

Service Loyalty Measurement : A Confirmatory Factor Analysis

Through Reliability Assessment

KEY-NOTES

- ✧ It has been an observation that long-term relationships with the customers enhances the profitability.
- ✧ The study of customer loyalty and business performance has been a focus in the customer relationship management.
- ✧ *SERVLOYAL* is conceptualized as an interaction of attitude and behaviour such that the behaviour (loyalty) is determined by the strength of relationship between relative attitude and repeat patronage.
- ✧ In the present study, the collected response were analysed for their scale properties through a confirmatory factor analysis (CFA) using a Structural Equation Modeling (SEM) package through Amos version 5.0.
- ✧ The present study is a real sample study to check the service loyalty, the needed one in the service marketing research.

In today's highly competitive environment, organizations should protect the long-term interest of the customers and hence should seek the ways through which the customer loyalty toward the organizations will be forged. Marketers opine that these long-term relationships with the customers would enhance their profitability (Dick and Basu, 1994; Garbarino and Johnson, 1999; Grossman, 1998), increased sales, lower costs and other tangible benefits (Terrill et al. 2000). The time has come for the firms to consider this customer loyalty as a source of competitive advantage (Bharatwaj et al. 1993). It has been established that the customers will not be impressed by only the core product attributes as other firms are also providing similar

offerings. The study of customer loyalty and business performance has been a focus in the customer relationship management (Reichheld and Sasser, 1990; Sheth and Parvatiyar, 1995). More than a dozen of articles have been published on customer loyalty in retail banking market (Beerli et al. 2002) alone as it has been recognized that many banks have introduced innovative products and service (Meiden 1986) and that it is less expensive to retain a customer than acquiring a new one. The longer the customer stays with an organisation, the more positive outcome he generates which include increase in the value of purchase, increase in the number of purchases and the customers' better understanding of Organisational and vice-versa and, more positive word-of-mouth (Trubick and Smith, 2000).

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Several contributions have been made in service marketing literature in measuring the service loyalty (SERVLOYAL). Significantly, factors such as service quality (Caruana, 2002), service satisfaction (Luarn and Lin 2003; Caruana, 2002), image (Mazursky and Jacoby, 1986; Murphy, 1996; Osman, 1993), values (Andreassean and Lindestad, 1998), commitment (Dwyer et al 1992; Morgan and Hunt, 1994) and trust (Luarn and Lin, 2003) are identified to have an impact on SERVLOYAL. Since service is peculiar that involves personal encounter and also has a bit of perceived risk in the consumption of the same (Crosby et al. 1990; Gultinan, 1989) the measurement of loyalty has become a subject for discussion from a radically different perspective from that of a product loyalty. The term loyalty has been defined as a degree of continuity in patronage (Meidan, 1996), customers' disposition in terms of preferences and intentions (Bloemer and Casper, 1995), and a psychological process resulting in brand commitment (Bloemer et al. 1998). Further, different measures of service loyalty have been utilized in different industries. While more number of articles on the measurement of servloyal is in extant for a retail banking service than for any other service sector, it was construed imperative by the authors to develop an all-encompassing measurement for servloyal in utilizing the various ingredients that would reflect the servloyal construct. Devoiding the technical nuances, endeavors have been made in this article to present ultimate scale developed for Servloyal

utilizing a confirmatory factor analysis (CFA) model.

1. CONCEPTUALISATION

SERVLOYAL is conceptualized as an interaction of attitude and behaviour (Dick and Basu, 1994) such that the behaviour (loyalty) is determined by the strength of relationship between relative attitude and repeat patronage. Extending this, the loyalty dimensions or concepts are to include behavioral, attitudinal and cognitive processes. The attitudinal dimensions of loyalty were to include attributes such as word-of-mouth, complaining behaviour and purchase intentions (De Ruyter et al. 1998). The behavioral loyalty measures include attributes such as brand allegiance, price elasticity, share of category (number of times a brand is purchased in a given period) and price until switching (Rundle-Thiel and Mackay, 2001). The cognitive loyalty component includes attributes like preference to the service organisation, the belief that the service organisation provides best offer and suiting customer needs (Harris and Goode, 2004). But it should be mentioned that the loyalty dimension is to also include factors such as commitment and trust attributes, even though the utility of these constructs by Luarn and Lin (2003) was meant to consider them as antecedents to loyalty rather than components of loyalty.

Based on the review of the aforesaid earlier studies, the authors identified the SERVLOYAL constructs into the following seven dimensions for scale construction process.

- i) Behavioral dimension
- ii) Attitudinal dimension

- iii) Cognitive dimension
- iv) Conative dimension
- v) Affective dimension
- vi) Trust dimension
- vii) Commitment dimension

2. METHOD

The scales developed by the previous researchers for the measurement of servloyal laid a strong foundation for evolving items for servloyal measurement for the present study. Additionally, the items required for each of the dimensions were also developed out of discussions with the doctoral fellows in the area of services marketing and also the discussion held with the bank executives across private, public and foreign sector banks located in the state of Tamil Nadu. In this way, a total number of 43 statements were developed and purified through substantiation in the literature. These 43 items were then further refined and the final list included 31 items. A content validity of the said items with 10 bank executives located in the city of Coimbatore was done. The executives were asked to check for the appropriateness of assigning these 31 items into a pre-set seven dimensions. Three statements were found inappropriate for inclusion in any of the dimensions by majority executives and were therefore eliminated from forming the scale. Hence a pool of 28 statements was finalized for inclusion in the final scale. The scale items were measured on a five-point scale ranging from “strongly agree (=1)” to “strongly disagree (=5)”. Four statements were reverse-coded. A total number of 175 customers in different banks that included private, public and foreign sectors were

contacted for their response. The collected response (n=137) were analysed for their scale properties through a confirmatory factor analysis using a Structural Equation Modeling (SEM) package through Amos version 5.0.

3. RESULTS

One major advancement in the assessment of psychometric properties in the scale development is through the application of confirmatory factor analysis (CFA), which is distinct from the conventional exploratory factor analysis (EFA). As a special case of Structural Equation Model (SEM), which is a statistical technique that combines multiple regression, factor analysis and path analysis, the CFA based on measurement model suggested by Joreskog (1969) is commonly used to examine the factor structure of latent variables. CFA analysis is based on the correlation matrix, means, standard deviations of each item.

The CFA is performed by utilizing software such as Lisrel (Linear Structural Relationships) or Amos (Analysis of Moment Structure) and is widely used by researcher in the developed nations for scale construction purposes. The logic of CFA is that given a set of variables (say, 28 items in the present study for seven-dimensions of behavioural, attitudinal, cognitive, co native, affective, trust and commitment), the model attempts to conform these dimensions. One major advantage of CFA over EFA is that CFA considers and eliminates the measurement errors in relating variables to the dimensions. To that extent, the results are reliable.

CFA RESULTS FOR SERVLOYAL SCALE

Dimensions	Coefficient Alpha	CFA Loadings	Residual	T-Value
Behavioural	.88			
a. I will transact with this bank again for future needs		.87	.24	23.13
b. I will try new services that are provided by this bank		.82	.33	21.61
c. I will recommend other people to patronize to this bank		.74	.45	20.69
d. I will say positive things to other people about the services provided at this bank		.77	.41	18.91
Attitudinal	.87			
a. I will continue to patronize this bank even if the service charges are increased moderately		.86	.26	17.23
b. I have strong preference to this bank		.91	.17	21.23
c. I will keep patronizing this bank regardless of everything being changed somewhat		.67	.55	13.57
d. I am likely to pay a little bit more for using the services of this bank.		.73	.47	22.14
Cognitive	.86			
a. To me, this bank would rank first among the other banks		.78	.39	20.73
b. I would patronize this bank for a long period of time		.83	.31	22.44
c. I will deal exclusively with this bank		.79	.38	21.79
d. I think of this bank as my bank		.67	.55	14.84
e. The bank I patronize reflect a lot about who I am		.61	.63	13.26
Conative	.87			
a. I have found this bank better than others		.87	.24	24.77
b. I always find the terms of this bank is inferior.		.82	.33	23.26
c. Repeatedly, the performance of this bank is superior to that of competitor's one		.81	.34	22.01
Affective	.89			
a. I dislike the bank terms		.72	.48	21.95
b. I like the performances and services of the bank		.85	.28	26.30
c. I have a negative attitude toward this bank		.83	.31	22.46
d. I am satisfied with my decision to stay with this bank		.86	.26	26.86
Trust	.90			
a. This bank is like a friend to me		.89	.21	26.49
b. The bank employees go out of way for me		.83	.31	22.91
c. The people in the bank respond caringly when I share my problems		.87	.24	25.98
d. The bank personnel are filled with professionalism and dedication		.76	.42	20.59
Commitment	.91			
a. I am very committed to this bank		.86	.26	27.09
b. Even when I hear negative information about this bank, I still stick with this bank		.84	.30	25.33
c. I like switching from one bank to another		.83	.31	23.90
d. My continued association with this bank is important to me		.85	.28	26.88
Goodness of Fit Statistics Chi-square 639.78 CFI .97 NFI .98 TLI .98 RMSEA .06				

a Loadings are nothing but correlations of each item to its respective construct. These are obtained using AMOS (version 5.0) software package.

b Errors are the residual component of each item to its construct.

c A *t*-value of greater than 1.65 is significant at .05 levels.

CFI=Comparative Fit Index; NFI=Normative Fit Index; TLI=Tucker-Lewis Index; and RMSEA=Root Mean Square Error Approximation.

Further, through CFA, we can reduce the number of variables attached to a construct. Moreover, unlike EFA, the results obtained through CFA can be statistically tested for validation, which is unique. While validity tests are also done through CFA analysis, the present study does not discuss the validity assessment of SERVLOYAL scale developed.

An initial analysis of the obtained data indicated that each item was distributed normally, since the skewness and kurtosis values did not violate the norms. After that, a Maximum Likelihood Estimation Method (MLE) for the parameter estimation was performed. An analysis of outliers was also done by examining the values of standardized residuals for each factor and was found that none of the factors crossed the recommended limit of 2.51 (Laroche et al. 2001).

As shown in Table, the confirmatory factor analysis of the data collected using Amos 5.0 software indicate interesting insights in establishing the reliability assessment of SERVLOYAL scale construction. The loadings indicated in column 3 of the table suggest that all the items taken for scale construction qualify to form into the scale developed. This is

due to the fact that the loadings are greater than .40 for all the items. The *t*-values associated with each item also signify the statistical relevance of inclusion of these items. The reliability assessment through coefficient alpha value for each construct is also well above the recommended level of conventional .70 (Nunnally and Bernstein, 1994) thereby suggesting a high internal consistency and reliability for each SERVLOYAL dimension. The fit indices for the measurement model also are good, with the exception of chi-square value, which is found significant (it is insisted here that the chi-square should be insignificant reflecting a close association between the observed and the estimated covariance matrix for the variables). Overall, the CFA results suggest that the scale possesses sound reliability.

4. CONCLUSION

The present study investigated the appropriateness of seven dimensions of servloyal scale for use in the service marketing literature. The CFA results suggested that the seven-dimensions model fit the data well. The reliability coefficient for each dimension was found to be high (greater than .80) in all the cases. Furthermore, the parameter estimates indicate that each item in the scale developed contributes greater variance to the model. However, the authors underscore that caution should be exercised before adapting the scale by researchers. That is, only the reliability aspect of servloyal scale has been assessed while it is of paramount importance that the scale should also possess a validity too, especially nomological,

discriminant and convergent validities. . . the service marketing research. It
As a pioneer one, the description . . . is the onus on future researchers to
present here simply betokens the need . . . take up this significant task.
for development of servloyal for use in . . .

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