practices to have indirect links with affective commitment in a study of five organisations. It is important to note that in their study, one of the organisations studied was a financial services organisation. Having viewed the effect of intrinsic rewards on affective commitment, let us now discuss the impact of extrinsic rewards.

9.3.2.1.2 Extrinsic Rewards

As per Table 9.1, most of the extrinsic rewards were found to have a direct significant effect on affective commitment compared to intrinsic rewards. This confirms the contention in the literature that extrinsic rewards are more strongly associated with organisational commitment than intrinsic rewards (Angle & Perry, 1983; Loscocco, 1990). A possible explanation could be that, since organisations have more direct control over extrinsic rewards than they have over intrinsic rewards, the influence of extrinsic rewards on organisational commitment is likely to be more direct and significant than the influence of intrinsic rewards (Angle & Perry, 1983).

Among extrinsic rewards, pay satisfaction, satisfaction with benefits, and extrinsic exchange, directly and significantly affect the affective commitment of the frontline

employees. Working conditions and promotional opportunities did not have a direct significant effect on affective commitment, although findings in the literature do report a significant relationship with working conditions and promotional opportunities available (Angle, 1983; Young et al., 1998; Meyer & Smith, 2000). Working conditions did not have any effect on affective commitment (direct or indirect) while 'promotional opportunities' was found to have a positive indirect effect on affective commitment (see Table 9.1).

Two of the extrinsic rewards, extrinsic exchange and satisfaction with benefits, exerted a direct positive effect on affective commitment, which confirms the findings of other studies reporting similar links (Loscocco, 1990; Young et al., 1998). Extrinsic exchange implies 'rewards for performance'. In call centres, when the frontline employees are rewarded in terms of promotions or salary rise for good quality service offered to customers, it is likely to enhance their willingness to accept and promote organisational goals of servicing customers effectively, thus enhancing their affective commitment towards the organisation.

Satisfaction with the fringe benefits package offered by the organisation also enhances their affective commitment towards their organisation. Following the concept of exchange theory, these frontline employees would accept and promote organisational goal of delivering excellent service quality when they feel that, in return, their efforts are being recognised and they are being valued as members of the organisation. Hence, the direct link between employees' satisfaction with the benefits programme offered by their organisation and affective commitment implies that employees will offer or enhance their commitment when organisations meet employees' expectations by

fulfilling their important needs, as part of the psychological contract. Call centres with poor HR practices and low motivation, could benefit by offering rewards like 'extrinsic exchange' and satisfactory benefits policy. Such rewards are likely to enhance the affective attachment of the employees towards the organisation and instil a 'desire' to remain in the organisation, thereby promoting their affective commitment towards it. This would not only be beneficial for service quality, but would also assist the organisation in reducing employee turnover, which is one of the main problems faced by any call centre today (Call Centres, 2001).

However, surprisingly, pay satisfaction exerted a direct negative influence on affective commitment. This result confirms the findings of a meta-analysis (Eby et al., 1999) while it contradicts the findings of many others (Mottaz, 1988; Loscocco, 1990) who have reported a positive relationship between pay and affective commitment. Since pay is considered to be the most basic extrinsic reward, it seems that the call centre employees do not view satisfaction with pay as a source of 'differentiation' that makes one organisation better than the other in terms of getting emotionally attached or identifying oneself with the organisation. With the call centre industry being competitive and flooded with job opportunities, rewards like pay satisfaction fail to win the employees' affective commitment towards their organisation. The negative influence of pay satisfaction on affective commitment could be explained by using another component, continuance commitment. As indicated by the results of the study (Table 9.1), pay satisfaction is found to have a significant positive effect on continuance commitment of employees in these call centres. This is because in the call centre industry that is known for its poor HR practices, satisfaction with pay received would increase the perceived costs associated with leaving the organisation, thereby enhancing

the continuance commitment of frontline employees towards the organisation. If continuance commitment increases, it is likely to have a negative effect on the affective component of commitment, and employees who are 'continuancely' committed may become less 'affectively' committed to that organisation over time (Meyer et al., 1990). In this context, Meyer et al. (1990) state that:

"An employee who attempts to rationalise his/her decision to remain as affect-based may eventually realise that there is no logical basis for such an attachment; at that point affective commitment may begin to decline" (p. 719).

Since pay satisfaction exerts a positive direct effect on continuance commitment on one hand, on the other, the effect on affective commitment is likely to be negative.

As shown in Table 9.1, pay satisfaction is found to exert a positive effect on affective commitment when it impacts on affective commitment indirectly through job satisfaction. Hence, pay satisfaction should be tied to the job satisfaction of employees, and should not be directly linked with the affective commitment of employees. This finding necessitates the use of an intervening variable, such as job satisfaction, for effectively linking pay satisfaction with affective commitment. Pay satisfaction should be promoted in call centres to enhance job satisfaction of the frontline employees. Attempts to gain employees' affective commitment towards the organisation through pay satisfaction are likely to be unsuccessful, unless linked with job satisfaction. On the other hand, pay satisfaction also impacts upon continuance commitment, which could be deleterious for those organisations wishing to enhance the service quality of frontline employees through affective commitment.

9.3.2.1.3 Normative Commitment

Although not hypothesised, modification indices suggested that normative commitment also has an effect on affective commitment, implying that feelings of affective attachment and sense of obligation to an organisation are not independent of one another (Meyer, 1997). However, this finding differs from the results of a recent study conducted by Meyer and Smith (2000), according to whom affective commitment was found to have a direct effect on normative commitment of employees, and not vice versa. In the present study, since the path from normative to affective commitment was suggested by modification indices, it was reversed based on Meyer and Smith's study, and the results were compared. The comparison of the results clearly indicated that the path from normative to affective was more useful (based on regression estimates, p-value and fit measures) and significant in this study than the reverse path, as suggested in the literature. It is evident that, in this study, it is the normative commitment that positively affects the affective component of commitment. Hence, a sense of obligation towards the organisation (normative commitment) is likely to promote a sense of attachment and identification towards it (affective commitment). Employees who feel obliged towards their organisation also feel attached to the organisation, and hence, work hard towards promoting its goals.

9.3.2.1.4 Job Satisfaction

As expected, job satisfaction was found to be the strongest variable having the most significant direct positive effect on affective commitment (Table 9.1). This finding conforms to the findings in the literature that have established job satisfaction to be one of the most significant antecedents to affective commitment (Eby et al., 1999; Sergeant & Frenkel, 2000). Employees who are satisfied with their jobs are likely to be more

'affectively' committed to their organisations than those who are not. In call centres, employees who are satisfied with their jobs of servicing customers will be more willing to accept and promote the organisational goal of satisfying customers, leading to better service quality.

9.3.2.2 Normative Commitment

As far as normative commitment is concerned, Allen and Meyer (1990) argue that "there is little in the literature upon which to base predictions regarding the antecedents of normative commitment" (p. 14).

However, the results of the study indicate that availability of promotional opportunities and job satisfaction are vital in enhancing the normative commitment of frontline employees in call centres. The squared multiple correlation[4] for normative commitment was found to be .49.

Job satisfaction experienced by the frontline employees reflects upon the efforts on the part of the organisation that are expended to make the job satisfying for these employees. This is also perceived by the employees as the fulfilment of the "psychological contract" (Kotter, 1973; Rousseau, 1995) on the part of the organisation. This creates a feeling of obligation on the part of the employee to reciprocate. Since normative commitment refers to the employee's feelings of obligation to stay with the organisation, it is seen as "one manifestation of employees' attempts to fulfill their part of the contract" (Meyer & Smith, 2000, p. 328). This possibly explains how perceived

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[4] A variable's squared multiple correlation is the proportion of its variance that is accounted for by its predictors (Arbuckle and Wothke, 1999). Hence the predictors accounted for 49% of the variance in normative commitment.

equitable treatment of the employee by the organisation in the form of job satisfaction perceived by the employee can result in the employee's normative commitment towards the organisation.

As indicated by the results of the study, availability of promotional opportunities in call centres also induces the employees to be normatively committed towards their organisation. This finding further confirms the results of another study conducted by Meyer and Smith (2000), where evaluations of career development practices were found to be the best predictors of affective and normative commitment. A sense of achievement and career development perceived by the frontline employees in this profession through availability of promotional opportunities, promotes a sense of obligation on the part of the employee to stay with the organisation. This could be because call centres are generally criticised for being largely 'careerless', as they are typically characterised by lack of opportunities for promotion (Belt, 2002). Since call centres are represented by comparatively flatter structures, with a large number of employees queuing for a limited number of promotional opportunities (Belt, 2002), many of the career-minded employees leave, looking for employment elsewhere. In this context, availability of promotional opportunities is perceived as the organisation's concern for the employees' future prospects of their advancement within the organisation. This perceived concern, on the part of the organisation, creates feelings of obligation on the part of the employees to stay with the organisation, which possibly explains the link between promotional opportunities and normative commitment.

As shown in Table 9.1, other rewards that affected normative commitment indirectly were training, intrinsic exchange, autonomy and pay satisfaction.

Although it is argued that the same work practices that influence affective commitment, are believed to affect normative commitment as well (Allen & Meyer, 1996), the results of the study did not support this argument. None of the rewards that influenced affective commitment directly and significantly was found to have a direct significant effect on normative commitment.

9.3.2.3 Continuance Commitment

As hypothesised, only extrinsic organisational rewards affected this component of commitment, which further confirms the findings of a meta-analytic study by Mathieu and Zajac (1990) and evidence by Allen and Meyer (1990). Among extrinsic organisational rewards, only pay satisfaction was found to have a significant positive effect on continuance commitment. As discussed earlier in Section 9.3.2.1.2, satisfaction with pay in call centres enhances the 'need' of the frontline employees to stay with the organisation, thereby influencing their continuance commitment. However, organisational reward such as pay satisfaction should be applied with caution. On one hand, it negatively affects the desirable component of commitment (affective) which has a positive relationship with service quality, and on the other hand, it positively enhances that component of commitment (continuance) which turned out to have no effect on service quality (see Table 9.1). Hence, rewards such as pay satisfaction should only be linked up with issues such as job satisfaction and not commitment. The squared multiple correlation[5] for continuance commitment was found to be .03.

[5] The predictors accounted for 3% of the variance in continuance commitment.

9.3.3 Job Satisfaction

This section discusses the effects of intrinsic and extrinsic rewards on job satisfaction. First, the intrinsic rewards are discussed, followed by the discussion of extrinsic rewards. The squared multiple correlation[6] for job satisfaction was found to be .60.

9.3.3.1 Intrinsic Rewards

Most intrinsic rewards had a direct significant positive effect on the job satisfaction construct. The results of the study indicated that intrinsic rewards like autonomy, intrinsic exchange and training were found to have a direct significant and positive effect on job satisfaction.

As expected, autonomy or discretion enjoyed by the frontline employees, in terms of being flexible while servicing customers over the phone, leads to job satisfaction. The finding confirms the results of other studies (Hackman & Oldham, 1976; Eby et al., 1999), which have found a job characteristic like autonomy to affect job satisfaction significantly. According to Hackman and Oldham's (1976) job characteristic model (as discussed in Chapter 3), autonomy leads to employees' feelings of personal responsibility for the work outcomes, which results in job satisfaction. In call centres, scripting and standardisation of customer services is expected to affect job satisfaction adversely. Therefore, call centres that compete on the quality of service, such as 'in-house' call centres, are more likely to construct jobs in a manner that provides frontline employees with greater autonomy and discretion to meet their customers' needs.

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[6] The predictors accounted for 60% of the variance in job satisfaction.

Feedback in the nature of 'intrinsic exchange' is also found to affect job satisfaction significantly, which is consistent with other findings in the literature (Hackman & Oldham, 1990; Morgan et al., 1995; Huang & Vliert, 2002). In call centres, where performance-based rewards are limited, intrinsic exchange can be used as a powerful motivating tool for enhancing job satisfaction. Frontline employees tend to feel more satisfied with their jobs when they receive due recognition and praise for delivering quality service to customers, because they feel that their efforts have not gone unnoticed.

Moreover, training especially in highly mechanised and structured environments such as call centres, can be very useful in promoting job satisfaction. It enables employees to perform at the desired level, and consequently leads to job satisfaction. This finding further confirms the results of a study conducted in call centres (Holman, 2002), which found that lack of job satisfaction in call centre work tends to be associated with inadequate training.

Surprisingly, participation in decision making and skill variety did not affect job satisfaction significantly. However, according to the results of this study, participation is found to be important for enhancing affective commitment, and as skill variety affects service quality directly, it cannot be ignored.

9.3.3.2 Extrinsic Rewards

The results of the study indicated that in call centres, only extrinsic organisational rewards such as pay satisfaction and promotional opportunities were found to be effective in enhancing job satisfaction of frontline employees. The results are consistent

with the findings of previous empirical research (Loscocco, 1990; Young et al., 1998; Eby et al., 1999), highlighting the importance of satisfaction with pay and availability of promotional opportunities for the overall job satisfaction perceived by the employees. Since call centre jobs are becoming 'dead-end' jobs that are often characterised by "low status, poor pay and few career prospects" (Deery & Kinnie, 2002, p. 4), satisfaction experienced by the frontline employees with respect to pay and promotional opportunities would help in making them more satisfied with their jobs. However, working conditions, extrinsic exchange, and fringe benefits did not display any significant relationship with job satisfaction.

9.3.4 Section Summary

Section 9.3 explained the findings of the study in the context of 'in-house' call centres of a major retail bank. Overall, the results of the study support the research framework conceptualised in Chapter 5. Rewards, as part of internal marketing efforts, were found to be significant in influencing frontline employees' job-related attitudes and service quality. Employee attitudes were also found to be significant determinants of frontline employees' service quality.

Among the four employee attitudes hypothesised as intervening variables in the relationship between rewards and service quality, affective commitment was found to be the most powerful and significant intervening variable. Affective commitment emerged as the only component of commitment to have a significant direct effect on service quality, and was found to be even more crucial than job satisfaction. Besides affective commitment, results of the study indicated that other intervening variables such as job satisfaction and normative commitment were also important, as these two variables

were found to have an indirect positive effect on service quality. Both these variables were found to influence affective commitment significantly, and thus could be used, as part of internal marketing, to develop the 'right component of commitment' within frontline employees. Besides this, job satisfaction was found to be crucial from an internal marketing perspective, as it assisted in making extrinsic organisational rewards effective for call centre organisations. As is clear from the results of the study, the negative direct effect of certain organisational rewards turned out to be positive when they impacted on the outcome variables indirectly through job satisfaction. This further confirms the contentions present in the literature based on the concepts like service profit chain (Heskett et al., 1994) and cycle of failure (Schlesinger & Heskett, 1991), which suggest that frontline employee attitudes are crucial for service quality.

Both extrinsic as well as intrinsic rewards were found to be significant from the internal marketing perspective. This implies that, in call centres, both the context as well as the content of the job is important for service quality. Intrinsic rewards were found to be more significant than extrinsic rewards with respect to both service quality and job satisfaction. These findings support the arguments based on the two-factor theory of motivation (Herzberg, 1966) and job characteristics model (Porter & Lawler, 1976) that intrinsic rewards directly influence satisfaction and performance. This implies that intrinsic rewards are crucial in call centres, and when offered as part of internal marketing strategy, will influence job satisfaction and service quality of frontline employees. Although the direct influence of extrinsic organisational rewards on service quality was not found to be effective, their absence could prove deleterious for the organisation, as they were found to significantly influence employee attitudes like affective commitment, normative commitment, and job satisfaction of frontline

employees. The findings indicated that extrinsic rewards should be used cautiously, and should not be linked to service quality directly. Although extrinsic organisational rewards were not found to be effective for influencing service quality, they are crucial, as their absence could adversely affect employee attitudes, which in turn could prove detrimental for service quality. As part of internal marketing strategy, extrinsic organisational rewards should be used to enhance frontline employee attitudes like job satisfaction and affective commitment. This, in turn, would enhance their service quality.

Since most rewards in the empirical model (Figure 9.1) are found to affect one or more elements of employee attitudes, the findings support the arguments of internal marketing literature that one of the important consequences of internal marketing is to influence attitudes of frontline employees (Tansahuj et al., 1988; Hogg, 1996; Caruana & Calleya, 1998). These findings also confirm the notion of exchange theory, which suggests that employees offer or enhance their commitment when they feel that their needs are being satisfied.

However, contrary to the expectations, extrinsic social rewards such as team support or supervision did not bear any significant relationship with any of the endogenous constructs. This finding is somewhat surprising, as the literature talks of these social variables having a significant effect, especially on the job satisfaction of call centre employees (Sergeant & Frenkel, 2000). The insignificant relationship found in this study as regards these two constructs could be a feature of the particular call centre sample studied, as previous studies have not been conducted in the UK (e.g. Sergeant & Frenkel, 2000). It could also be a function of the specific work practices that exist in the

service delivery system of this bank's call centres in particular. It is also possible that the work practices of an 'in-house' call centre could be different from those practised in an 'out-sourced' call centre. However, the results of the study indicated that extrinsic social rewards were not found to be effective in call centres.

In conclusion, the findings of the study confirm the exchange perspective that employees want to remain, and are willing to exert effort on behalf of the organisation because of the positive work experiences and benefits they derive from their relationship with it. In this context, internal marketing, through effective administration of rewards, could help in influencing frontline employee attitudes and service quality.

9.4 Conclusion

This chapter discussed the results of the study, which were obtained through a model developed using structural equation modelling in Chapter 8. The findings from the model, in terms of significant paths, led to the acceptance and rejection of hypotheses framed for the study in Chapter 5. The findings discussed described the significance of various extrinsic and intrinsic rewards with respect to service quality. Also, the importance of employee attitudes like affective and normative commitment and job satisfaction was established. The next chapter will discuss the contributions and implications of the study, along with the limitations, and directions for future research.

Chapter 10: Contributions, Implications, Limitations, Future Research and Conclusions

10.1 Introduction

This chapter deals with the theoretical and methodological contributions of the thesis. It discusses research limitations and gives directions for further research that may overcome these limitations, and makes recommendations for further research. First, the contributions of the study and managerial implications will be discussed. Then limitations of the study and contributions are presented in the context of opportunities for future research. Finally, the main conclusions are assessed in the light of research aims and objectives.

10.2 Contributions of Study

Chapter 9 discussed the results of the study. This section continues the discussion from the last chapter towards the key theoretical and methodological contributions of the study.

10.2.1 Theoretical Contributions

This study adds to services marketing literature by confirming certain links in the service profit chain that highlight the importance of frontline employees in the delivery of services and emphasise the need for internal marketing. As discussed in Section 4.8, Chapter 4, despite the popularity gained by the service profit chain (Heskett et al., 1994), the linkages between employee attitudes and service quality remain unclear and call for further research (Loveman, 1998; Silvestro & Cross, 2000). In this context, in testing certain linkages in the chain, the results of the study confirm the significance of employee attitudes like organisational commitment and job satisfaction with respect to

service quality of frontline employees. The path diagram (Figure 9.1) indicates that internal marketing efforts in terms of rewards perceived by the employees promotes job satisfaction and commitment, which in turn affect service quality. Hence, the results further confirm the arguments in the literature presented by concepts like service profit chain and internal marketing that employee attitudes are crucial for service quality.

However, the main and more specific contributions with respect to establishing the significance of employee attitudes in relation to service quality are as follows:

1. Three-Component Model of Commitment Studied with Service Quality

As discussed in Section 4.8, Chapter 4, although organisational commitment has been studied with service quality in services marketing literature (Zeithaml et al., 1990; Boshoff & Mels, 1995; Boshoff & Tait, 1996; Wetzels et al., 2000), mostly, these studies have conceptualised organisational commitment as a uni-dimensional construct. Therefore, the relationship between organisational commitment and service quality has yielded confusing and mixed results, with no conclusive evidence been drawn Benkhoff, 1997b). This research takes commitment as a multi-dimensional construct, as conceptualised by Allen and Meyer (1990), in order to explore how different forms of commitment influence the willingness of frontline employees to engage in discretionary efforts which, in turn, are reflected in their level of service quality. Thus, this research studies the effect of the three components of commitment on service quality of frontline employees, a performance measure that has not been studied with the three components of commitment before. The results of the study clearly indicate that not all components of commitment are similar with respect to their effects on service quality. The affective component of commitment was found to be the only one to have significant, direct and

positive effect on service quality. Although the normative component was found to be significantly correlated with service quality, and was found to impact on service quality indirectly, continuance commitment had no effect on service quality of frontline employees (direct or indirect). The results of the study indicate that the employee's relationship with an organisation can be better understood when all three components of commitment are considered together, especially for understanding which component of commitment is effective for service quality and needs to be developed through internal marketing efforts.

2. Job Satisfaction Studied along with Three Components of Commitment in Relation to Service Quality

As discussed in Section 4.8, Chapter 4, job satisfaction along with the three component model of commitment has not been studied with service quality. Job satisfaction is an important work-related attitude like organisational commitment (Greenberg & Baron, 1995), and the complexity that follows from job satisfaction-organisational commitment-service quality relationship cannot be ignored. This study takes both job satisfaction and organisational commitment (three-component model) as intervening variables for studying relationships between rewards and service quality. The results of the study (Figure 9.1) clearly indicate the significance of these employee attitudes with respect to service quality. Affective commitment was found to affect service quality significantly, while job satisfaction was not found to affect service quality directly. However, job satisfaction was found to play a crucial role from the internal marketing perspective. As indicated by the results of the study (Table 9.1), job satisfaction becomes crucial for the effective management of service quality through rewards, especially extrinsic organisational rewards, that cannot be linked directly with service

quality, but are considered indispensable and crucial for the management of frontline employees. e.g promotional opportunities display a negative direct effect on service quality, but the indirect effect mediated through job satisfaction is positive. Similarly, pay satisfaction displays a direct negative effect on affective commitment, but the indirect effect when mediated through job satisfaction becomes positive. Moreover, job satisfaction was not only found to be crucial for the effective management of rewards to enhance service quality, but it was also found to be crucial for developing the right component of commitment for service quality. In the absence of any direct relationship between job satisfaction and service quality, the significance of job satisfaction for service quality management could be realised only when it was studied along with the three components of commitment using path analytic framework.

3. Additional Determinants to Service Quality Identified

This study also adds to the service quality literature in terms of identifying determinants to service quality of frontline employees in call centres. As regards service performance by the frontline employees, the extended service quality model identifies certain organisational determinants to the service performance gap (Zeithaml et al., 1988; Parasuraman et al., 1990) to guide the management of the service performance of frontline employees. Although this research also takes into account the antecedents to the service performance gap as suggested by Zeithaml et al. (1988), it does not limit its approach to only those identified in the extended service quality model. On the basis of literature review, as well as on the basis of in-depth qualitative interviews conducted during the exploratory phase of the research, this study attempts to identify more variables, in addition to those suggested by Zeithaml et al. (1988), that are as considered important antecedents to the research framework. Hence, this study adds to the service

quality literature by identifying additional (factors) rewards, which are not incorporated in the extended service quality framework for Gap 3, but were found to be significant determinants of service quality of frontline employees in the study (e.g. training, skill variety and affective commitment). The results of the study clearly indicate the significance of rewards, along with employee attitudes, as determinants to service quality of frontline employees. Moreover, the methodology employed aids in understanding the complexity of the interrelationships among variables, by identifying the significance of various extrinsic and intrinsic rewards in terms of both their direct as well as indirect effects on service quality of frontline employees in call centres.

This study also adds and makes significant contributions to the internal marketing literature. As discussed in Section 4.8, Chapter 4, although the literature discusses the importance of internal marketing for service quality management, the approach has been mainly conceptual, general and non-empirical in nature (Quester & Kelly, 1999; Rafiq & Ahmed, 2000). The 'rewards' element of internal marketing construct has not been studied effectively in terms of understanding the importance of different types of rewards in relation to frontline employee attitudes and service quality. This study establishes the significance of internal marketing in terms of both extrinsic and intrinsic rewards, for developing employee attitudes and enhancing service quality. In this context, the main contributions of the study are as follows:

1. Rewards Studied with Three-Component Model of Commitment

As discussed in Section 4.8, Chapter 4, although there are studies that establish the effect of various extrinsic and intrinsic rewards on affective commitment, research using three-component model of commitment has been limited (Hackett et al., 1994;

Benkhoff, 1997b). Since one of the main consequences of internal marketing is to enhance organisational commitment of employees (Hogg, 1996; Caruana & Calleya, 1998), this study makes significant contributions to the internal marketing literature with respect to two main aspects. Firstly, the results of the study indicate the significance of both extrinsic and intrinsic rewards that can be used as part of internal marketing to develop affective commitment, normative commitment, continuance commitment in call centres, and thus assist in differentiating the antecedents that develop each component of commitment. In this context, the study makes one more important contribution. Although it is argued that the same work practices that affect affective commitment are believed to affect normative commitment as well (Allen & Meyer, 1996), the results of the study did not support this argument. According to the results, none of the rewards that affected affective commitment directly had a direct significant effect on normative commitment, and vice versa. Hence, the results have identified a need to further explore and differentiate between the antecedents that affect affective commitment and normative commitment, given that these two concepts are distinguishable, and significant for service quality.

Secondly, it also explains which component/s of commitment to develop, since not all components of commitment were found to affect service quality. From the internal marketing perspective, it is essential to know the antecedents that influence and develop each component of commitment so that the right component/s can be developed through proper management of rewards. Hence, the management should not aim at just maintaining a committed workforce or reducing turnover, rather the emphasis should be on retaining the right kind of workers and cultivating the right component of

commitment through internal marketing, thereby creating a customer-conscious environment that is conducive to delivering quality service.

2. Rewards Studied with Three-Component Model of Commitment along with Job Satisfaction

It has been pointed out in the literature that it is important to study organisational commitment as well as job satisfaction simultaneously, in order to differentiate between the antecedents that affect both these work-related attitudes, which are found to be distinct and separate (Glisson & Durick, 1988). In this study, not only job satisfaction is studied along with commitment, but it is also studied along with the three-component model of commitment. The results of the study clearly identify the rewards that affect job satisfaction and the three components of commitment. However, taking job satisfaction along with commitment also explained the relationship between job satisfaction and the three components. Job satisfaction was found to have the most significant effect on both affective as well as normative commitment, implying that job satisfaction is itself a powerful determinant of affective and normative commitment. Moreover, job satisfaction was not found to influence continuance commitment. This implies that creating job satisfaction is crucial for cultivating the right component/s of commitment, which further influence service quality. The results of the study indicate which rewards could help in creating job satisfaction among frontline employees in call centres.

3. Rewards Studied with Service Quality

This study aids in understanding the role of rewards, as part of the internal marketing strategy, in enhancing the service quality of frontline employees in call centres. As

discussed in Section 4.8, Chapter 4, although service quality has been studied with certain types of rewards (factors) in the literature, the approach has not only been limited, but also fragmented. In this study, the comparative effects of the extrinsic and intrinsic rewards on service quality of frontline employees are empirically explored by taking both these types of rewards simultaneously in one study. The results indicate that intrinsic rewards are crucial for service quality performance, as most of them impacted on service quality directly. It was also found that extrinsic rewards were not effective for service quality. Extrinsic social rewards had no impact on service quality (direct or indirect), while the findings with respect to extrinsic organisational rewards were surprising. Although assumed crucial for effective performance, some had no direct effect (e.g. pay and benefits satisfaction, extrinsic exchange), while others exerted a negative direct effect on service quality (e.g. working conditions, promotional opportunities). However, when the indirect effects were examined, their effects were found to be positive. In this context, the results indicate the significance of employee attitudes like affective commitment and job satisfaction. Besides being important for service quality, they were found to be crucial for seeking an effective relationship between rewards, especially extrinsic organisational rewards, and service quality. The results indicate that extrinsic organisational rewards should be linked with organisational issues like commitment and job satisfaction, as linking them directly with service quality could prove dysfunctional, especially for customer-oriented 'in-house' call centre organisations. Hence, extrinsic organisational rewards should not be directly tied to service quality performance, rather they should be used for developing the right component/s of commitment and promoting job satisfaction, which eventually would enhance service quality of frontline employees in call centres.

10.2.2 Methodological Contributions

The methodological contributions of the study are as follows:

1. Study Conducted in Call Centres

As discussed in Section 4.8, research exploring the significance of organisational factors, and analysing employee attitude-performance relationships, has mostly been conducted among frontline employees involved in face-to-face encounters (see Appendix A3.1), with very few studies being conducted in phone encounters as in a telephone call centre environment. As discussed in Section 1.2.2.1, Chapter 1, the changing financial environment in the UK retail banking industry has witnessed significant changes, especially in the service delivery area. The role and number of branches involving face-to-face encounters have decreased (Meidan et al., 1997; Key Note, 2003b; Papasolomou-Doukakis, 2003), while there has been a significant increase in call centres since the 1990s (Key Note, 2003b). Despite the tremendous growth of the call centre industry in the UK, there has been limited research on internal marketing issues such as management of call centres (Bailey, 1998; Brown, 1999; Brown & Maxwell, 2002). As a result, the frontline position in call centres has become one of the ten most stressful jobs in today's economy with employee turnover rates being more than 40% in most of the call centres in the UK (De Ruyter et al., 2001; Call Centres, 2001).

In view of the above, this research attempts to understand the determinants of service quality of the frontline employees in a call centre environment from an internal marketing perspective. In this context, the results of the study aid in understanding the

significance of rewards, as part of internal marketing, for maintaining right employee attitudes, and increasing their service quality in call centres.

2. Service Quality taken as Performance Parameter

Performance evaluation of frontline employees in call centres is usually done by their management using 'hard data' like the number of calls handled, agent sales, productivity, and amount of errors (Gilmore & Moreland, 2000; Brown & Maxwell, 2002) that reflect upon the productivity aspect of the frontline employee's performance. Hence, mostly studies conducted in call centres have taken performance measures other than the service quality of frontline employees (see De Ruyter et al., 2001; Batt & Moynihan, 2002; Tuten & Neidermeyer, 2004). However, studies conducted on call centres have concluded that the 'soft' aspects of customer service, like responsiveness, empathy and assurance dimensions of service quality, are viewed as most important from the customers' perspective (Haymarket, 1998; Brown & Maxwell, 2002). Therefore, as discussed in Chapter 1, there is a growing need to pay attention to service quality in call centres, as phone rage (people losing their temper over the phone) is increasing (The Guardian, 1997), with customer satisfaction levels being as low as 54% (Anton, 1999). This research takes service quality of frontline employees as the performance parameter compared to the 'hard data' or productivity measures, given that productivity and quality have been identified as conceptually and empirically distinct aspects of frontline employee's performance in call centres (Singh, 2000). This was useful, as the results of the study indicate how service quality of frontline employees in call centres could be managed through internal marketing. Certain results were particularly useful, especially with respect to extrinsic organisational rewards. Despite the literature highlighting the significance of extrinsic rewards for performance (Berry

et al., 1990; Zeithaml et al., 1990; Bowen et al., 1999), they were not found to be effective for service quality in call centres, and must be used cautiously as part of internal marketing. Similarly, some useful findings were obtained with respect to the significance of employee attitudes for service quality.

3. Use of Structural Equation Modelling

Parasuraman et al's (1990) research has been criticised for looking at the service performance issue as a restricted exchange, rather than that of a complex exchange (Chenet et al., 2000), in terms of identifying the determinants to service performance of frontline employees. In this context, keeping the complexities of the service delivery process and the importance of employee attitudes in mind, the entire mechanism reflecting internal marketing efforts and the significance of employee attitudes that helps in good quality service needs to be addressed. This study attempts to understand the role of rewards, as part of the internal marketing strategy, in enhancing the level of service quality delivered. The effect of rewards is explored both directly with service quality, and indirectly through influencing employee attitudes, and hence consequently impacting upon service quality. Thus, it was possible to identify not only the direct significant effects of variables on service quality, but the variables indirectly affecting service quality could also be identified. Using structural equation modelling, it was possible to model a path diagram that depicts significant paths or relationships among variables, which could prove valuable for understanding the complexity of the process of enhancing service quality through internal marketing.

4. Generalisability

Although the study is conducted in call centres of a single bank, the unit of analysis being the frontline employee provides enough heterogeneity in a sample of 342

employees, thereby addressing the issues relating to generalisation of the findings. Therefore, this study being a large sample study has a further methodological contribution. The results of the study could be generalised beyond the context of the study. The research can be extended to other banks in the UK that compete on service quality, and maintain contact with their customers through 'in-house' call centres. This study could also be applicable to banks in other countries, where services constitute major part of their economy, including financial services, and where 'in-house' call centres are used by the banks to reach their customers.

10.3 Managerial Implications

In the context of the internal marketing paradigm, this study contributes towards understanding of the management of rewards by the organisation for enhancing the right component of commitment, along with job satisfaction, so that better service quality could be delivered by the frontline employees working in the call centres. This study provides insight for the internal marketing strategies that need to be carefully designed in a work setting such as a call centre.

As indicated by the results of the study, in call centres, it may be more prudent for the organisations to foster affective commitment in their employees, as 'affectively' committed employees were found to deliver better service quality than those who were 'normatively' or 'continuancely' committed. 'Affectively' committed employees are believed to stay longer and perform better, especially compared to 'continuancely' committed employees (Meyer & Allen, 1991; Iles et al., 1996; Suliman & Iles, 2000b). More importantly, the results demonstrated that only affective commitment out of the three components had a significant direct positive relationship with service quality. In

terms of relative influence on service quality, affective commitment was found to be even more important than job satisfaction. Organisations wishing to foster long-term affective commitment in their employees should manage the antecedents / correlates of affective commitment carefully. The results of the study revealed that certain extrinsic and intrinsic rewards such as participatory style of management, extrinsic exchange, benefits along with job satisfaction and normative commitment influenced affective commitment. Hence, in call centres, these rewards along with job satisfaction, and normative commitment, should be encouraged, so as to foster affective commitment among the frontline employees, which in turn is positively related with their service quality.

On the other hand, continuance commitment should not be encouraged, as it did not emerge as significant in relation to service quality. Since continuance commitment is related to availability of job opportunities, continuance commitment is more likely to be effective for service quality where there are fewer job opportunities available, which forces employees to deliver quality service, and correctly evaluate the cost of terminating membership. In a recent study conducted in the call centres of a large insurance company (De Ruyter et al., 2001), job performance was not found to be related to turnover intentions. Hence the authors concluded that "call centres may be at a risk for high levels of hidden poor performers who have low commitment but will not leave the organisation because of poor performance" (De Ruyter et al., 2001, p. 32). Therefore, it becomes all the more important for call centres to distinguish between the effective and ineffective components of commitment, so that the right component of commitment can be developed. As indirectly indicated by the results of the study, the turnover problem in call centres should be solved, as far as possible, by creating

'affectively' committed employees who will deliver quality service, rather than holding back 'continuancely' committed employees.

In work-settings such as call centres, proper implementation of intrinsic rewards could prove to be quite rewarding.

Enhancing perceived role clarity of the frontline employees calls for conscientious endeavour on the part of management, as role clarity was found to affect service quality significantly. Therefore, it is crucial for improving service quality of frontline employees in call centres. The more employees are clear as to what is expected of them in their jobs, the higher would be the quality of service.

Participation in decision making was also found to significantly influence affective commitment of frontline employees. Involving frontline employees in important decisions concerning their jobs would enhance their affective commitment towards the organisation.

The frontline jobs need to be redesigned in terms of autonomy, skill variety and feedback - the three key job characteristics identified by Hackman and Oldham (1990) in their job characteristics model for enhancing motivation, job satisfaction and performance.

The results of the study indicated that skill variety significantly influenced service quality of frontline employees. In call centres, frontline employees' service quality suffers, due to the monotonous and repetitive nature of jobs performed by them. Making

the job more challenging and free from monotony would enthuse the frontline employees to deliver better service quality.

From the results of the study, enhancing autonomy of frontline employees significantly affects their job satisfaction. Although complete autonomy is not something that is feasible in call centres, due to highly mechanised and laid down procedures, involving scripting and menu-driven policies, some discretion allowed to employees while servicing customers would be welcome and enhance their job satisfaction. Therefore, although frontline employees are encouraged to adhere strictly to expected norms of delivering service over the telephone, it is also essential for them to be adaptive and receptive to customers' needs.

The findings indicated that intrinsic exchange influenced job satisfaction and the responsiveness of frontline employees. Constructive feedback through praise and recognition would not only enhance job satisfaction, but would also stimulate frontline employees' service quality.

Training was found to impact service quality directly. In call centres, regular and continuous training is definitely something that demands utmost attention. Well- trained frontline employees will be in a position to perform with confidence and clarity, thereby leading to better service quality.

Along with the intrinsic rewards, extrinsic rewards are also found to be equally important.

Although extrinsic social rewards were not found to be effective, the results indicated that team support could be useful. Team support improves upon the responsiveness of the frontline employees in call centres by disseminating useful information concerning various issues in their jobs that are not explicitly known or instructed.

The results indicated that the extrinsic organisational rewards need to be implemented with circumspection. Although extrinsic rewards are assumed to have a positive effect on performance, extrinsic organisational rewards were found to exert either a negative direct effect on service quality, or had no direct effect on it. Although they were not found to be effective for service quality, they were found to be crucial for employees' job-related attitudes like organisational commitment and job satisfaction. It was found that the indirect effect of most extrinsic organisational rewards on service quality was positive. Hence, they are crucial for maintaining employee attitudes, which significantly determine service quality.

It would be beneficial for organisations to offer rewards like a satisfactory benefits package to its frontline employees, as this is likely to enhance their affective commitment. Extrinsic exchange also influences affective commitment significantly. However, rewards like pay satisfaction and promotional opportunities should be used cautiously by the management, in view of the results of the study.

The results of the study indicated that pay satisfaction influenced affective commitment negatively, whilst affecting continuance commitment and job satisfaction positively. If enhancing job satisfaction of the frontline employees is the priority, management should use this reward. However, the unintended consequences should also be considered, as

pay satisfaction negatively affects the desirable component of commitment, and enhances the undesired one.

'Promotional opportunities' was found to affect service quality negatively, although it exerted a positive effect on job satisfaction and normative commitment of frontline employees. It was also found that its indirect effect on service quality was positive. Hence, management should use this reward to enhance employee attitudes, which in turn would improve service quality.

Although extrinsic organisational rewards are not found to be effective for service quality directly, their importance in terms of organisational issues of enhancing organisational commitment and job satisfaction cannot be ignored. Such rewards should be linked to organisational issues such as commitment and job satisfaction. Although frontline positions in call centres are entry-level positions, rewarding their efforts (in terms of quality service performance) with only extrinsic organisational rewards would not yield fruitful results. These rewards should be aimed at enhancing job satisfaction or organisational commitment of the frontline employees, which ultimately would result in superior service quality. Hence, especially in an 'in-house' call centre, these rewards should be implemented judiciously, as they are generally perceived by the employees to be associated with performance. As indicated by the results of the study, any linkages with performance could be deleterious for service quality, as this could result in employees improving only those aspects of their performance that are measured objectively like 'productivity', and neglecting other aspects of their performance like service quality. However, if these rewards are to be linked with performance, it is important that in the context of their relationship with service quality, the significance

of service quality for performance evaluation purposes is clearly communicated to the employees by management.

Moreover, it would be useful if the management analyses the effects of these rewards on other outcome measures such as employee turnover. Since these rewards were found to be crucial for employee attitudes, it is likely that they assist in reducing employee turnover in call centres, as improved employee attitudes are found to be negatively related to employee turnover (Greenberg & Baron, 1995).

Internal marketing strategies should be designed, incorporating rewards, to foster and encourage the right components of commitment among frontline employees in call centres along with job satisfaction, and improve service quality.

The next section will discuss the limitations of the research and directions for future research.

10.4 Limitations

This study, like any other research, is not free from limitations. Owing to practical considerations such as sample availability and the time frame certain limitations of the study need to be recognised.

Firstly, the study is a single bank study. Since the study was conducted in call centres of a single bank using non-probability sampling, there could be issues concerning the generalisation of the results so obtained. Though it was not possible practically to conduct the study in more than one bank, given the time frame and sample availability,

in future it would be useful to test the model with other similar banks having 'in-house' call centres in the UK.

Another limitation of the study is that all variables were assessed using self-report measures which could lead to the possibility of shared response bias with regard to the relations among variables and common method variance (Armstrong & Overton, 1977). Also, in this study, employees' perceptions of service quality were taken into account. Though self-evaluation measures are said to be more closely linked with customer evaluations (Schneider, 1991, p. 152) and hence have been empirically shown to impact on customer perceptions of service quality directly (Boshoff & Tait, 1996), these measurements could be contaminated by subjective biases. Although anonymity in the questionnaires was assured to minimise the effects of the self-report bias, it would be useful in future to incorporate customer perceptions of service quality. Also, supervisory evaluations could be used and comparisons drawn.

Thirdly, in this study although qualitative interviews were held at the beginning of the study to understand the context and develop the questionnaire, most of the analysis is finally done with pure quantitative statistical techniques like structural equation modelling. Although quantitative methodology does enjoy benefits of internal validity, objectivity and reliability, it does tend to overlook the in-depth understanding from the human aspect. Often, positivists are criticised on the grounds that instead of looking for questions, quantitative researchers are looking for answers that are guided by theory (Kidder & Fine, 1987). Hence, in future, it would be useful to further explore the 'whys' of the relationships empirically established in the current research. In the context of call centres, further questions relating to the reasons behind the relationships so established

empirically could be answered through qualitative in-depth interviews conducted with the frontline employees.

Fourthly, the model did not test for the reciprocal effects in the model as "it is difficult to attain a correctly identified model that contains bidirectional parameters" (Sergeant & Frenkel, 2000, p. 28). However, alternative models were tried using various combinations of relationships, and none fitted the data better than the one finally estimated.

Fifthly, this research focuses on the 'rewards' component of internal marketing. However, according to Foreman and Money (1995), internal marketing comprises two other components besides rewards, such as, development and vision. Owing to methodological limitations, all components could not be incorporated in a single research. In order to understand fully the significance of internal marketing with respect to service quality of frontline employees, future research is required to study the other two components in the call centres.

10.5 Future Research

In the context of the limitations discussed, the study provides certain directions for future research.

As discussed earlier, this particular study concentrates around the 'rewards' component of internal marketing. In future, the other two components, development and vision, could also be incorporated and studied with service quality to obtain a complete picture of the significance of internal marketing with respect to service quality.

The generalisability of these results could be tested in future. More research is required, especially to confirm the findings, and to further understand the relationships among rewards, employee attitudes and service quality. The study could be replicated in other settings, either in the same form of call centre studied but in other industries, or in other forms of call centres. For example, it would be useful to compare the results of the study with those of 'out-sourced' call centres.

Although normative commitment did not display a direct significant relationship with service quality in this study, it did display a significant correlation with service quality. Moreover as discussed in Section 9.3.2.2, Chapter 9, the antecedents of affective and normative commitments were not found to be the same, which challenges the assumptions made in the literature. Hence, this dimension of commitment cannot be ignored. There is a need in future to further explore the antecedents of normative commiment, and normative commitment-service quality relationship.

There is also a need to explore the effect of unionism on the three components of commitment, as the influence of trade unions or staff associations has been found to be quite strong as far as call centre employees are concerned (Taylor & Bain, 1999). Meyer and Allen (1991) argue that the nature of the link between continuance commitment and performance is likely to be dependent upon the implications of that behaviour for employment. Meyer and Allen (1991) note that "where employment is essentially guaranteed, performance may be barely acceptable" (p. 77). Hence, the process by which continuance commitment is translated into behaviour needs to be explored for further explaining lack of continuance commitment-service quality relationship, especially in banking call centres.

The study could also be replicated with frontline employees working in contexts other than call centres. Comparisons on the significance of extrinsic and intrinsic rewards in relation to service quality could be drawn. Especially, the extrinsic organisational rewards-service quality relationships need to be explored further in the future. As indicated by the results of the study, extrinsic organisational rewards should not be directly linked to service quality performance, as this could be detrimental for service quality in call centres. It would be useful to find out if the same implications are applicable for other forms of service delivery and in other industries. Similarly, although this study did not find any significant relationship of continuance commitment with service quality, it may not be so in other contexts. Since continuance commitment is influenced by availability of job alternatives, it would be useful to study this component of commitment in relation to service quality in other service settings, especially in those industries where the availability of job alternatives is low for the frontline staff.

The study could be replicated using other indicators of performance, like productivity, profitability, customer loyalty, customer satisfaction, and word of mouth behaviour. It would be useful to see the nature of relationship that rewards bear, especially with the productivity aspect of employees' performance in call centres. Although extrinsic rewards are assumed to have a positive effect on performance, in this study certain extrinsic organisational rewards were found to affect service quality negatively, while extrinsic social rewards were not found to be effective at all. Hence, it would be useful to see if these rewards bear the same relationship with the productivity measures of performance, or whether they affect productivity positively at the cost of service quality. Thus, in future, it would be useful to compare the results using different indicators of

performance. Such comparisons could prove beneficial for service quality management through internal marketing.

The impact of rewards and employee attitudes could be analysed on other consequences such as organisation citizenship behaviour, turnover intentions, and customer satisfaction, along with service quality in call centres.

Customer or supervisory evaluation of service quality could also be used in future research, and the results could be compared to employees' self-evaluation. Also, in future, other approaches to measuring service quality might be adopted, such as customer evaluations or supervisory evaluations of service quality. Though self-evaluations were backed by the literature, and further supported by anonymity of the questionnaire responses, it would be interesting to see the differences, if any, arising out of the comparison of different methods of service quality evaluations.

10.6 Conclusions

Many research studies have now well established the fact that there is a great need to take the HRM-Service Quality relation seriously (Schneider & Bowen, 1993). There is considerable evidence to strongly support the relationship between the two (Bowen et al., 1999).

The results of this research contribute to this school of thought by providing a deeper understanding of the nature and role of rewards, as part of internal marketing, in influencing employee attitudes and service quality. Also, the study provides an understanding the nature of commitment, especially in respect of service quality. It has

contributed to a growing body of academic research demonstrating links between internal marketing and external marketing and adds to the internal marketing literature in understanding the importance of employee attitudes in determining service quality. The results illustrate the nature of commitment that is important for service quality, since only affective commitment was found to have a direct and significant impact on service quality. Also, despite not having any direct relationship with service quality, job satisfaction emerged as a crucial variable, thereby highlighting the complexity of the process under study. As a result this research provides guidance for service managers in designing internal marketing strategies for frontline employees to improve service quality.

Furthermore, the study provides an understanding of the significance of rewards as part of the internal marketing implemented by the management with an aim to improve service quality. Segregating rewards into three different categories provides further insight into significance of these rewards in relation to service quality, particularly in terms of what type of rewards need to be focused upon in call centres in order to improve the service quality of frontline employees. The results discussed in Chapter 9 indicate that intrinsic rewards are the most important of all, and demand close attention in call centres, as they are significantly related to the service quality of the frontline employees. Extrinsic organisational rewards should be implemented with caution, and should be related to organisational issues (like developing organisational commitment and job satisfaction), instead of directly using them for influencing service quality. Extrinsic social rewards emerged as the least important of all the rewards, and do not influence service quality either directly or indirectly. Moreover, the study not only

explores the variables affecting service quality, but also explores the antecedents to employee attitudes, which are crucial for achieving quality service.

To conclude, this research confirms certain links in the service profit chain and builds upon the exchange theory by demonstrating that satisfied and committed employees will lead to better service quality. Thus it adopts an inter-disciplinary approach, and is able to contribute to the growing body of research that establishes and confirms the significance of internal marketing for service quality management in call centres. The relationships established in the study such as those among rewards, employee attitudes and service quality, aid decision-making in the design of suitable reward policies to enhance service quality of frontline employees through internal marketing.

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APPENDICES

Appendix A3.1

Studies where Organisational Commitment is taken as the Mediating Variable Linking Job Performance with other Antecedent Variables

No.	Theme of research	Methods	Key findings	Sources
1	Evaluating the relationships among supervision, role stress, organisational commitment and internal service quality	Survey, N= 380, respondent: sales representatives of a national insurance company	1. Organisational commitment shows a significant influence on internal service quality. 2. Organisational commitment is positively influenced by participation in decision making and negatively by role conflict 3. Organisational commitment mediates the relationship between supervision and role stress on one hand and service quality on the other.	Boshoff and Mels (1995)
2	Evaluating the relationships among supervision, role stress, organisational commitment and service quality	Survey, N= 630, respondent: sales representatives of a national insurance company and a bank	**Model 1 : "Own service quality" model** 1. Organisational commitment exerts a fairly strong positive influence on service quality 2. Role conflict neither affects service quality nor organisational commitment 3. Goal setting affects both, organisational commitment and service quality 4. Extrinsic job satisfaction has a negative influence on service quality and a positive influence on organisational commitment 5. Performance feedback also has a negative influence on service quality but has no effect on organisational commitment	Boshoff and Tait (1996)
			Model 2 : "The supervisory service quality model" 1. Service quality was taken as a two dimensional construct- extrinsic service quality related to tangibles and intrinsic service	

No.	Theme of research	Methods	Key findings	Sources
			quality related to the rest four dimensions of SERVQUAL 2. Organisational commitment exerts a positive influence on extrinsic service quality and has no direct effect on intrinsic service quality 3. Extrinsic service quality exerts a strong positive influence on intrinsic service quality 4. Role conflict neither affects service quality nor organisational commitment 5. Extrinsic job satisfaction has a positive influence on organisational commitment and no direct influence on service quality was found 6. Performance feedback neither affects service quality nor organisational commitment	
3	Examines the role of employee commitment and trust in service relationships; testing relationships between three categories of independent variables (Job-related variables, external variable and personal variables) and organisational outcomes (service accomplishment & acceptance of change) mediated by trust(Distributive justice & benevolence) and commitment.	Survey, N=513, Frontline- nursing and paramedical staff in a hospital.	1. Organisational commitment and trust are significant determinants of Organisational performance (acceptance of change & service accomplishment) 2. Trust had significant impact on organisational commitment 3. Most of the independent variables had significant impact on both dimensions of trust.	Iverson et al (1996)
4	Tests a theoretical model that specifies the	Survey, N=672, Sales agents of a national	1. Role perceptions have both direct as well as indirect relationships with organisational commitment mediated by job satisfaction and	MacKenzie et al (1998)

No.	Theme of research	Methods	Key findings	Sources
	relationships between in- and extra- role performance and salesperson job satisfaction, commitment, role perceptions (role conflict & role ambiguity), and turnover.	insurance company	directly influence in-role performance 2. Role perceptions have indirect relationships with extra-role performance mediated by organisational commitment 3. In-role performance is directly related to job satisfaction and indirectly to commitment 4. Job satisfaction is related directly to organisational commitment and extra-role performance 5. Organisational commitment is directly related to extra-role performance 6. In-role performance, job satisfaction and extra-role performance are all directly related to turnover 7. Thus, job satisfaction and organisational commitment were found to be important determinants of extra-role performance	
5	The study investigates the mediating role of organisational commitment in the relationships of leadership behaviour with work outcomes(job satisfaction & performance)	Survey, N=600, Employees from 30 organisations of UAE	1. There exist significant positive relationships between leadership behaviour and organisational commitment, job satisfaction and job pwrformance 2. Organisational commitment mediates the relationship between leadership behaviour and both job satisfaction and job performance.	Yousef (2000)
6	Relationship between the antecedents to Gap 3 as proposed by Parasuraman et al's study(1990) , mediated by trust, commitment and co-operation with service performance gap was	Survey, N=600, Customer contact and sales employees of two European Airlines	1. Employee job fit, Perceived control and co-operation directly affect service performance gap 2. Commitment affects co-operation which in turn is affected by role ambiguity and perceived control 3. Commitment is affected by role ambiguity and trust 4. Shared values, supervisory control systems, Technology job fit,	Chenet, Tynan and Money (2000)

No.	Theme of research	Methods	Key findings	Sources
	tested		role conflict and role ambiguity affect trust directly	
7	Organisational support variables(immediate supervisor, team, other department and effectiveness of technology) predicted to affect CSC(capacity to satisfy customers) directly and indirectly where they are mediated by job satisfaction(JS) and organisational commitment(OC)	Triangulated approach, Qualitative data collected, focus groups and Survey. N= 765, customer contact employees in 7 telephone call centres .	1. JS had a direct effect on OC but no direct effect on CSC 2. OC had a direct effect on CSC and mediates the relationships between other department support with CSC and JS with CSC 3. Other department support and Technology support exerted both direct and indirect effect on CSC 4. Team, Supervisor and Technology support exerted direct influence on JS	Sergeant and Frenkel (2000)
8	The study analyses the mediating role of organisational commitment in the relationship between work climate and performance	Survey, N=1000, Employees from three managerial levels(top, middle, lower) working in 20 industrial companies Performance was measured using self-rating(SPR) and immediate supervisor rating(ISPR)	**SPR** 1. Organisational commitment did not fully mediate the relationship between work climate and performance, rather only partially mediated the relationship 2. Affective commitment positively influenced the relationship between work climate and performance 3. The partial mediating role of affective commitment was stronger than global commitment - 4. Continuance commitment neither fully nor partially mediated this relationship 5. Hence, affective commitmewnt was found more important in mediating this relationship than total organisational commitment **ISPR-** Results were quite similar to those found in SPR Employees who are affectively committed tend to show higher levels of	Suliman A (2002)

No.	Theme of research	Methods	Key findings	Sources
			SPR & ISPR when they postively perceived the work-climate	
9	Antecedents and consequences of role stress of retail salespersons	Survey, N=148, Retail salespersons from seven major retailers in Belgium, N=708 customers for measuring CPSQ	1. Formalisation and Empowerment negatively affect role ambiguity 2. Role Conflict positively affects role ambiguity 3. Role Ambiguity affects organisational commitment and commitment to quality 4. Organisational commitment negatively affects service quality 5. Commitment to quality positively affects service quality	Wetzels et al (2000)

Appendix A5.1: Questions Drafted for Semi-structured Interviews

A. Questions for Interview (Head of Customer Services)

1. What are the various types of customer contact transactions (e.g. sales, advisory, complaints, etc) in the bank which could be potential areas for my research ?

2. What is the nature of products in these areas?

3. What is the nature of customers in these areas?

4. What is the nature of the sales process/customer interaction with customer contact employees in these areas?

5. What is the nature of participation of contact employees in these transactions?

6. Which sets of employees are directly affected by Company policies?

7. Number, nature and types of call centres in the bank?

8. What is the significance and nature of training in your organisation to these contact employees? What is the scope of training? Is it a one-time affair or an on-going activity?

9. Is service quality important in call centres? What is the management's perspective on 'Cost efficiency vs. quality' in call centres?

10. Are there any problems faced by management w.r.t maintaining high levels of service quality?

11. What according to you are the most important rewards/factors for influencing frontline employees' service quality?

12. How is customer satisfaction/service quality measured?

13. Do you have any data which could prove useful for the study?

14. What would be the scope of the study? Areas covered, number of contact employees, number of call centres etc.

B. Questions for Interview (Call Centre Managers)

1. What are the types of customer contact transactions in your call centres?

2. What is the nature of contact jobs with respect to job characteristics - autonomy, feedback, skill variety, etc.

3. Are roles clearly defined - extent of role clarity?

- Does management provide accurate information to employees concerning job instruction, company policy and procedures, and performance assessment?
- How often does management communicate company goals and expectations to employees?

4. How is performance evaluated? Is service quality important? Are frontline employees aware of the importance of service quality for performance appraisals?

5. How is customer satisfaction/service quality measured? What dimensions of service quality are judged and considered important?

6. Are there any performance-based rewards? What is the nature of extrinsic exchange and intrinsic exchange prevalent in the call centres?

- Do employees know what aspects of their job will be stressed most in performance evaluations?
- Do employees who make a special effort to serve customers receive increased financial rewards, career advancement and/or recognition?
- Are employees evaluated on how well they perform/interact with customers?
- How does the management control service quality?

7. What is the significance and nature of training in call centres to these contact employees? What is the scope of training?

8. What is the nature of supervision of these employees? What is the level of participation allowed?

9. What is the nature of teamwork among these employees? Do employees and managers contribute to a team effort in servicing customers?

10. What is the nature of Employee Turnover?

11. Is employees' organisational commitment viewed as something important by the management to curb turnover? If yes, what is done by management in this respect to gain commitment?

12. How important is employee's job satisfaction from the management's perspective? Are there any surveys on job satisfaction conducted/results summarised that could be useful for the study?

13. Any relevant data/information that you would like to share as regards internal marketing policies of the organisation

C. Questions for Interview (HR Managers)

1. Which sets of call centre employees are directly affected by Company policies?

2. What is done by management to motivate employees to deliver quality service to customers, and to gain their commitment towards the organisation?

3. What is the pay, benefits, incentives and promotions policy for the selected frontline /contact employees?

   a. What do you think are the most important aspects of pay and benefits that are viewed as important from employee's point of view?

   b. Fringe Benefits - Nature and Types

   c. Working conditions

   d. Promotions Policy

   e. Performance-based Rewards

4. Training
   - Are employees trained to interact effectively with customers?
   - Nature of Continuous Training
   - Other Types of Training

5. Job Satisfaction of frontline employees - Does management take employee's job satisfaction seriously? Any surveys on job satisfaction conducted/results summarised that could be useful

6. What is the nature of general policy on rewards based on performance - intrinsic and extrinsic?

   - Do employees know what aspects of their job will be stressed most in performance evaluations?
   - Do employees who make a special effort to serve customers receive increased financial rewards, career advancement and/or recognition?
   - Are employees evaluated on how well they perform/interact with customers?
   - Is service quality important in call centres?
   - How does management control service quality?

7. Any relevant data/information that you would like to share as regards internal marketing policies of the organisation

Appendix A6.1: A Sample of Letter to Companies

To
Head of Customer Services/ Equivalent
Customer Services Deptt.
ABC Bank

Dear Sir/Madam

I am a doctoral researcher at the School of Management, University of Bradford, currently conducting a study on the factors that affect Service Quality of frontline employees in contact services.

In businesses like yours, frontline employees are the face of the organisation and largely determine the level of service quality. It becomes important to find out what should be done by the management to ensure that frontline employees display the required effort and attitude to satisfy the customer during the crucial service encounter. In this context, I am analysing the relationships among rewards, organisational commitment and service quality of frontline employees.

My study could prove beneficial in the following ways:

- Determine how different types of rewards influence frontline employees' attitudes and service quality
- Determine how employee attitudes influence service quality

Thus, determine how internal strategies can influence frontline employees in improving service quality delivered to customers.

I would be very grateful if you could kindly agree to let me carry out research in call centres of your organisation. I assure you that in keeping with the norms of our University, all information gathered would be kept strictly confidential. I can also provide references, if you so require.

Your kind co-operation will be much appreciated, and I look forward to having a favourable response, so that I can let you have further details. I would be grateful if you could kindly suggest a suitable time and date when we could meet to discuss this further.

With thanks,

Yours faithfully
Neeru Malhotra
Doctoral Researcher
University of Bradford, School of Management
Tel. : 01274 234 436
e-mail : n.malhotra@bradford.ac.uk

Appendix A6.2: Items Initially Selected for Each Construct

AFFECTIVE COMMITMENT
I would be happy to spend the rest of my career with this organisation.
I really feel as if this organisation's problems are my own.
I do not feel a strong sense of 'belonging' to my organisation.
I do not feel 'emotionally attached' to this organisation.
I do not feel like 'part of the family' at my organisation.
This organisation has a great deal of personal meaning for me.
CONTINUANCE COMMITMENT
Right now, staying with my organisation is a matter of necessity as much as desire.
It would be very hard for me to leave my organisation right now, even if I wanted to.
Too much in my life would be disrupted if I decided to leave my organisation now.
I feel that I have too few options to consider leaving this organisation.
If I had not already put so much of myself into this organisation, I might consider working elsewhere.
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives.
NORMATIVE COMMITMENT
I do not feel any obligation to remain with my current employer.
Even if it were to my advantage, I do not feel it would be right to leave my organisation now
I would feel guilty if I left my organisation now.
This organisation deserves my loyalty.
I would not leave my organisation right now because I have a sense of obligation to the people in it.
I owe a great deal to my organisation.
EXTRINSIC REWARDS
1.WORKING CONDITIONS
The working conditions at my workplace are adequate to perform a good job.
I am satisfied with the working conditions at my work place
2. PAY SATISFACTION
I am satisfied with the amount of pay I receive for the job I do.
I am satisfied with my pay considering what I would get for similar work in other organisations I know of.
I feel I am paid fairly considering the work I do.
3. SATISFACTION WITH FRINGE BENEFITS
I am satisfied with the fringe benefits package.
The fringe benefits package I receive is as good as most other organisations offer.
4. PROMOTIONAL OPPORTUNITY
I feel that the promotion policy is good.
There is enough opportunity for advancement on my job.
5. EXTRINSIC EXCHANGE
Good quality customer service is considered for promotion in our organisation.
Good quality customer service is considered for pay raise in our organisation.
If I improve my level of service I offer customers, I get a pay raise.
If I improve my level of service I offer customers, I get a promotion.

6. SUPERVISION
My superior/supervisor is friendly and approachable.
My superior/supervisor does little things to make my work satisfying
My superior/supervisor looks out for the personal welfare of group members
My superior/supervisor helps make my job more pleasant.
My superior/supervisor treats all the workers as his/her equal.
I am satisfied with the technical competence of my superior/supervisor.
I am satisfied with my superior's/supervisor's ability to lead me.
I am satisfied with the way my superior/supervisor helps me achieve my goals.
7.TEAM SUPPORT
I feel that I am part of a team in my company
My co-workers are helpful to me in getting my job done.
Everyone in this organisation contributes to a team effort in serving customers.
My co-workers and I co-operate more often than we compete.
I am satisfied with the supportive attitude of my co-workers at work.
INTRINSIC REWARDS
1.JOB CHARACTERISTICS
a. Role clarity
Clear planned goals/objectives exist for my job.
I know exactly what is expected of me in my job.
I know how my performance is going to be evaluated.
I feel certain about the level of authority I have.
I know that I have divided my time properly at work
Explanation of what needs to be done on my job are clear
I know what my responsibilities are.
b. Participation
I can greatly influence the decisions of my immediate superior regarding things in my job over which I am concerned.
My superior often asks my opinion when a problem comes up that involves my work.
I feel that it is easy to get my job improvement ideas across to my superior.
I have enough influence in what goes on in my sales territory
c.Skill Variety
The job requires me to use a number of complex skills.
The job is not simple and repetitive
d. Autonomy
The job does not deny me the chance to use my personal initiative or discretion in carrying out the work
My job has enough opportunity for independent thought and action
The job gives me considerable opportunity for freedom in how I do the work.
I have enough freedom to do what I want on my job to satisfy customers.
e.**Feedback**
Just by doing my work, I can assess how well I am performing on my job.
My co-workers often give me feedback on how well I am performing on my job.
My superior/supervisor often gives me feedback on how well I am performing on my job.

2. INTRINSIC EXCHANGE
I am often praised by my immediate superior for providing good service to customers.
I receive recognition by my immediate superior for providing good service to customers.
3. TRAINING
I receive induction/introductory training before I come into contact with customers.
I receive continued training to provide a good service.
I receive regular training to keep me updated on any information required for good customer service.
4. GENERAL JOB SATISFACTION
Overall, I feel I am satisfied with my job.
I am generally satisfied with the kind of work I do on this job.
SERVICE QUALITY
I can understand the specific needs of my customers.
When I promise a customer that I will do something by a certain time, I do so.
I perform the service right the first time.
When problems occur, I give them all my attention in an effort to solve them speedily.
I am never too busy to respond to the requests of my customers.
I give prompt service to my customers.
I treat all customers courteously.
I have the knowledge and ability to answer customers' questions.
My paperwork is error free.
When a customer has a problem, I provide him/her with individual attention.
My behaviour instils confidence in my customers.

Appendix A6.3: Sample of the Final Questionnaire

QUESTIONNAIRE

Please encircle the one number for each item that comes closest to reflecting your opinion about it. There are no right or wrong answers. The data collected will be **completely anonymous** and **confidential** and in no way will your identity be disclosed. Kindly take time to answer **all the questions** and help make the project a success

(SD= Strongly disagree(1), D= Disagree(2), N= Neither agree nor disagree(3), A= Agree(4), SA= Strongly agree(5))

	SD	D	N	A	SA
I would be happy to spend the rest of my career with this organisation.	1	2	3	4	5
I really feel as if this organisation's problems are my own.	1	2	3	4	5
I do not feel a strong sense of 'belonging' to my organisation.	1	2	3	4	5
I do not feel 'emotionally attached' to this organisation.	1	2	3	4	5
I do not feel like 'part of the family' at my organisation.	1	2	3	4	5
This organisation has a great deal of personal meaning for me.	1	2	3	4	5
Right now, staying with my organisation is a matter of necessity as much as desire.	1	2	3	4	5
It would be very hard for me to leave my organisation right now, even if I wanted to.	1	2	3	4	5
Too much in my life would be disrupted if I decided to leave my organisation now.	1	2	3	4	5
I feel that I have too few options to consider leaving this organisation.	1	2	3	4	5
If I had not already put so much of myself into this organisation, I might consider working elsewhere.	1	2	3	4	5
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives.	1	2	3	4	5
I do not feel any obligation to remain with my current employer.	1	2	3	4	5
Even if it were to my advantage, I do not feel it would be right to leave my organisation now	1	2	3	4	5
I would feel guilty if I left my organisation now.	1	2	3	4	5
This organisation deserves my loyalty.	1	2	3	4	5
I would not leave my organisation right now because I have a sense of obligation to the people in it.	1	2	3	4	5
I owe a great deal to my organisation.	1	2	3	4	5
The working conditions at my workplace are adequate to perform a good job.	1	2	3	4	5
I am satisfied with the working conditions at my work place	1	2	3	4	5
I am satisfied with the amount of pay I receive for the job I do.	1	2	3	4	5
I am satisfied with my pay considering what I would get for similar work in other organisations I know of.	1	2	3	4	5
I feel I am paid fairly considering the work I do.	1	2	3	4	5
I am satisfied with the fringe benefits package.	1	2	3	4	5
The fringe benefits package I receive is as good as most other organisations offer.	1	2	3	4	5
I feel that the promotion policy is good.	1	2	3	4	5
There is enough opportunity for advancement on my job.	1	2	3	4	5

(SD= Strongly disagree(1), D= Disagree(2), N= Neither agree nor disagree(3), A= Agree(4), SA= Strongly agree(5))	SD	D	N	A	SA
Good quality customer service is considered for promotion in our organisation.	1	2	3	4	5
Good quality customer service is considered for pay raise in our organisation.	1	2	3	4	5
If I improve my level of service I offer customers, I get a pay raise.	1	2	3	4	5
If I improve my level of service I offer customers, I get a promotion.	1	2	3	4	5
My supervisor is approachable.	1	2	3	4	5
My supervisor helps make my job more pleasant.	1	2	3	4	5
My supervisor treats all the workers as his/her equal.	1	2	3	4	5
I am satisfied with the technical competence of my supervisor.	1	2	3	4	5
I am satisfied with my supervisor's ability to lead me.	1	2	3	4	5
I am satisfied with the way my supervisor helps me achieve my goals.	1	2	3	4	5
My co-workers are helpful to me in getting my job done.	1	2	3	4	5
I am satisfied with the supportive attitude of my co-workers at work.	1	2	3	4	5
Everyone in this organisation contributes to a team effort in serving customers.	1	2	3	4	5
My co-workers and I co-operate more often than we compete.	1	2	3	4	5
Clear planned goals/objectives exist for my job.	1	2	3	4	5
I know exactly what is expected of me in my job.	1	2	3	4	5
I know how my performance is going to be evaluated.	1	2	3	4	5
I feel certain about the level of authority I have.	1	2	3	4	5
I know what my responsibilities are.	1	2	3	4	5
I can greatly influence the decisions of my immediate superior regarding things in my job over which I am concerned.	1	2	3	4	5
My superior often asks my opinion when a problem comes up that involves my work.	1	2	3	4	5
I feel that it is easy to get my job improvement ideas across to my superior.	1	2	3	4	5
The job requires me to use a number of complex skills.	1	2	3	4	5
The job is not simple.	1	2	3	4	5
The job is not repetitive.	1	2	3	4	5
The job allows me to use my personal initiative in carrying out the work.	1	2	3	4	5
The job gives me considerable opportunity for freedom in how I do the work.	1	2	3	4	5
I have enough freedom to do what I want on my job to satisfy customers.	1	2	3	4	5
Just by doing my work, I can assess how well I am performing on my job.	1	2	3	4	5
My co-workers often give me feedback on how well I am performing on my job.	1	2	3	4	5
My superior/supervisor often gives me feedback on how well I am performing on my job.	1	2	3	4	5
I am often praised by my immediate superior for providing good service to customers.	1	2	3	4	5
I receive recognition by my immediate superior for providing good service to customers.	1	2	3	4	5
I receive induction/introductory training before I come into contact with customers.	1	2	3	4	5

(SD= Strongly disagree(1), D= Disagree(2), N= Neither agree nor disagree(3), A= Agree(4), SA= Strongly agree(5))	SD	D	N	A	SA
I receive continued training to provide a good service.	1	2	3	4	5
I receive regular training to keep me updated on any information required for good customer service.	1	2	3	4	5
Overall, I feel I am satisfied with my job.	1	2	3	4	5
I am generally satisfied with the kind of work I do on this job.	1	2	3	4	5
I always explain to my customers each and every step I take to answer their questions e.g.why a call needs to be transferred, etc.	1	2	3	4	5
I can understand the specific needs of my customers.	1	2	3	4	5
When I promise a customer that I will do something by a certain time, I do so.	1	2	3	4	5
I perform the service right the first time.	1	2	3	4	5
When problems occur, I give them all my attention in an effort to solve them speedily.	1	2	3	4	5
I give prompt service to my customers.	1	2	3	4	5
I treat all customers courteously.	1	2	3	4	5
I have the knowledge and ability to answer customers' questions.	1	2	3	4	5
When a customer has a problem, I provide him/her with individual attention.	1	2	3	4	5
My behaviour instils confidence in my customers.	1	2	3	4	5

Personal details

1.Gender M/F _____

2. Total No.of years worked till date ____ yrs.

3. Age ___ yrs.

4.No. of years worked in this organisation ____ yrs.

5. Permanent/ Temporary/ Part-time/Other (please specify)

_____

Kindly send the questionnaire in the **pre-paid envelope** provided.

If you have any queries please email at : **n.malhotra@bradford.ac.uk**

Thank you very much for your time and support!.

Appendix A6.4: A Sample of "Telephone Essentials"[1]

First Impressions Count

- The impression you give the caller is the impression he/she will have of socicty
- Answer within 4 rings
- Always give a friendly greeting 'Good morning/afternoon' followed by your deptt/name as appropriate
- Speak clearly
- Listen actively
- Take accurate messages
- Treat every customer as an individual

Listening Skills

- Always give your full attention
- Use phrases like 'Yes I see' or 'I understand' to let the caller know you are listening
- Listen actively, take notes
- Repeat back the information provided
- Avoid distractions

Your Voice And Words

- Project a helpful and friendly attitude
- Speak clearly-never too quickly
- Always sound interested
- Use simple straightforward language
- Be courteous

Handling Enquiries

- Ask open questions beginning with 'Why, How, What' to gain information
- If you cannot handle the enquiry right away

1. Explain this to the caller
2. Say how long you expect it to take
3. Agree a convenient time to call back

- Always phone back at the agreed time

Transferring Calls

- Don't transfer calls unless you are certain of who the caller needs to speak to
- Keep the caller informed at all times
- Before you put the caller on hold tell them how long would it be so they don't think they've been cut off
- Before transferring give the name of the caller and a brief inquiry

Taking Ownership

- Take personal responsibility for messages or courses of action you agree to take
- Always phone back when you say you will
- Avoid phrases such as : I don't work on this section...I don't know who can help, etc.

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[1] This is a sample. Being a proprietary information, the whole document could not be disclosed.

Appendix A6.5: A Sample of the Letter Sent to Call Centre Managers along with the Questionnaires

Call Centre Manager,
ABC Bank

Dear Mr. Brian

I refer to your discussion with Mr. Davison regarding completion of questionnaires by your call centre customer-contact employees.

I am a doctoral researcher at the University of Bradford, School of Management conducting a research on the factors affecting service quality of the frontline employees in financial services sector.

As kindly agreed by Mr. Davison, I am enclosing 200 questionnaires for distribution to those employees in the call centre who come in contact with customers over the phone only. A letter from Mr. Davison is also attached along with the questionnaires. I also include pre-paid envelopes for the return of the questionnaires. Alternatively, I can assist you in distribution or collection by any other means, which you think will ensure a better response rate.

I would be grateful if you could kindly distribute the questionnaires to your frontline staff in the call centre and help ensure a good response rate to make the study a success. May I once again remind you to distribute the questionnaires only to those frontline employees who contact customers only over the telephone, and are regarded as customer service advisers.

Kindly contact me if you have any other queries.

Thanks and Best Regards

Yours sincerely

Neeru Malhotra
Doctoral researcher,
University of Bradford School of Management
Email: n.malhotra@bradford.ac.uk
Tel: 01274 234436

Appendix A6.6: A Sample Cover Letter by the 'Head of Customer Services'

[redacted]

[redacted]

To whom it may concern,

We have been approached by the University of Bradford – School of Management, to help with some research, which will look at understanding the link between staff satisfaction and customer satisfaction. Simply does happy staff mean happy customers?

The information this research will give us is clearly important, particularly as we are not only looking at it from the staff perspective but also the customer.

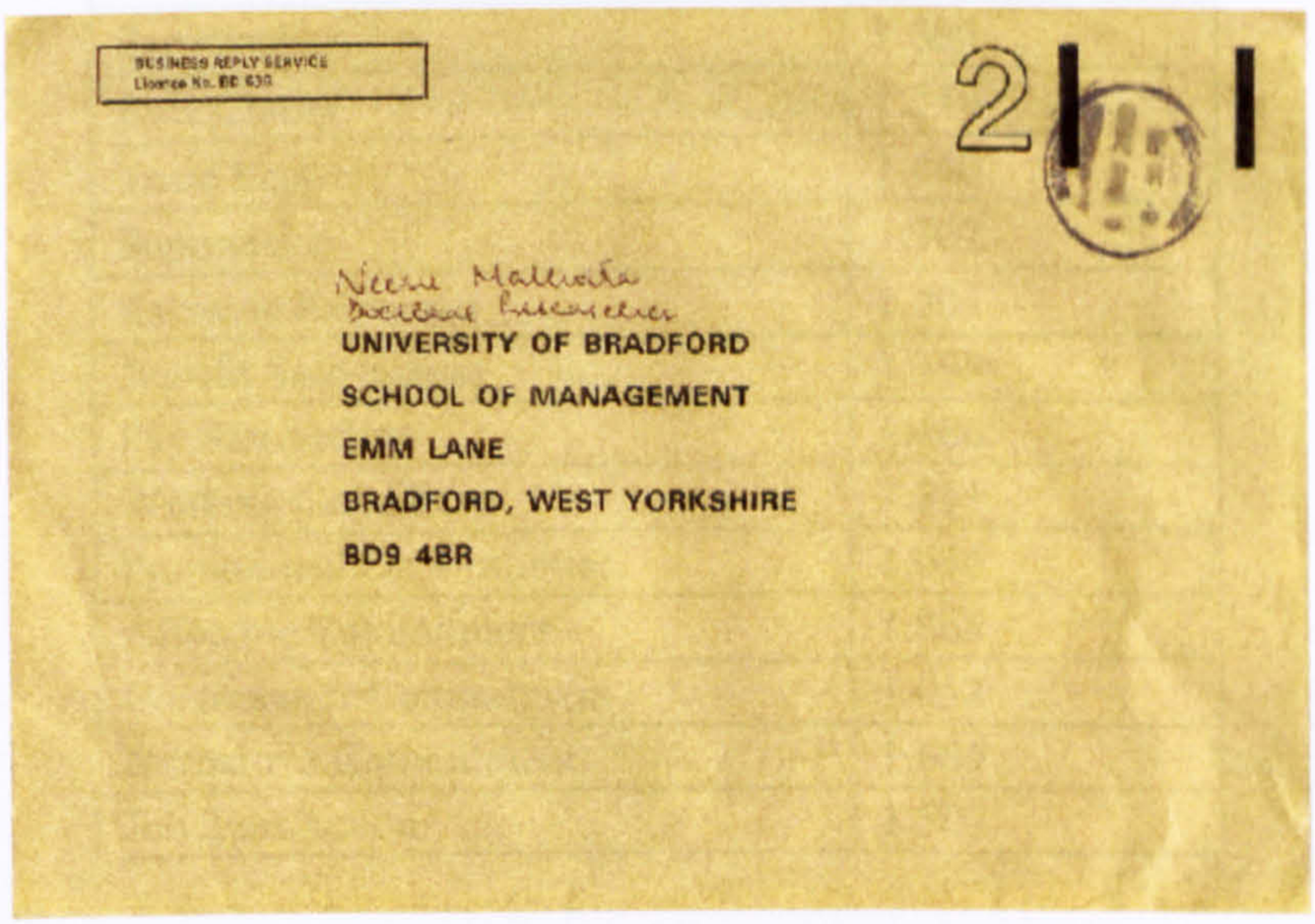
I would appreciate it therefore if you could spend a few minutes completing the enclosed questionnaire and return it to the School of Management in the envelope provided before 31/08/02.

Needless to say none of your answers will be specifically fed back to us and the researcher we are working with, Neeru Malhotra, ensures me it will be with complete integrity.

Thank you for your help.

Kind Regards
John Davison

Appendix A6.7: Sample of Reply Envelope



Appendix A7.1: Test of Multi-Collinearity Results*

Constructs	VIF
Training	1.723
Autonomy	1.548
Skill Variety	1.239
Intrinsic Exchange	1.527
Participation	1.695
Role Clarity	1.540
Team Support	1.440
Supervision	1.702
Extrinsic Exchange	1.504
Benefit Satisfaction	1.398
Pay Satisfaction	1.466
Working Conditions	1.511
Promotional Opportunities	1.646
Affective Commitment	1.868
Continuance Commitment	1.053
Normative Commitment	1.689
Job Satisfaction	1.503

* All the VIF values are below the recommended threshold limit of 10

Appendix A7.2: Rewards Exploratory Factor Analysis[5]

Construct Items (Item)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12
The working conditions are adequate to perform a good job. (WC1)											.812	
I am satisfied with the working conditions at my work place (WC2)											.845	
I am satisfied with the amount of pay I receive for the job I do. (P1)				.856								
I am satisfied with my pay considering other organisations I know of.(P2)				.872								
I feel I am paid fairly considering the work I do. (P3)				.863								
I am satisfied with the fringe benefits package. (B1)												.770
The fringe benefits package is as good as other organisations offer. (B2)												.822
I feel that the promotion policy is good. (PR1)								.737				
There is enough opportunity for advancement on my job. (PR2)								.791				
Good quality customer service considered for promotion in our org. (EE1)					.567			.561[1]				
Good quality customer service considered for pay raise in our org. (EE2)					.789							
If I improve my level of service I offer customers, I get a pay raise. (EE3)					.853							
If I improve my level of service I offer customers, I get a promotion. (EE4)					.776							
My supervisor is approachable. (S1)	.838											
My supervisor helps make my job more pleasant. (S2)	.829											
My supervisor treats all the workers as his/her equal. (S3)	.850											
I am satisfied with the technical competence of my supervisor. (S4)	.786											
I am satisfied with my supervisor's ability to lead me. (S5)	.853											
I am satisfied with the way my supervisor helps me achieve my goals. (S6)	.807											
My co-workers are helpful to me in getting my job done. (TS1)						.818						
I am satisfied with the supportive attitude of my co-workers at work.(TS2)						.858						
Everyone contributes to a team effort in serving customers. (TS3)						.514						
My co-workers and I co-operate more often than we compete. (TS4)						.538						
Clear planned goals/objectives exist for my job. (RC1)		.616										
I know exactly what is expected of me in my job. (RC2)		.782										
I know how my performance is going to be evaluated. (RC3)		.750										
I feel certain about the level of authority I have. (RC4)		.744										

[1] Confirmatory factor analysis confirmed that the item belongs to factor 5

Rewards Exploratory Factor Analysis (Contd.)

Construct Items (Item)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12
I know what my responsibilities are. (RC5)		.796										
I can influence decisions of my superior regarding things in my job (PT1)			.43									
My superior asks my opinion when problem comes up. (PT2)	.443[2]											
I feel it is easy to get job improvement ideas across to my superior. (PT3)	.520[2]											
The job requires me to use a number of complex skills. (SV1)										.845		
The job is not simple. (SV2)										.797		
The job is not repetitive. (SV3)			.494[4]					.490				
The job allows me to use personal initiative in carrying out the work.(AT1)			.664									
The job gives me opportunity for freedom in how I do the work.(AT2)			.824									
I have freedom to do what I want on my job to satisfy customers. (AT3)			.763									
Just by doing work, I can assess how well I am performing on my job. (FD1)			.42									
Coworkers give me feedback on how well I am performing on my job (FD2)							.708[3]					
Superior gives me feedback on how well I am performing on my job. (FD3)							.633					
I am praised by my superior for providing good service to customers. (IE1)							.778					
I receive recognition by superior for providing good service (IE2)							.717					
I receive induction training before coming in contact with customers. (TR1)									.558			
I receive continued training to provide a good service. (TR2)									.742			
I receive regular training to keep me updated for good customer service (TR3)									.737			

[2] Reliability analysis and Confirmatory factor analysis confirmed that items belonging to participation scale do not belong to Factor 1
[3] Item dropped due to poor reliability analysis results
[4] Item dropped due to poor reliability analysis results
[5]The entire factor structure was confirmed by CFA

Apppendix A7.3: Exploratory Factor Analysis Diagnostics
Rewards Exploratory Factor Analysis

Construct	Factor	No. of Items	Eigenvalue	Percentage variance extracted	Cumulative percentage variance extracted
Supervision	1	8	10.737	23.860	23.860
Role Clarity	2	5	4.357	9.683	33.543
Autonomy	3	3	2.663	5.917	39.460
Pay Satisfaction	4	3	2.413	5.363	44.823
Extrinsic Exchange	5	4	2.040	4.534	49.357
Team Support	6	4	1.976	4.391	53.748
Feedback	7	4	1.681	3.735	57.483
Promotional Opportunity	8	2	1.522	3.382	60.866
Training	9	3	1.317	2.926	63.792
Skill Variety	10	2	1.233	2.741	66.533
Working Conditions	11	2	1.133	2.517	69.050
Satisfaction with Benefits	12	2	1.012	2.249	71.299

Organisational Commitment Exploratory Factor Analysis

Construct	Factor	No. of Items	Eigenvalue	Percentage Variance Extracted	Cumulaitve Percentage Variance Extracted
Normative Commitment	1	6	5.031	29.596	29.596
Affective Commitment	2	5	2.956	17.390	46.986
Continuance Commitment	3	6	1.498	8.809	55.795

Service Quality Exploratory Factor Analysis

Construct	Factor	No. of Items	Eigenvalue	Percentage Variance Extracted	Cumulaitve Percentage Variance Extracted
Service Quality	1	10	5.221	52.208	52.208

Appendix A7.4: Commitment Exploratory Factor Analysis

Construct Items	Factor 1	Factor 2	Factor 3
I would be happy to spend the rest of my career with this organisation. (AC1)		.690	
I really feel as if this organisation's problems are my own. (AC2)		.211	
I do not feel a strong sense of 'belonging' to my organisation. (AC3)		.743	
I do not feel 'emotionally attached' to this organisation. (AC4)		.787	
I do not feel like 'part of the family' at my organisation. (AC5)		.816	
This organisation has a great deal of personal meaning for me. (AC6)		.585	
Right now, staying with my organisation is a matter of necessity as much as desire. (CC1)			.592
It would be very hard for me to leave my organisation right now, even if I wanted to. (CC2)			.747
Too much in my life would be disrupted if I decided to leave my organisation now. (CC3)			.772
I feel that I have too few options to consider leaving this organisation. (CC4)			.785
If I had not already put so much of myself into this organisation, I might consider working elsewhere. (CC5)			.558
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives. (CC6)			.663
I do not feel any obligation to remain with my current employer. (NC1)	.587		
Even if it were to my advantage, I do not feel it would be right to leave my organisation now. (NC2)	.702		
I would feel guilty if I left my organisation now. (NC3)	.823		
This organisation deserves my loyalty. (NC4)	.724		
I would not leave my organisation right now because I have a sense of obligation to the people in it. (NC5)	.817		
I owe a great deal to my organisation. (NC6)	.673		

Appendix A7.5: Service Quality Exploratory Factor Analysis

Construct Items	Component 1
I always explain to customers each and every step I take to answer their questions	.691
I can understand the specific needs of my customers.	.677
When I promise a customer that I will do something by a certain time, I do so.	.757
I perform the service right the first time.	.681
When problems occur, I give all my attention to solve them speedily.	.736
I give prompt service to my customers.	.740
I treat all customers courteously.	.764
I have the knowledge and ability to answer customers' questions.	.614
When a customer has a problem, I provide him/her with individual attention	.728
My behaviour instils confidence in my customers.	.818

Appendix A7.6

Reliability Assessment of the Factor 'Supervision' as Extracted according to EFA

Construct Items	Cronbach's Alpha	Item-total correlation	Alpha if item deleted
Supervision	**.912**		
My supervisor is approachable.		.7918	.896
My supervisor helps make my job more pleasant.		.8046	.895
My supervisor treats all the workers as his/her equal.		.7958	.895
I am satisfied with the technical competence of my supervisor.		.7245	.902
I am satisfied with my supervisor's ability to lead me.		.8129	.894
I am satisfied with the way my supervisor helps me achieve my goals.		.8004	.895
My superior asks my opinion when problem comes up.		.4407	.924
I feel it is easy to get job improvement ideas across to my superior.		.5676	.914

Appendix A7.7

Exploratory Factor Analysis* of Items relating to 'Supervision' and 'Participation' Constructs

Construct Items	Factor 1	Factor 2
My supervisor is approachable.	.798	
My supervisor helps make my job more pleasant.	.834	
My supervisor treats all the workers as his/her equal.	.840	
I am satisfied with the technical competence of my supervisor.	.818	
I am satisfied with my supervisor's ability to lead me.	.898	
I am satisfied with the way my supervisor helps me achieve my goals.	.851	
I can influence decisions of my superior regarding things in my job		.804
My superior asks my opinion when problem comes up.		.812
I feel it is easy to get job improvement ideas across to my superior.		.754

*Principal component with Varimax method

*Cumulative percentage variance extracted 73.13%; Both the factors depicted eigen value over 1

*KMO measure of sampling adequacy(.894), Approx. chi-square(2064.235), df(36), sig.(.000)

Comparison of CFA Fit Statistics: Results for Items Relating to Supervision and Participation Constructs Taken as One-Factor and Two-Factor Solution

Fit Measures	Recommended Criteria	One-factor solution	Two-factor solution
Absolute fit measures			
GFI	No absolute threshold, but recommended 0.9 or above	.861	.975
RMSEA	0.05 to 0.08; NotOver0.1	.169	.058
Likelihood Ratio Chisquare statistic	p-value >0.05	.000	.003
Incremental Fit Measures			
Tucker Lewis Index (TLI)	No absolute threshold, Recommended0.9 or above	.859	.980
Normed Fit Index (NFI)	No absolute threshold, Recommended0.9 or above	.890	.981
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended0.9 or above	.750	.940
Incremental Fit Index (IFI)	No absolute threshold, Recommended0.9 or above	.900	.990
Comparative Fit Index(CFI)	No absolute threshold, Recommended0.9 or above	.899	.989
Parsimonious Fit Measures			
Normed chisquare (CMIN/df)	Acceptable ratio 2-5, not over 5	10.735	2.138

Appendix A7.8: Rewards Reliability Diagnostics

Construct Items	Cronbach's Alpha (α)	Item-Total Correlation	Alpha if Item Deleted
Working Conditions	**.899**		
The working conditions are adequate to perform a good job. (WC1)		.8172	n/a
I am satisfied with the working conditions at my work place (WC2)		.8172	n/a
Pay Satisfaction	**.908**		
I am satisfied with the amount of pay I receive for the job I do. (P1)		.7949	.885
I am satisfied with my pay considering other organisations I know of. (P2)		.8050	.876
I feel I am paid fairly considering the work I do. (P3)		.8464	.842
Satisfaction with Benefits	**.820**		
I am satisfied with the fringe benefits package. (B1)		.6954	n/a
The fringe benefits package is as good as other organisations offer. (B2)		.6954	n/a
Promotional Opportunities	**.835**		
I feel that the promotion policy is good. (PR1)		.7178	n/a
There is enough opportunity for advancement on my job. (PR2)		.7178	n/a
Extrinsic Exchange	**.835**		
Good quality customer service considered for promotion in our org. (EE1)		.5802	.828
Good quality customer service considered for pay raise in our org. (EE2)		.7391	.756
If I improve my level of service I offer customers, I get a pay raise. (EE3)		.6685	.789
If I improve my level of service I offer customers, I get a promotion. (EE4)		.6801	.787
Supervision	**.934**		
My supervisor is approachable. (S1)		.7845	.924
My supervisor helps make my job more pleasant. (S2)		.8212	.919
My supervisor treats all the workers as his/her equal. (S3)		.8116	.921
I am satisfied with the technical competence of my supervisor. (S4)		.7489	.928
I am satisfied with my supervisor's ability to lead me. (S5)		.8501	.916
I am satisfied with the way my supervisor helps me achieve my goals. (S6)		.8171	.920
Team Support	**.774**		
My co-workers are helpful to me in getting my job done. (TS1)		.6794	.670
I am satisfied with the supportive attitude of my co-workers at work. (TS2)		.7478	.639
Everyone contributes to a team effort in serving customers. (TS3)		.5060	.776

Construct Items	Cronbach's Alpha (α)	Item-Total Correlation	Alpha If Item Deleted
My co-workers and I co-operate more often than we compete. (TS4)		.4518	.777
Role Clarity	.850		
Clear planned goals/objectives exist for my job. (RC1)		.5578	.839
I know exactly what is expected of me in my job. (RC2)		.7457	.781
I know how my performance is going to be evaluated. (RC3)		.6878	.798
I feel certain about the level of authority I have. (RC4)		.6165	.818
I know what my responsibilities are. (RC5)		.6680	.810
Participation	.757		
I can influence decisions of my superior regarding things in my job (PT1)		.5357	.730
My superior asks my opinion when problem comes up. (PT2)		.6048	.652
I feel it is easy to get job improvement ideas across to my superior. (PT3)		.6199	.637
Skill Variety	.763		
The job requires me to use a number of complex skills. (SV1)		.6168	n/a
The job is not simple. (SV2)		.6168	n/a
Autonomy	.801		
The job allows me to use personal initiative in carrying out the work. (AT1)		.6093	.765
The job gives me opportunity for freedom in how I do the work. (AT2)		.7468	.613
I have freedom to do what I want on my job to satisfy customers. (AT3)		.5908	.783
Intrinsic Exchange	.814		
Superior gives me feedback on how well I am performing on my job. (FD3)		.5357	.865
I am praised by my superior for providing good service to customers. (IE1)		.7719	.629
I receive recognition by superior for providing good service (IE2)		.7057	.629
Training	.729		
I receive induction training before coming in contact with customers. (TR1)		.3425	.810
I receive continued training to provide a good service. (TR2)		.7067	.439
I receive regular training to keep me updated on any information required for good customer service. (TR3)		.6501	.514

Appendix A7.9

Reliability Assessment of 'Autonomy' Construct as Derived by EFA

Construct Items	Cronbach's Alpha	Item-total correlation	Alpha if item deleted
Autonomy	**.784**		
The job is not repetitive (SV3)		.4803	.801
The job allows me to use personal initiative in carrying out the work. (AT1)		.6505	.704
The job gives me opportunity for freedom in how I do the work. (AT2)		.7322	.655
I have freedom to do what I want on my job to satisfy customers. (AT3)		.5362	.758

Appendix A7.10

Reliability Assessment of the Factor 'Feedback' as Extracted According to EFA

Construct Items	Cronbach's Alpha	Item-total correlation	Alpha if item deleted
Feedback	**.781**		
Coworkers give me feedback on how well I am performing on my job (FD2)		.4098	.814
Superior gives me feedback on how well I am performing on my job. (FD3)		.5762	.731
I am praised by my superior for providing good service to customers. (IE1)		.7204	.651
I receive recognition by superior for providing good service (IE2)		.6531	.688

Appendix A7.11: Commitment Reliability Diagnostics

Construct Items	Cronbach's Alpha (α)	Item-Total Correlation	Alpha if Item Deleted
Affective Commitment	**.821**		
I would be happy to spend the rest of my career with this organisation. (AC1)		.5988	.791
I do not feel a strong sense of 'belonging' to my organisation (r*) (AC3)		.5865	.793
I do not feel 'emotionally attached' to this organisation. (r*) (AC4)		.6695	.768
I do not feel like 'part of the family' at my organisation (r*) (AC5)		.6962	.760
This organisation has a great deal of personal meaning for me. (AC6)		.5226	.810
Continuance Commitment	**.782**		
Right now, staying with my organisation is a matter of necessity as much as desire. (CC1)		.4441	.770
It would be very hard for me to leave my organisation right now, even if I wanted to. (CC2)		.6212	.725
Too much in my life would be disrupted if I decided to leave my organisation now.(CC3)		.6267	.723
I feel that I have too few options to consider leaving this organisation. (CC4)		.6311	.726
If I had not already put so much of myself into this organisation, I might consider working elsewhere. (CC5)		.3787	.782
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives. (CC6)		.4868	.759
Normative Commitment	**.855**		
I do not feel any obligation to remain with my current employer.(r*) (NC1)		.5515	.846
Even if it were to my advantage, I do not feel it would be right to leave my organisation now (NC2)		.5898	.840
I would feel guilty if I left my organisation now. (NC3)		.6937	.819
This organisation deserves my loyalty. (NC4)		.6544	.827
I would not leave my organisation right now because I have a sense of obligation to the people in it. (NC5)		.7450	.810
I owe a great deal to my organisation. (NC6)		.6178	.834

r* reverse coded items

Appendix A7.12: Service Quality Reliability Diagnostics

Construct Items	Cronbach's Alpha (α)	Item-Total Correlation	Alpha if Item Deleted
Service Quality	**.897**		
I always explain to customers each and every step I take to answer their questions (SQ1)		.6064	.889
I can understand the specific needs of my customers. (SQ2)		.6002	.889
When I promise a customer that I will do something by a certain time, I do so. (SQ3)		.6805	.884
I perform the service right the first time.(SQ4)		.6042	.889
When problems occur, I give all my attention to solve them speedily. (SQ5)		.6594	.886
I give prompt service to my customers. (SQ6)		.6615	.885
I treat all customers courteously. (SQ7)		.6911	.884
I have the knowledge and ability to answer customers' questions. (SQ8)		.5303	.894
When a customer has a problem, I provide him/her with individual attention (SQ9)		.6461	.886
My behaviour instils confidence in my customers. (SQ10)		.7551	.879

Appendix A7.13: Job Satisfaction Reliability Diagnostics

Construct Items	Cronbach's Alpha (α)	Item-Total Correlation	Alpha if Item Deleted
Job Satisfaction	**.866**		
Overall, I feel I am satisfied with my job. (JS1)		.7644	n/a
I am generally satisfied with the kind of work I do on this job. (JS2)		.7644	n/a

Appendix A7.14 (a)
Exploratory Factor Analysis* Results of Supervision and Participation Constructs

Construct Items	Factor 1	Factor 2
My supervisor is approachable.	.798	
My supervisor helps make my job more pleasant.	.834	
My supervisor treats all the workers as his/her equal.	.840	
I am satisfied with the technical competence of my supervisor.	.818	
I am satisfied with my supervisor's ability to lead me.	.898	
I am satisfied with the way my supervisor helps me achieve my goals.	.851	
I can influence decisions of my superior regarding things in my job		.804
My superior asks my opinion when problem comes up.		.812
I feel it is easy to get job improvement ideas across to my superior.		.754

*Principal component with Varimax
*Cumulative percentage variance extracted 73.13%, both factors extracted with eigen value over 1
*KMO measure of sampling adequacy(.894), Approx. chi-square(2064.235), df(36), sig.(.000)

Appendix A7.14 (b)
Comparison of CFA Results: Fit Statistics relating to Supervision and Participation Constructs taken as One-factor and Two-factor Solution

Fit Measures	Recommended Criteria	One-factor solution	Two-factor solution
Absolute fit measures			
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.861	.975
Root Mean Square Error of Approximation (RMSEA)	0.05 to 0.08; Not Over 0.1	.169	.058
Likelihood-Ratio Chi-square statistic	p-value >0.05	.000	.003
Incremental Fit Measures			
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.859	.980
Normed Fit Index (NFI)	No absolute threshold, Recommended 0.9 or above	.890	.981
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.750	.940
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.900	.990
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above	.899	.989
Parsimonious Fit Measures			
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	10.735	2.138

Appendix A7.15: Rewards Confirmatory Factor Analysis Diagnostics

Construct Items (Construct Measured)	Avg. factor loading	Std .reg. estimate	P value (sig.)	Cronbach's Alpha	Construct Reliability	AVE
(Working Condition)	**.904**			**.89**	**.89**	**.82**
The working conditions are adequate to perform a good job. (WC1)		.923	.000			
I am satisfied with the working conditions at my work place (WC2)		.885	.000			
(Pay Satisfaction)	**.876**			**.91**	**.91**	**.77**
I am satisfied with the amount of pay I receive for the job I do. (P1)		.846	.000			
I am satisfied with my pay considering other organisations I know of.(P2)		.859	.000			
I feel I am paid fairly considering the work I do. (P3)		.922	.000			
(Satisfaction with Benefits)	**.835**			**.82**	**.82**	**.70**
I am satisfied with the fringe benefits package. (B1)		.871	.000			
The fringe benefits package is as good as other organisations offer. (B2)		.798	.000			
(Promotional Opportunities)	**.848**			**.84**	**.84**	**.72**
I feel that the promotion policy is good. (PR1)		.880	.000			
There is enough opportunity for advancement on my job. (PR2)		.815	.000			
(Extrinsic Exchange)	**.792**			**.84**	**.87**	**.64**
Good quality customer service considered for promotion in our org.(EE1)		.705	.000			
Good quality customer service considered for pay raise in our org.(EE2)		.907	.000			
If I improve my level of service I offer customers, I get a pay raise. (EE3)		.673	.000			
If I improve my level of service I offer customers, I get a promotion. (EE4)		.883	.000			
(Supervision)	**.833**			**.93**	**.93**	**.70**
My supervisor is approachable. (S1)		.831	.000			
My supervisor helps make my job more pleasant. (S2)		.871	.000			
My supervisor treats all the workers as his/her equal. (S3)		.850	.000			
I am satisfied with the technical competence of my supervisor. (S4)		.741	.000			
I am satisfied with my supervisor's ability to lead me. (S5)		.849	.000			
I satisfied am with the way my supervisor helps me achieve my goals. (S6)		.855	.000			
(Team Support)	**.706**			**.77**	**.81**	**.54**
My co-workers are helpful to me in getting my job done. (TS1)		.868	.000			
I am satisfied with the supportive attitude of my co-workers at work.(TS2)		.935	.000			

Construct Items (Construct Measured)	Avg. factor loading	Std .reg. estimate	P value (sig.)	Cronbach's Alpha	Construct Reliability	AVE
Everyone contributes to a team effort in serving customers. (TS3)		.541	.000			
My co-workers and I co-operate more often than we compete. (TS4)		.481	.000			
(Role Clarity)	**.728**			**.85**	**.85**	**.54**
Clear planned goals/objectives exist for my job. (RC1)		.631	.000			
I know exactly what is expected of me in my job. (RC2)		.825	.000			
I know how my performance is going to be evaluated. (RC3)		.769	.000			
I feel certain about the level of authority I have. (RC4)		.683	.000			
I know what my responsibilities are. (RC5)		.732	.000			
(Participation)	**.712**			**.76**	**.76**	**.52**
I can influence decisions of my superior regarding things in my job (PT1)		.611	.000			
My superior asks my opinion when problem comes up. (PT2)		.699	.000			
I feel it is easy to get job improvement ideas across to my superior. (PT3)		.825	.000			
(Skill Variety)	**.797**			**.76**	**.79**	**.65**
The job requires me to use a number of complex skills. (SV1)		.929	.000			
The job is not simple.(SV2)		.664	.000			
(Autonomy)	**.765**			**.80**	**.81**	**.60**
The job allows me to use personal initiative in carrying out the work.(AT1)		.741	.000			
The job gives me opportunity for freedom in how I do the work.(AT2)		.870	.000			
I have freedom to do what I want on my job to satisfy customers.(AT3)		.684	.000			
(Intrinsic Exchange)	**.780**			**.82**	**.83**	**.62**
Superior gives me feedback on how well I am performing on my job. (FD3)		.607	.000			
I am praised by my superior for providing good service to customers.(IE1)		.882	.000			
I receive recognition by superior for providing good service (IE2)		.852	.000			
(Training)	**.702**			**.73**	**.76**	**.54**
I receive induction training before coming in contact with customers.(TR1)		.387	.000			
I receive continued training to provide a good service. (TR2)		.873	.000			
I receive regular training to keep me updated for good service (TR3)		.845	.000			

Appendix A7.16: Commitment and Job Satisfaction Confirmatory Factor Analysis Diagnostics

Construct Items (Construct Measured)	Avg. loading	Std. reg. estimate	Pvalue (sig.)	Cronbach's Alpha	Construct Reliability	AVE
(Affective Commitment)	**.695**			**.82**	**.83**	**.50**
I would be happy to spend the rest of my career with this organisation. (AC1)		.703	.000			
I do not feel a strong sense of 'belonging' to my organisation (r) (AC3)		.656	.000			
I do not feel 'emotionally attached' to this organisation. (r) (AC4)		.738	.000			
I do not feel like 'part of the family' at my organisation (r) (AC5)		.778	.000			
This organisation has a great deal of personal meaning for me. (AC6)		.598	.000			
(Continuance Commitment)	**.587**			**.78**	**.77**	**.40**
Right now, staying with my organisation is a matter of necessity as much as desire(CC1)		.511	.000			
It would be very hard for me to leave my organisation right now, even if I wanted to (CC2)		.804	.000			
Too much in my life would be disrupted if I decided to leave my organisation now.(CC3)		.801	.000			
I feel that I have too few options to consider leaving this organisation.(CC4)		.616	.000			
If I had not already put so much of myself into this organisation, I might consider working elsewhere. (CC5)		.352	.000			
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives. (CC6)		.438	.000			
(Normative Commitment)	**.707**			**.86**	**.85**	**.51**
I do not feel any obligation to remain with my current employer.(r) (NC1)		.612	.000			
Even if it were to my advantage, I do not feel it would be right to leave my organisation now (NC2)		.643	.000			
I would feel guilty if I left my organisation now. (NC3)		.740	.000			
This organisation deserves my loyalty. (NC4)		.734	.000			
I would not leave my organisation right now because I have a sense of obligation to the people in it. (NC5)		.813	.000			
I owe a great deal to my organisation. (NC6)		.699	.000			
(Job Satisfaction)	**.878**			**.87**	**.87**	**.78**
Overall, I feel I am satisfied with my job. (JS1)		.963	.000			
I am generally satisfied with the kind of work I do on this job. (JS2)		.793	.000			

Appendix A7.17: Service Quality Confirmatory Factor Analysis Diagnostics

Construct Items (Construct Measured)	Avg. factor loading	Std.reg. estimate	Pvalue (sig.)	Cronbach's Alpha	Construct Reliability	AVE
(Service Quality)	**.678**			**.897**	**.896**	**.50**
I always explain to customers each and every step I take to answer their questions (SQ1)		.657	.000			
I can understand the specific needs of my customers. (SQ2)		.654	.000			
When I promise a customer that I will do something by a certain time, I do so. (SQ3)		.734	.000			
I perform the service right the first time. (SQ4)		.648	.000			
When problems occur, I give all my attention to solve them speedily. (SQ5)		.691	.000			
I give prompt service to my customers. (SQ6)		.695	.000			
I treat all customers courteously. (SQ7)		.728	.000			
I have the knowledge and ability to answer customers' questions. (SQ8)		.551	.000			
When a customer has a problem, I provide him/her with individual attention (SQ9)		.653	.000			
My behaviour instils confidence in my customers (SQ10).		.772	.000			

Appendix A7.18: Inter-Item Correlations

Working Conditions	WC1	WC2
WC1	1.000	
WC2	.8172	1.000

Pay Satisfaction	*Pay1*	*Pay2*	*Pay3*
Pay1	1.000		
Pay2	.7263	1.000	
Pay3	.7795	.7933	1.000

Benefit Satisfaction	B1	B2
B1	1.000	
B2	.6954	1.000

Promotional Opportunities	P1	P2
P1	1.000	
P2	.7178	1.000

Extrinsic Exchange	EE1	EE2	EE3	EE4
EE1	1.000			
EE2	.6397	1.000		
EE3	.3707	.6389	1.000	
EE4	.4897	.5345	.6835	1.000

Supervision	S1	S2	S3	S4	S5	S6
S1	1.000					
S2	.7819	1.000				
S3	.7275	.7455	1.000			
S4	.5860	.6103	.6547	1.000		
S5	.6905	.7099	.7099	.7754	1.000	
S6	.6478	.7309	.7037	.6802	.7964	1.000

Team Support	T1	T2	T3	T4
T1	1.000			
T2	.8188	1.000		
T3	.4429	.4943	1.000	
T4	.3830	.4474	.3327	1.0000

Role clarity	R1	R2	R3	R4	R5
R1	1.000				
R2	.6052	1.000			
R3	.4426	.6247	1.000		
R4	.3722	.4888	.5866	1.000	
R5	.4034	.6175	.5475	.5842	1.000

Participation	P1	P2	P3
P1	1.000		
P2	.4676	1.000	
P3	.4843	.5762	1.000

Skill Variety	SV1	SV2
SV1	1.000	
SV2	.6168	1.000

Autonomy	A1	A2	A3
A1	1.000		
A2	.6455	1.000	
A3	.4420	.6225	1.000

Intrinsic Exchange	IE1	IE2	IE3
IE1	1.000		
IE2	.5444	1.000	
IE3	.4624	.7624	1.000

Training	T1	T2	T3
T1	1.000		
T2	.3511	1.000	
T3	.2901	.7404	1.000

Job Satisfaction	JS1	JS2
JS1	1.000	
JS2	.7644	1.000

Affective Commitment	AC1	AC3	AC4	AC5	AC6
AC1	1.000				
AC3	.3900	1.000			
AC4	.4962	.5079	1.000		
AC5	.5006	.6027	.6200	1.000	
AC6	.4898	.3389	.4307	.3990	1.000

Continuance Commitment	CC1	CC2	CC3	CC4	CC5	CC6
CC1	1.000					
CC2	.4503	1.000				
CC3	.3649	.6581	1.000			
CC4	.3178	.4500	.5141	1.000		
CC5	.2177	.2335	.2499	.3752	1.000	
CC6	.2308	.3096	.3577	.5174	.3389	1.000

Normative Commitment	NC1	NC2	NC3	NC4	NC5	NC6
NC1	1.000					
NC2	.4106	1.000				
NC3	.4433	.5486	1.000			
NC4	.4284	.4350	.5431	1.000		
NC5	.4809	.5183	.6200	.5954	1.000	
NC6	.4091	.3830	.4888	.5239	.6018	1.000

Service Quality	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	SQ9	SQ10
SQ1	1.000									
SQ2	.4748	1.000								
SQ3	.4964	.5236	1.000							
SQ4	.3862	.5092	.4581	1.000						
SQ5	.4855	.4373	.5378	.4832	1.000					
SQ6	.4345	.3337	.5174	.4228	.5797	1.000				
SQ7	.5269	.4113	.5353	.3307	.4818	.6009	1.000			
SQ8	.2761	.4071	.3351	.4639	.3299	.3941	.4194	1.000		
SQ9	.4103	.3381	.4916	.3724	.4437	.4766	.5970	.3996	1.000	
SQ10	.4964	.4962	.5305	.5363	.5067	.5421	.5625	.5037	.6786	1.000

*All Correlations are significant at the .01 level (1-tailed)

Appendix A7.19: Correlation among Constructs

	Tr	Aut	SV	IE	Part	RC	TS	Sup	EE	Ben	Pay	WC	Prom	AC	CC	NC	SQ	JS
Tr	1.00	.268*	.209*	.430*	.322*	.450*	.413*	.415*	.380*	.171*	.210*	.316*	.329*	.388*	-.052	.349*	.372*	.455*
Aut	.268*	1.00	.323*	.235*	.320*	.214*	.261*	.151*	.286*	.223*	.204*	.381*	.308*	.438*	-.007	.360*	.195*	.521*
SV	.209*	.323*	1.00	.207*	.305*	.181*	.175*	.149*	.115"	-.025	.016*	.090	.152*	.285*	.031	.175*	.289*	.335*
IE	.430*	.235*	.207*	1.00	.411*	.324*	.281*	.441*	.224*	-.001	.095*	.262*	.231*	.320*	.046	.325*	.297*	.368*
Part	.322*	.320*	.305*	.411*	1.00	.378*	.204*	.494*	.141*	-.006	.080*	.197*	.144*	.340*	-.013	.151*	.348*	.298*
RC	.450*	.214*	.181*	.324	.378*	1.00	.374*	.354*	.248*	.172*	.219*	.315*	.171*	.377*	.027	.226*	.375*	.347*
TS	.413*	.261*	.175*	.281*	.204*	.374*	1.00	.401*	.217*	.103	.172*	.308*	.183*	.299*	-.015	.268*	.221*	.350*
Sup	.415*	.151*	.149*	.441*	.494*	.354*	.401*	1.00	.189*	.041	.108"	.234*	.234*	.299*	-.005	.225*	.265*	.266*
EE	.380*	.286*	.115"	.224*	.141*	.248*	.217*	.189*	1.00	.259*	.345*	.272*	.471*	.369*	.029	.339*	.134*	.379*
Ben	.171*	.223*	-.025	-.001	-.006	.172*	.103	.041	.259*	1.00	.444*	.249*	.328*	.248*	.031	.229*	-.008	.230*
Pay	.210*	.204*	.016	.095	.080	.219*	.172*	.108"	.345*	.444*	1.00	.360*	.318*	.191*	.108"	.250*	-.0013	.318*
WC	.316*	.381*	.090	.262*	.197*	.315*	.308*	.234*	.272*	.249*	.360*	1.00	.396*	.346*	.020	.342*	.005	.452*
Prom	.329*	.308*	.152*	.231*	.144*	.171*	.183*	.234*	.471*	.328*	.318*	.396*	1.00	.399*	.012	.424*	.035	.430*
AC	.388*	.438*	.285*	.320*	.340*	.377*	.299*	.299*	.369*	.248*	.191*	.346*	.399*	1.00	.002	.537*	.351*	.617*
CC	-.052	-.007	.031	.046	-.013	.027	-.015	-.005	.029	.031	.108"	.020	.012	.002	1.00	.128"	-.005	.042
NC	.349*	.360*	.175*	.325*	.151*	.226*	.268*	.225*	.339*	.229*	.250*	.342*	.424*	.537*	.128"	1.00	.177*	.569*
SQ	.372*	.195*	.289*	.297*	.348*	.375*	.221*	.265*	.134*	-.008	-.013	.005	.035	.351*	-.005	.177*	1.00	.282*
JS	.455*	.521*	.335*	.368*	.298*	.347*	.350*	.266*	.379*	.230*	.318*	.452*	.430*	.617*	.042	.569*	.282*	1.00

* Correlation significant at .01level (2-tailed)

" Correlation significant at .05 level (2-tailed)

** The following table on next page gives the name of the construct and the abbreviation used in the correlation matrix

Construct	Abbreviation Used
Training	Tr
Autonomy	Aut
Skill Variety	SV
Intrinsic Exchange	IE
Participation	Part
Role Clarity	RC
Team support	TS
Supervision	Sup
Extrinsic Exchange	EE
Benefits Satisfaction	Ben
Pay Satisfaction	Pay
Working Conditions	WC
Promotional Opp.	Prom
Affective Commitment	AC
Continuance Comm	CC
Normative Comm	NC
Service quality	SQ
Job Satisfaction	JS

Appendix A7.20: Descriptive Statistics

Construct Items (Definition of Construct)	Mean	Standard Deviation
Working Conditions	**3.446**	**.909**
(The extent to which the employees perceived their working conditions to be satisfactory and adequate to do a good job.)		
The working conditions are adequate to perform a good job.	3.501	.882
I am satisfied with the working conditions at my work place	3.390	.936
Pay Satisfaction	**2.714**	**1.098**
(Employee perceptions of satisfaction with the pay they received from the organisation for their work as well as satisfaction with pay compared to the amount paid in a similar organisation)		
I am satisfied with the amount of pay I receive for the job I do.	2.649	1.112
I am satisfied with my pay considering other organisations I know of.	2.772	1.102
I feel I am paid fairly considering the work I do.	2.722	1.081
Satisfaction with Benefits	**3.027**	**.949**
(Satisfaction perceived by frontline employees with the fringe benefits package offered by the organisation, as well as compared to what other similar organisations offer.)		
I am satisfied with the fringe benefits package.	3.032	.972
The fringe benefits package is as good as other organisations offer.	3.021	.926
Promotional Opportunities	**2.810**	**1.035**
(Employee perceptions of the advancement and career opportunities available in their jobs)		
I feel that the promotion policy is good.	2.763	1.038
There is enough opportunity for advancement on my job.	2.857	1.031
Extrinsic Exchange	**2.819**	**1.042**
(Employees' perceptions of the organisational policy of considering quality service for granting extrinsic rewards, and also whether they actually receive such rewards for delivering quality service.)		
Good quality customer service considered for promotion in our org.	3.140	1.052
Good quality customer service considered for pay raise in our org.	3.076	1.091
If I improve my level of service I offer customers, I get a pay raise.	2.684	1.069
If I improve my level of service I offer customers, I get a promotion.	2.374	.956
Supervision	**3.877**	**.887**
(The extent to which the employee perceives the supervisor to be considerate, and is satisfied with the supervisor)		
My supervisor is approachable.	4.155	.829
My supervisor helps make my job more pleasant.	3.839	.906

Appendix A7.20: Descriptive Statistics

Construct Items (Definition of Construct)	Mean	Standard Deviation
My supervisor treats all the workers as his/her equal.	3.789	.957
I am satisfied with the technical competence of my supervisor.	3.845	.888
I am satisfied with my supervisor's ability to lead me.	3.868	.865
I am satisfied with the way my supervisor helps me achieve my goals.	3.763	.876
Team Support	**3.842**	**.845**
(The extent to which frontline employees perceive co-workers to be supportive and helpful who co-operate with one another as a team in delivering quality service to the customers).		
My co-workers are helpful to me in getting my job done.	3.950	.785
I am satisfied with the supportive attitude of my co-workers at work.	3.967	.759
Everyone contributes to a team effort in serving customers.	3.468	1.079
My co-workers and I co-operate more often than we compete.	3.983	.758
Role Clarity	**3.812**	**.722**
(The degree to which employees perceive that required information is provided about how they are expected to perform their job)		
Clear planned goals/objectives exist for my job.	3.611	.827
I know exactly what is expected of me in my job.	3.848	.754
I know how my performance is going to be evaluated.	3.845	.740
I feel certain about the level of authority I have.	3.769	.708
I know what my responsibilities are.	3.985	.581
Participation	**3.396**	**.797**
(The degree to which employees perceive they were able to influence decisions about their job)		
I can influence decisions of my superior regarding things in my job	3.184	.795
My superior asks my opinion when problem comes up.	3.471	.823
I feel it is easy to get job improvement ideas across to my superior.	3.535	.772
Skill Variety	**3.679**	**.880**
(The extent to which the employees perceive that the job required a variety of skills and abilities, and was not simple and repetitive)		
The job requires me to use a number of complex skills.	3.598	.866
The job is not simple.	3.760	.894
Autonomy	**3.516**	**.945**

Appendix A7.20: Descriptive Statistics

Construct Items (Definition of Construct)	Mean	Standard Deviation
(Employee perceptions as regards the freedom and flexibility provided to them in terms of 'how' they service customers and 'what' they do in servicing them, and also as regards the personal initiative allowed to be exercised while performing their duties.)		
The job allows me to use personal initiative in carrying out the work.	3.494	.925
The job gives me opportunity for freedom in how I do the work.	3.944	1.004
I have freedom to do what I want on my job to satisfy customers.	3.111	.906
Intrinsic Exchange	**3.468**	**.862**
(Frontline employees' perceptions of the praise and recognition received by them from their immediate superior for good quality service)		
Superior gives me feedback on how well I am performing on my job.	3.743	.795
I am praised by my superior for providing good service to customers.	3.278	.884
I receive recognition by superior for providing good service	3.383	.908
Training	**3.573**	**.880**
(Frontline employees' perceptions as regards induction, and continuous and regular training received by them for providing quality service)		
I receive induction training before coming in contact with customers.	3.880	.758
I receive continued training to provide a good service.	3.448	.907
I receive regular training to keep me updated on any information required for good customer service.	3.392	.974
Affective Commitment	**3.158**	**1.006**
(The employee's emotional attachment to, identification with and involvement in the organisation.)		
I would be happy to spend the rest of my career with this organisation.	3.187	1.109
I do not feel a strong sense of 'belonging' to my organisation (r)	3.310	.943
I do not feel 'emotionally attached' to this organisation. (r)	3.061	1.044
I do not feel like 'part of the family' at my organisation (r)	3.331	1.021
This organisation has a great deal of personal meaning for me.	2.901	.914
Continuance Commitment	**2.996**	**1.056**
(The commitment based on the costs that the employee associates with leaving the organisation.)		
Right now, staying with my organisation is a matter of necessity as much as desire.	3.478	1.065
It would be very hard for me to leave my organisation right now, even if I wanted to.	3.114	1.121
Too much in my life would be disrupted if I decided to leave my organisation now.	3.129	1.184
I feel that I have too few options to consider leaving this organisation.	2.792	.988
If I had not already put so much of myself into this organisation, I might consider working elsewhere.	2.722	.972

Appendix A7.20: Descriptive Statistics

Construct Items (Definition of Construct)	Mean	Standard Deviation
One of the few negative consequences of leaving this organisation would be the scarcity of available alternatives.	2.739	1.007
Normative Commitment	**2.779**	**1.010**
(The employee's feelings of obligation to stay with the organisation.)		
I do not feel any obligation to remain with my current employer.(r)	2.933	1.021
Even if it were to my advantage, I do not feel it would be right to leave my organisation now	2.725	1.075
I would feel guilty if I left my organisation now.	2.459	1.059
This organisation deserves my loyalty.	2.959	.986
I would not leave my organisation right now because I have a sense of obligation to the people in it.	2.863	.985
I owe a great deal to my organisation.	2.734	.932
Job Satisfaction	**3.397**	**.933**
(Satisfaction perceived by the frontline employees with the overall job and also generally with the kind of work done on the job.)		
Overall, I feel I am satisfied with my job.	3.357	.960
I am generally satisfied with the kind of work I do on this job.	3.436	.906
Service Quality*	**4.030**	**.648**
I always explain to customers each and every step I take to answer their questions e.g why a call needs to be transferred (SQ1)	3.971	.672
I can understand the specific needs of my customers. (SQ2)	3.994	.588
When I promise a customer that I will do something by a certain time, I do so. (SQ3)	4.137	.707
I perform the service right the first time. (SQ4)	3.912	.635
When problems occur, I give all my attention to solve them speedily. (SQ5)	4.094	.629
I give prompt service to my customers. (SQ6)	3.983	.672
I treat all customers courteously. (SQ7)	4.155	.610
I have the knowledge and ability to answer customers' questions. (SQ8)	3.950	.672
When a customer has a problem, I provide him/her with individual attention (SQ9)	4.076	.636
My behaviour instils confidence in my customers. (SQ10)	4.029	.654

Assurance= (SQ1, SQ7, SQ8, SQ10)
Reliability= (SQ3, SQ4)
Responsiveness= (SQ5, SQ6)
Empathy= (SQ2, SQ9)

* The questions pertained to these four dimensions: reliability (dependability, accurate performance), responsiveness (promptness and helpfulness), assurance (competence, courtesy, credibility and security) and empathy (customer understanding).

Appendix A8.1: Service Quality Confirmatory Factor Analysis Diagnostics*

(Construct Measured)	Avg. factor loading	Std.reg. estimate	Pvalue (sig.)	Construct Reliability	AVE	Cronbach's Alpha
(Service Quality)	**.833**			**.90**	**.70**	**.897**
Assurance[a]		.869	.000			
Reliability[b]		.789	.000			
Responsiveness[c]		.800	.000			
Empathy[d]		.874	.000			

* Results based on Partial Aggregation Approach

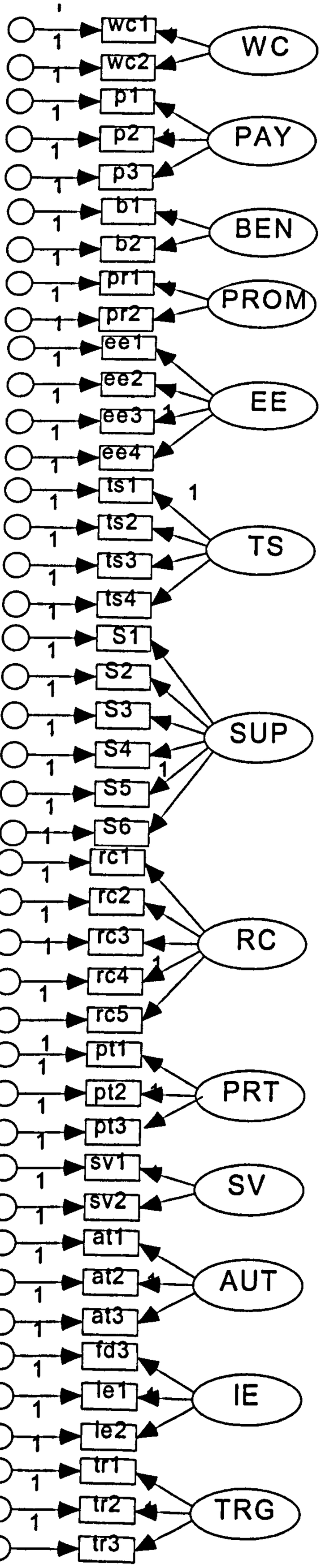
Construct Items
(Service Quality)
I always explain to customers each and every step I take to answer their questions (SQ1)
I can understand the specific needs of my customers. (SQ2)
When I promise a customer that I will do something by a certain time, I do so. (SQ3)
I perform the service right the first time. (SQ4)
When problems occur, I give all my attention to solve them speedily. (SQ5)
I give prompt service to my customers. (SQ6)
I treat all customers courteously. (SQ7)
I have the knowledge and ability to answer customers' questions. (SQ8)
When a customer has a problem, I provide him/her with individual attention (SQ9)
My behaviour instils confidence in my customers (SQ10).

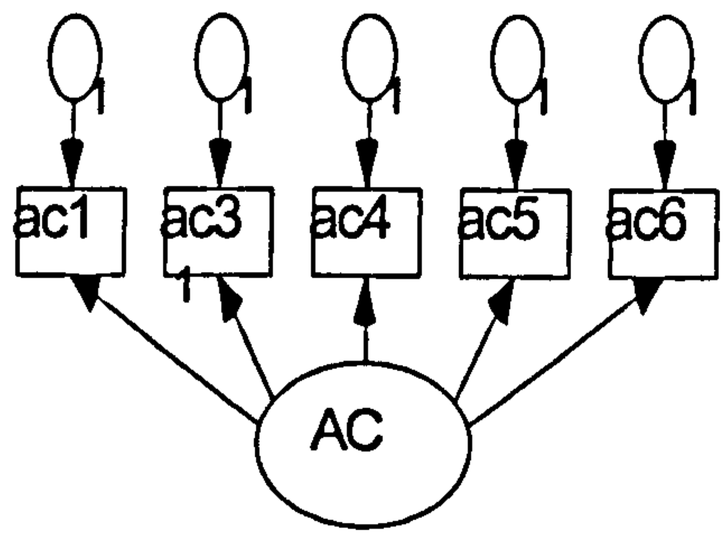
[a] Assurance= Avg. (SQ1+ SQ7+SQ8+SQ10)
[b] Reliability= Avg. (SQ3+SQ4)
[c] Responsiveness= Avg.(SQ5+SQ6)
[d] Empathy= Avg.(SQ2+SQ9)
Based on SERVQUAL dimensions

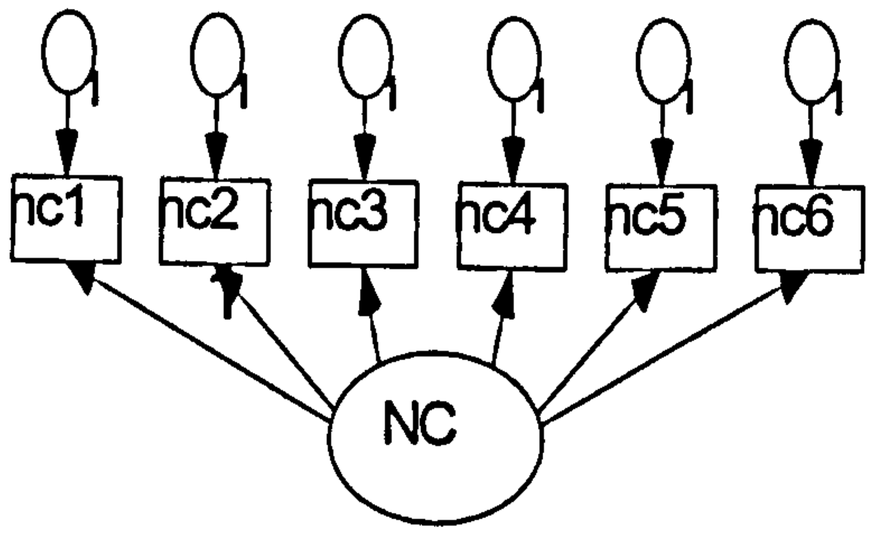
Appendix A8.2: Fit Statistics of Service Quality (Partial Aggregation Approach)

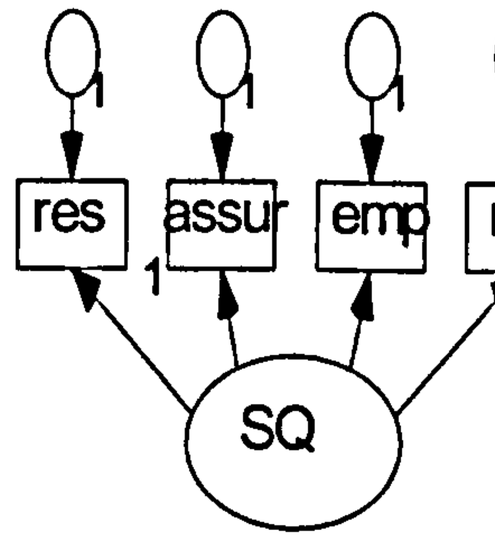
Fit Measures	Recommended Criteria	Service Quality CFA
Absolute fit measures		
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.997
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; Not over0.1	.055
Likelihood-Ratio Chi-square statistic	p-value >0.05	.153
Incremental Fit Measures		
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.992
Normed Fit Index (NFI)	No absolute threshold, Recommended 0.9 or above	.997
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.970
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.999
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above	.999
Parsimonious Fit Measures		
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	2.038

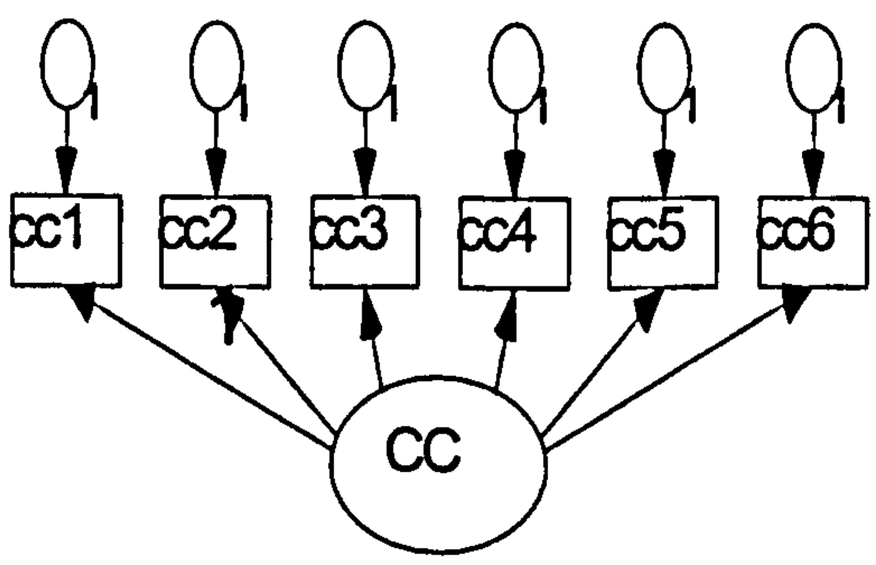
Appendix A8.3: Representation of Constructs in Structural Model











Appendix A8.4: Goodness-of-fit Measures
Criteria for Assessing Overall Model Fit

Fit Measures	Recommended Criteria
Absolute fit measures	
Goodness-of-fit Index (GFI)	No absolute threshold, Recommended 0.9 or above
Root mean Square Error of Approximation (RMSEA)	0.05 to 0.08; NotOver0.1
Likelihood-Ratio Chi-square statistic	p-value >0.05
Incremental Fit Measures	
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above
Normed Fit Index (NFI)	No absolute threshold, Recommended 0.9 or above
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above
Parsimonious Fit Measures	
Normed chi-square (CMIN/df)	Acceptable ratios 2-5, Not over 5

Explanation

1. GFI - GFI or Goodness-of-fit index is a non-statistical measure ranging in value from 0 to 1.0. It represents the overall degree of fit, but is not adjusted for the degrees of freedom. Higher values indicate better fit, but no absolute threshold levels for acceptability have been established.

2. RMSEA - Root Mean Square Error of Approximation is another measure that attempts to correct for the tendency of the chi-square statistic to reject any specified model with a sufficiently large sample. RMSEA values are representative of goodness-of-fit that could be expected if the model were estimated in the population, not just the sample drawn from the estimation. Values ranging from .05 to .08 are deemed acceptable.

3. Likelihood -Ratio Chi-Square Statistic - It is the most fundamental measure. Statistical significance levels indicate the probability that these differences are due solely to sampling variations. The researcher expects a non-significant value that represents non-significant differences between actual and predicted matrices. However, even the statistical non-significance does not guarantee that the 'correct' model is identified. The .05 significance level is recommended.

4. TLI - Tucker Lewis Index is also known as non-normed fit index. It combines a measure of parsimony into a comparative index, between the proposed and null models, resulting in values ranging from 0 to 1.0. Recommended value is .90 or above.

5. AGFI - The adjusted goodness-of-fit index is an extension of *the GFI, adjusted* by the ratios of degrees of freedom for the proposed model to the degrees of freedom for the null model. Recommended value is .90 or above.

6. IFI - Incremental Fit Indexrepresents comparisons between the estimated model and a null or independence model. The values lie between 0 and 1.0, recommended value being .90 or above.

7. CFI - Comparative fit index represents comparisons between the estimated model and a null model, like IFI. The values range from 0 to 1.0, with higher values indicating higher levels of goodness-of-fit. Recommended value is .90 or above.

8. Normed Chi-Square - This measure adjusts the chi-square for the degrees of freedom to assess model fit for various models. It is the ratio of chi-square divided by the degrees of freedom. This measure provides two ways to assess inappropriate models: (i) a model that may be 'overfitted', thereby capitalising on chance, typified by values less than 1.0; and (ii) models that are not yet truly representative of the observed data and thus, need improvement, having values greater than an upper threshold, either 2.0 or 3.0 or a more liberal value, 5.0.

Appendix A8.5: Results of Fit Statistics

Comparison of Proposed Model with other Competing Models

Fit Measures	Recommended Criteria	Proposed Model	COMP MODEL1	COMP MODEL2
Absolute fit measures				
Goodness-of-Fit Index (GFI)	No absolute threshold, Recommended 0.9 or above	.803	.796	.796
Root Mean Square Error of Approximation (RMSEA)	Acceptable 0.05 to 0.08; NotOver0.1	.040	.041	.041
Likelihood-Ratio Chi-square statistic	p-value >0.05	.000	.000	.000
Incremental Fit Measures				
Tucker Lewis Index (TLI)	No absolute threshold, Recommended 0.9 or above	.909	.903	.903
Adjusted Goodness-of-Fit Index (AGFI)	No absolute threshold, Recommended 0.9 or above	.771	.765	.765
Incremental Fit Index (IFI)	No absolute threshold, Recommended 0.9 or above	.921	.915	.915
Comparative Fit Index(CFI)	No absolute threshold, Recommended 0.9 or above	.919	.914	.913
Parsimonious Fit Measures				
Normed chi-square (CMIN/df)	Acceptable ratio 2-5, not over 5	1.54	1.569	1.570

Appendix A9.1

Regression Results of Intrinsic Rewards and Extrinsic Rewards on Service Quality

1. Intrinsic rewards

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.505	.255	.241	.8709966

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.857	6	14.476	19.082	.000
	Residual	254.143	335	.759		
	Total	341.000	341			

2. Extrinsic Rewards

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.329	.108	.089	.9104322

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.562	7	4.795	5.784	.000
	Residual	276.848	334	.829		
	Total	310.411	341			