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SERVICE QUALITY AND CUSTOMER SATISFACTION IN QUICK SERVICE RESTAURANTS (QSR'S) – A VALIDITY ANALYSIS

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Abstract:

Service industry plays significant role in the global business. The service quality has influential role in the failure & success of quick service restaurants. It is necessary for quick service restaurants to have a good understanding of customer's requirement. Various studies empirically reveal that quick service restaurants quality affects client satisfaction and profit. This research paper studies the validity of (CFFSERV scale) an extension of DINESERV in India for measuring constructs of service quality.

Keywords: Quick Service Restaurants**,** CFFSERV**,** DINESERV**,** Service Quality

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1. Introduction:

The quality was conceptualized in manufacturing sector in 80s. Quality has depth in tangible goods. Application of quality to intangible services was considered as a problem. Organizations have considered service quality as a strategic instrument for the betterment of business results (Mehta et al., 2000).

Industry experts believe that growth trend of the quick service food industry in our country is because of rising income, growth in number of working couples and the rising number of nuclear families. Due to the changing lifestyle of the Indians, quick service food businesses in India has grown multiple folds.

A lot of research has been conducted in the field of perceived service quality in quick service food operations (Stevens et al, 1995; Brady et. al, 2001 and Qin et. al, 2008). In case of Indian food services, few attempts have been made to measure service quality (Vanirajan 2012; Tripathi & Dave 2014). Since service quality in case of Indian Quick Service Restaurants is not studied in detail, this study test a scale for analyzing the same in Quick Service restaurants of North India.

Literature Review:

Service quality is an essential element for any service business. Lehtinen and Lehtinen (1982) outlined three dimensions (Physical, Corporate & Interaction quality) for the measurement of measuring quality of services. Service quality includes of corporate image, technical and functional quality as mentioned by Gronross (1984). Parasuraman, Zeithaml and Berry (1988) created an instrument called SERVQUAL to measure service quality.

Service quality evaluation in the fast food industry:

The SERVQUAL (Parasuraman *et al*., 1988) did not consider the restaurant industry in their study so Stevens et al. (1995) developed DINESERV, specific scale for restaurants. Various studies (John and Tyas, 1996; Kim *et al*., (2003, 2009), Qin and Prybutok, 2008; Vanniarajan, 2009; Markovic *et al*., 2010; Qin *et al*, 2010) have been conducted for calculating quality of services in the Quick Service Restaurants business. Tan, Oriade & Fallon (2014) developed a new scale (CFFSERV) for measuring quality of services in fast food restaurants' by modifying DINESERV scale. This new scale included twenty eight items across six dimensions: tangibles, cleanliness, food quality, responsiveness, reliability & assurance and empathy.

In Indian context:

Vanniarajan, T., Meharajan, T. (2012) used DINESERV scale for identification of the essential construct in the Indian restaurants. Researchers also measured the influence of

various items in each construct on the perceived quality of services. Vanniarajan (2009) gave six dimensions viz., Communication, Empathy, Food Quality, Price fairness, Relationship benefits and Tangibles.

Service quality and customer satisfaction:

Various old studies have stated that quality in service has a strong relationship with client satisfaction in field of Quick service restaurants (Stevens et al., 1995; Kim et al., 2009; Min and Min, 2011). Quick service restaurants service quality and client satisfaction with help of changed SERVPERF instrument was analyzed by Qin and Prybutok's (2008). Researcher incorporated recoverability as extra construct. Their results signified that customer satisfaction at the fast food restaurants were influenced by food quality and perceived value.

Objective of the Study:

The current paper is reexamining robustness of CFFSERV scale for QSR's in North India to see whether the structure of constructs are still intact or certain items are not meaningful in Indian context for measuring Perceived Service Quality.

2. Research Method:

This study focuses on investigating service quality of Quick Service restaurant in tier II and tier III cities of North India. The perceived service quality was measured from 32 restaurant features. The first 27 items were taken from the CFFSERV proposed by Tan et al. (2014). These attributes represent five dimensions: Assurance & Empathy, Tangibility, Food Quality, Reliability and Responsiveness. The remaining five attributes were selected from Oliver (1997) research represents customer satisfaction. The items in questionnaire were assessed employing a seven-point Likert sort scale, with anchors "strongly disagree" as one and "strongly agree" as seven.

Convenience sampling method was employed to gather data from customers of Quick Service restaurants (Multinational and Indian outlets). Total 666 questionnaires were filled from customers. The response rate was 66.6%. Data analysis is based on 606 questionnaires only because 60 inconsistent cases were removed from the total sample by using Mahalanobis distance statistics, as generated by AMOS.

3. Results and Analysis:

Multivariate analysis starts with examining normality. Normality means symmetric distribution of the individual variables in the study. The normal distribution range for both skewness and kurtosis is +2 to -2.

Table 1: Table showing Mean, Skewness and Kurtosis

	Sample Size	Min.	Max.	Mean	Std. Deviation	Skewness	Kurtosis
Tangibility	606	2.78	7.00	5.8521	.59390	-.757	1.028
Food Quality	606	2.42	7.00	5.8575	.69243	-1.032	1.063
Reliability	606	2.00	7.00	5.6922	.83355	-1.020	1.268
Responsiveness	606	2.20	5.60	4.6611	.65588	-.824	.683
Assurance & Empathy	606	1.80	7.00	5.2502	1.00274	-.649	.387
Customer Satisfaction	606	3.00	7.00	5.6383	.70248	-.139	-.387

Source – Primary Data

The tables 1 represent the values of skewness and kurtosis; are between -2 to +2 reflecting data is normally distributed (Camroon 2004, Kurtosis, 2012).

3.1 Confirmatory Factor Analysis (CFA):

Confirmatory Factor Analysis (CFA) application verifies "how well the items in variables represent a constructs".

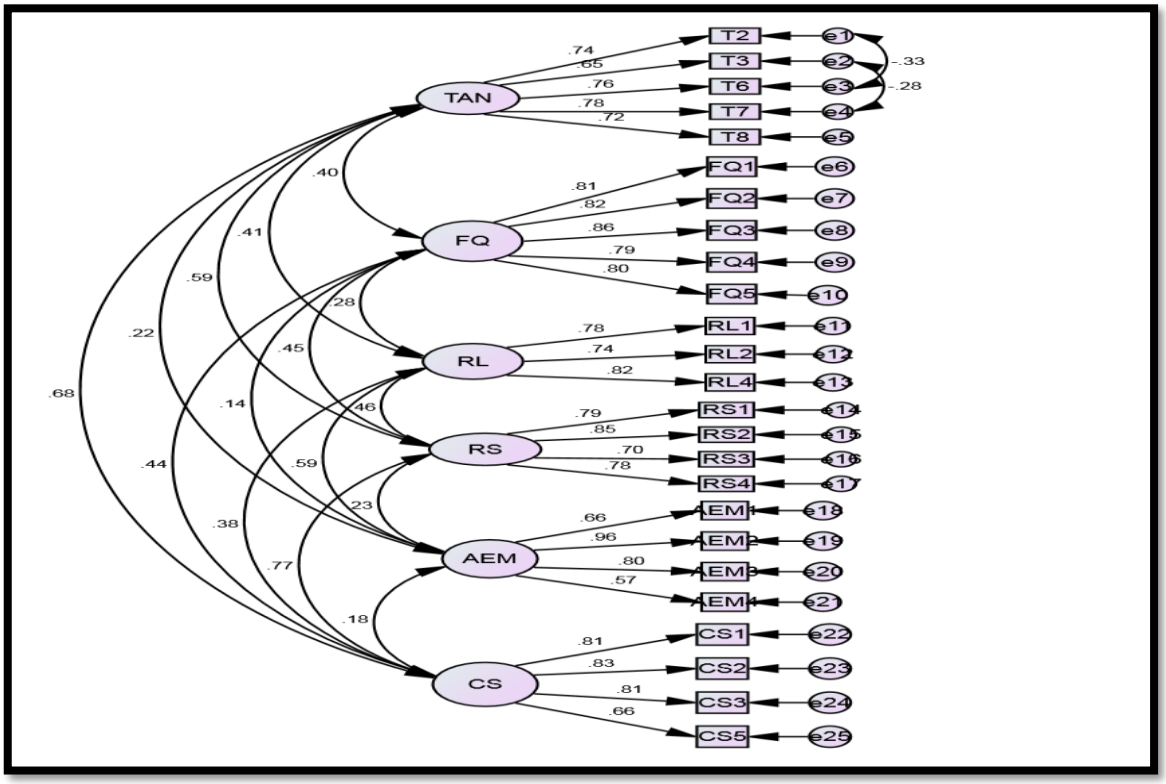

Figure: 1: First Order Measurement Model (using AMOS)

Determining Construct Reliability and Construct Validity:

Validity of the construct represents "extent to which the measured variables explain the latent factor".

(i) Convergent validity:

The Average Variance Explained (AVE) is the "mean of the variance explained by variables that converges to a specific latent factor". Table 1.2 shows that all constructs have AVE value greater than 0.50 which states that variables explained 50% variation to latent constructs. This proves convergent validity (Hair et al, 2009) The composite reliability is the "ratio of the average amount of variance explained with that of the total variance". Table 2 shows that constructs have Composite Reliability (CR) greater than acceptable value of 0.7 (Hair et al, 2009). This states that larger variance in the measured items is described with small amount of error variance by the latent constructs

Table 2: The Validity & Reliability indexes for First Order CFA measurement model in QSR's

Construct	Item	Factor Loadings	Composite Reliability (CR) (Above 0.7)	Average Variance Explained (AVE) (Above 0.5)
Responsiveness (RS)	RS1	0.788	0.861	0.608
	RS2	0.846		
	RS3	0.702		
	RS4	0.777		
Tangibility (TAN)	T1	deleted	0.851	0.534
	T2	0.742		
	T3	0.649		
	T4	deleted		
	T5	deleted		
	T6	0.761		
	T7	0.778		
	T8	0.718		
	T9	deleted		
Food Quality (FQ)	FQ1	0.805	0.908	0.664

	FQ2	0.823		
	FQ3	0.857		
	FQ4	0.794		
	FQ5	0.795		
Assurance & Empathy (AEM)	AEM1	0.664	0.844	0.583
	AEM2	0.963		
	AEM3	0.801		
	AEM4	0.569		
	AEM5	deleted		
Reliability (RL)	RL1	0.781	0.824	0.61
	RL2	deleted		
	RL2	0.738		
	RL4	0.821		
Customer Satisfaction (CS)	CS1	0.812	0.86	0.608
	CS2	0.827		
	CS3	0.81		
	CS4	deleted		
	CS5	0.658		

Source – Primary Data

(ii) Discriminant validity:

Discriminant validity is explains how one construct is different from other. The measurement model with more values of discriminant validity states each construct is different and unique as compared with other constructs in measurement model. Various constructs do not have higher degree of shared explained variance.

Table 3: Table indicating discriminant validity in QSR's

Construct	CR	AVE	ASV	MSV	RS	TAN	FQ	AEM	RL	CS
RS	0.861	0.608	0.281	0.585	**0.78**					
TAN	0.851	0.534	0.239	0.466	0.594	**0.731**				
FQ	0.908	0.664	0.131	0.206	0.454	0.401	**0.815**			
AEM	0.844	0.583	0.101	0.35	0.229	0.224	0.141	**0.764**		
RL	0.824	0.61	0.19	0.35	0.459	0.406	0.278	0.592	**0.781**	
CS	0.86	0.608	0.285	0.585	0.765	0.683	0.442	0.177	0.385	**0.78**

Source – Primary Data

In order to assess the Discriminant validity, we need to calculate Maximum Shared Variance (MSV) and Average Shared variance (ASV)

Maximum shared variance for a factor/construct is determined by squaring the highest of all coefficients of its correlation with all other constructs. Average shared variance for a construct is determined by squaring the average of all coefficients of its correlation with all other constructs. Table 3 shows that AVE value for all constructs are greater than ASV & MSV values. The AVE values are taken diagonally and the correlations values are placed below AVE. Above table states the AVE values for all constructs are greater than correlations both vertically and horizontally. Hence discriminant validity was established as per standards (Hair et al, 2009).

3.2 Model fit indices:

As per table 4, Incremental fit is measured by Comparative Fit Index (CFI) whose value is 0.90. Standardized Root Mean Residual (SRMR) & Root Mean Square Error Approximation (RMSEA), value is as per the acceptable norms. This indicates measurement model is good fit model. In order to achieve an acceptable model, as mentioned in Table 1.2 few items from some constructs had to be dropped.

Table 4: Table showing model fit indices in QSR's

Name of category	**Name of Index**	**Actual Values**	**Level of Acceptance**	**Literature**
Incremental Fit	CFI	**0.961**	CFI>0.90	Bentler (1990) and Awang (2012)
Absolute Fit	RMSEA	**0.046**	RMSEA<0.08	Browne and Cudeck (1993) Hair et al. (2010)
	CMIN	**2.265**	CMIN<3	Marsh and Hocevar (1985), Kline (2005), Hooper (2008) and Awang (2012),
	(S)RMR	**0.043**	SMR<0.08	Kline (2005) & Hooper (2008)

4. Conclusion

Our objective of study was to reexamine the robustness of CFFSERV for measuring Perceived Service Quality in QSR's of North India. The data analysis of this study confirms

that CFFSERV is a reliable instrument for measuring Quick Service Restaurant's service quality in North India. All fitness indices have achieved the required level of the reliability and validity for the constructs forming CFFSERV scale. The perceived service quality constructs such as food quality, assurance and empathy, tangibility, reliability, and responsiveness are used by customer to evaluate the service quality and customer satisfaction.

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