Service Quality Tradeoffs – A Strategy Model

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Abstract

Being concerned about the service quality tradeoffs between the sensitivity towards customer needs and the competence of the organization; hospitality industry is keen in finding the balance of service quality and the costs involved. The paper presents a framework towards service quality tradeoff and discussed distinguished parameters of this conundrum. The study finds out the measures to deal with variability of factors which influence the quality & efficiency of the organization and equilibrium of service quality and price associated with delivery of service. This helps to achieve a strategic fit between efficiency and responsiveness in the service tradeoffs.

Keywords: Tradeoffs, Service Quality, Variability, responsiveness, efficiency

Introduction

Hospitality industry has become an example of service quality implementation with given resources and at convincing cost subject to various conditions which influence the relationship between quality and efficiency. Earlier research has established definite indicators and has suggested a very weak link between efficiency and service quality where as in some studies across various service sectors have proved strong trade-off. Since the value and quality of service varies with the time customer spends with service provider service interaction requires longer service queue which has diminishing effects on the service quality as well as cost.

To find a solution to this situation, Frei F X (2006) has provided a matrix of Cost to Serve and the Quality of Service Experience. Services which fall above the diagonal of the matrix allow the firms to offer a high level of accommodation of guest choices at lower cost and lessen the inconsistency without harming the experience of service delivered. Service businesses struggle with a reality that is foreign to manufacturers: Customers "interfere" with their operations. To deliver consistent quality at sustainable cost, companies must learn to manage that involvement. This paper is an attempt to gauge the strategies to balance the cost with efficiency through interaction with hospitality practitioners.

Objectives

This is study is undertaken to know the tradeoffs between responsiveness towards customers and efficiency of the organization. Specific objectives are:

1. To understand the dimensions of quality and efficiency.

2. To analyze the role of customer variability in service quality.

3. To establish strategies to counter the service quality trade offs.

Discussion

Service is coproduced by provider and consumer due to inseparability of services, Gummesson (1991) found that service quality is often dependent upon the nature of customer involvement and its influence on staff behaviors. Marks &Mirvis (1981) have suggested that consumers influence the environment for service staff, their behavior and actions have contributory effects on the staff reactions. It establishes that the customer variability as important factor in delivery and quality of service. It requires specific strategies to counter or reduce the effects of this variability on service quality.

Quality Measurement: Perception of quality and satisfaction being the very individual, services provided are perceived within limited resources. The activities are planned to accurate, most perfect, latest, scientific or logical with personal attention. The definition of service quality through different dimensions are described by Parsuraman et al (1988) being Assurance, Empathy, Reliability, Responsiveness and tangibles. It evaluates quality in its partial aspects and contributes to overall perception of quality, though the stake holders in this sector have varied viewpoints and which are rational in its own capacity. Ovretveit (1992) has observed that hoteliers are conscious about efficiency and output whereas customers focus on quality of service and its value.Navarro-Espigares, Jose´ Luis (2011) have found that there is significant and positive relationship between customer satisfaction and recommendations.

Efficiency measurement: Donabedian, (1980) has acceptably discussed definition of quality as completed with dimensions of efficiency of Logical and Economical efficiency. Since Logical efficiency means use of information in decisions making, the Economic efficiency is the association of output to input costs and concerned with higher output from lower inputs. Though it is somewhat difficult to define efficiency, it is a relative term and constitutes aspects of quality and appropriate cost. It is defined in various words by stakeholders as 'the maximum possible output for a given input' which has variety such as productive, technical and social efficiency. Barber &Gonza´lez (1996) have found the absence of a definite and uniform decisive factor that considers the number and individuality of fruitful units and also doesn't have specific criterion about the variables as outputs or inputs. These at

large are defined by the definite and shortlisted variables that are being used in individual hotels for this study. The concerns of hoteliers about allocation of resources in various business situations to balance input and output, Bertsimas, Farias, and Trichakis (2012) points out that it requires building structures for decision making in such situations and effective calibration of it. Hoteliers should establish system of rational decision making, support system and optimization tools to implement the taken decisions regarding resource allocation. Studies in this regard have specifically emphasized on finding the equilibrium for resources as inputs and the sales figures as output.

As defined by Juran (1974) the cost of quality is 'the sum of all costs that would disappear if when there were no quality problems' and as per Hagen (1968) which means that the cost of quality is the difference between actual cost of delivering service and what the cost could be if everyone performed optimum to satisfy the customer needs. This implies that if the cost of quality is reduced by half, profit may be increased by 100%. Feigenbaum (1943) has affirmed that the costs of quality may be divided into four broader categories – appraisal cost; prevention cost; internal failure cost; and external failure cost and classification is frequently used in industries. This is substantiated by British Standards Institute, (1990) in BS 6143 Part 2. However, these four kinds of costs are not independent from each other and practice in business world confirms the trade-off between these costs.Earlier studies by Harrington (1987),Feigenbaum (1991), Gryna (1999), and Zhao (2000) have recognized that increased prevention and appraisal costs reduces the internal and external failure costs whereas quality increases and productivity improves.

Since there exists the trade-off relationship, improvement in quality increases the cost of quality at the beginning and later it goes down. However finding the exact level or optimal point or balanced point is not an easy task and ignoring the trade-off does not achieve the expected results. Though there are certain approximate proportions proposed by Juran and Gryna (1970) such as the most advantageous proportions. In general, 0.5–5% for prevention cost, 10–50% for appraisal cost and 25–40% for internal failure cost and 20–40% for external failure cost. Research undertaken by Feigenbaum (1983) has modified it to 5–10% for prevention cost, 20–25% for appraisal Cost, 65–70% for internal and external failure cost. Since these are not consistent so far and study of this trade-off relationship has become very essential for hotel industry in India.

Kalwani&Yim (1992) have mentioned that Price being the basic variable of marketing mix has been studied very frequently and individually and as per Zeithaml (1988) it is

found that price and quality together determine value for consumer and have major role in customer satisfaction. It is observed that some researchers have successfully tried to find out relationship between quality and economic gains. Capons, Farley &Hoenig (1990) have identified empirical evidences from over twenty studies that there exists a positive relationship between revenue and quality. This findings are further supported by Rust, Zahorik and Keiningham (1995) with a statement that there is a positive influence of service quality and customer satisfaction on customer retention and profits.

Service quality: gap model and customer variability.
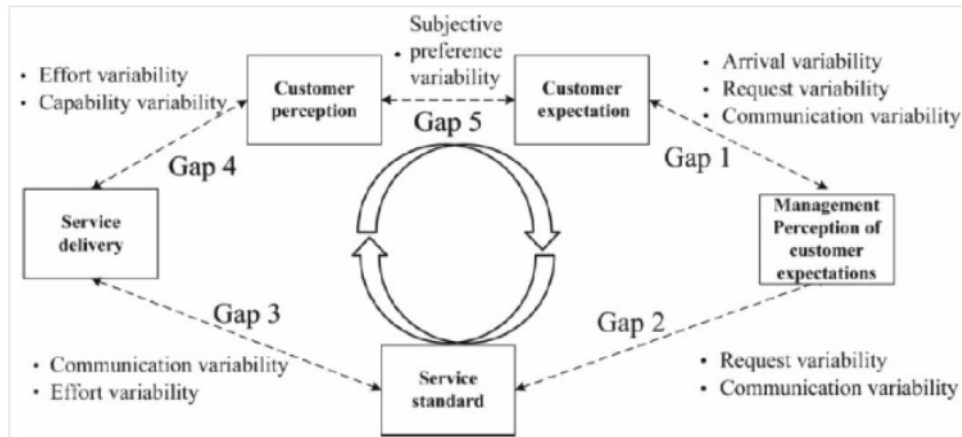
Influence of customer variability on service quality: by Fitzsimmons and Fitzsimmons (2008).

Service quality gap model devised by Parasuraman (1985) and Parasuraman et al (1985) describes the latent gaps in the production and consumption of services as Understanding gap, Design gap, Service delivery gap, Communication gap, Expectation–perception gap.

Presence of these gaps in service delivery would result in the negative evaluation of service quality and as per Yang (2006) elimination or reduction of these gaps may improve the perception of customer.

Customer variability plays very significant role in this gaps and are listed by Yang (2011) as-

Gap 1 - it may be result of communication and request variability as it becomes difficult to estimate customer expectations.

Gap 2 - result of communication and request variability as designing of parameters for service quality becomes difficult.

Gap 3 – caused due to effort and communication variability in delivering services as per standards.

Gap 4 – is caused by effort variability and the capability variability on management part.

Gap 5 – is a resultant of subjective preference variability which has direct influence on customer perception.

Measures to control customer variability:

The variability is observed due the seasonal characteristic of hotel business on weekdays to weekends and off season to peak seasons and unpredictable supply-demand scenario. The service providers struggle with this conundrum as limited resources available. Very few researchers have addressed this issue. The most significant and practical analysis of the five variability is done by Frei (2006) who has proposed measures to control the customer oriented variability.

Overcoming the Trade-Off: by Frei Frances
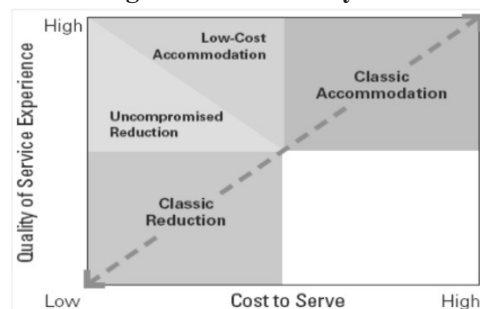
The variability viz. request variability, arrival variability, capability variability, subjective preference variability and effort variability have been addressed by four strategies such as

a. Classic accommodation – eg. Extra staff at peak hours.

b. Classic reduction – eg. Offering discounted services at off seasons.

c. Low cost accommodation – eg. Outsourcing supplementary services.

d. Uncompromised reduction – eg. Creating complimentary demand to ease arrivals.

The first two strategies are frequently used by hoteliers whereas the other two are innovative and are suggested to improve service quality at the same time reducing the cost. The Communication variability is managed by certain strategies which range from staff training for improved communication to service manuals.

This paper presents a descriptive study with questionnaire survey method through multilayered convenience sampling method and appropriate sample size on five point Likert scale. Data collected is treated with required statistical tools using IBM SPSS factor analysis and IBM Amos for confirmatory factor analysis. A pretested specific questionnaire has been prepared for recording the opinions of hotel staff members regarding the service quality tradeoffs. Since the service oriented industries have various operational issues about customer e is always a conflict between variability accommodative practices and variability reducing practices since both the approaches have direct influence on service quality and profit. The questionnaire is prepared with the help of earlier study of Yang CC (2011) with modifications and restricting the factors to maximum of 44 critical measures to record effectiveness of these strategies.

Data Analysis:

Reliability Statistics

Cronbach's Alpha	N of Items
.834	44

Data is collected from respondents and 266 valid response are tested with statistical tools.

Cronbach's Alpha test of reliability is carried out and the data is found to be reliable with score of 0.834 ie. 83%.

KMO and Bartlett's test of data adequacy is carried out and the data is found adequate with score of 0.645 ie. 65%., which indicates to carry out factor analysis for dimension reduction.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.645
Bartlett's Test of Sphericity	Approx. Chi-Square	3653.393
	df	946
	Sig.	.000

The factor analysis is carried out to eliminate the insignificant variables. A Principal component extraction method is used with maximum twenty-five iterations. Fifteen components extracted

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.282	14.277	14.277	6.282	14.277	14.277
2	2.441	5.549	19.826	2.441	5.549	19.826
3	2.245	5.102	24.928	2.245	5.102	24.928
4	2.106	4.785	29.713	2.106	4.785	29.713
5	1.930	4.387	34.100	1.930	4.387	34.100
6	1.783	4.053	38.154	1.783	4.053	38.154
7	1.713	3.893	42.047	1.713	3.893	42.047
8	1.644	3.736	45.783	1.644	3.736	45.783
9	1.536	3.491	49.274	1.536	3.491	49.274
10	1.445	3.283	52.557	1.445	3.283	52.557
11	1.301	2.958	55.515	1.301	2.958	55.515
12	1.270	2.886	58.401	1.270	2.886	58.401
13	1 223	2 779	61 181	1 223	2 779	61 181

	.	.	.	.	.	.
14	1.171	2.662	63.843	1.171	2.662	63.843
15	1.061	2.411	66.253	1.061	2.411	66.253
16	.996	2.264	68.518			
17	.947	2.153	70.671			
18	.910	2.069	72.739			
19	.884	2.008	74.748			
20	.846	1.923	76.671			
21	.763	1.734	78.404			
22	.684	1.554	79.958			
23	.669	1.520	81.478			
24	.637	1.448	82.925			
25	.581	1.320	84.246			
26	.567	1.288	85.534			
27	.548	1.244	86.778			
28	.535	1.217	87.995			
29	.493	1.120	89.114			
30	.470	1.069	90.183			
31	.457	1.039	91.222			
32	.428	.973	92.195			
33	.417	.948	93.143			
34	.368	.837	93.980			
35	.361	.821	94.801			
36	.349	.792	95.593			
37	.333	.757	96.350			
38	.296	.672	97.022			
39	.284	.645	97.667			
40	.249	.567	98.234			
41	.230	.523	98.757			
42	.212	.482	99.239			
43	.197	.447	99.686			
44	.138	.314	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CA_1	.257	-.304	.112	-.396	.194	.017	.031	-.154	-.166	-.070	-.050	-.223	-.339	.169	.324
CR_1	.304	.269	.390	.116	.234	.021	-.106	.161	-.121	.082	.016	.279	-.083	.246	-.281
LC_1	.315	.028	-.271	.116	.205	-.421	-.120	-.088	.335	-.312	-.073	-.015	.127	-.109	.021
LC_2	.031	-.216	.462	.127	-.191	.342	-.278	.032	.211	.209	.131	-.051	.099	-.151	.020
LC_3	.313	-.117	.104	.213	-.015	.355	.030	.298	.073	-.290	-.461	.163	-.045	.038	.168
CR_2	.452	-.273	.071	-.141	.302	-.023	-.351	.001	.081	.074	-.087	-.251	.075	.020	.093
UR_1	.489	.087	.352	-.054	-.219	-.031	-.152	.063	-.264	-.076	.015	.243	.292	.004	-.065
CR_3	.675	-.053	.293	.085	-.019	-.047	.088	-.135	-.070	-.047	.002	.086	-.062	-.037	.055
CA_2	.402	.197	-.086	-.008	-.198	.144	.081	.091	.157	-.082	-.518	.108	.104	.276	.161

CA_3	.260	.332	.190	.376	.161	.013	-.125	-.047	-.243	-.030	-.043	-.018	.036	-.281	.144
UR_2	.446	-.204	.151	-.142	.130	.039	-.490	.154	.016	.025	-.014	-.134	-.126	-.062	-.032
CR_4	.292	.426	.123	-.168	-.078	-.271	-.180	.259	.081	-.164	.016	.176	-.252	.109	.235
CR_5	.282	.135	.010	-.150	-.059	.527	-.085	-.208	.208	.002	.283	-.014	.110	.091	.144
LC_4	.387	.286	-.078	.193	.446	.154	.095	.044	.070	.023	.058	-.335	-.075	.068	.003
LC_5	.275	.431	-.040	-.328	.078	-.077	-.051	-.353	.019	-.137	-.021	.199	.179	.271	.077
LC_6	.251	.379	-.042	-.057	.335	.423	.158	.127	.167	.057	.046	-.044	-.125	-.212	-.155
CR_6	-.245	.211	-.246	.482	.031	-.079	-.203	.136	.228	.214	.110	-.092	.069	.309	.113
CR_7	.393	.329	-.151	.010	-.236	.038	-.047	-.150	.095	-.146	.028	.002	-.017	-.378	-.113
CA_4	.396	-.152	-.059	.167	.511	.136	-.072	-.142	.020	.198	-.096	-.039	.097	.229	-.202
CA_5	.491	-.256	-.009	.098	.070	.044	-.029	-.429	-.284	-.161	-.093	.104	.069	-.124	-.090
UR_3	.326	-.167	.055	.109	-.292	.334	.025	-.241	-.126	-.092	.273	.046	-.362	.264	.014
UR_4	.241	-.412	-.105	.274	.042	-.156	.234	-.118	-.058	-.307	.078	-.067	.039	.034	-.204
LC_7	.540	.115	-.078	-.346	-.221	-.235	-.097	.078	.104	.100	-.037	.082	-.065	.149	-.364
LC_8	.033	.130	.248	.332	.046	-.054	.033	-.234	.219	.348	-.056	.321	-.172	-.285	.132
CR_8	.418	.141	.036	.080	-.234	.173	.058	.470	-.215	-.036	.162	-.236	-.029	-.059	-.229
CR_9	.267	-.132	.420	.272	-.019	-.042	.161	-.387	.150	.146	-.296	-.024	.073	.084	-.138
CA_6	.234	.039	.199	-.421	.236	.172	.184	.199	.303	-.283	-.049	-.097	.118	-.298	.043
CA_7	.493	-.045	-.189	.073	-.375	.130	-.176	-.041	.233	.281	-.041	-.044	.198	-.033	-.064
LC_9	.318	-.006	.213	-.058	.062	-.290	.407	.162	-.152	.208	-.259	-.199	-.226	-.080	-.065
UR_5	.314	-.017	-.501	.145	.203	.235	.379	.109	-.054	-.028	.013	.166	.329	.032	.080
LC_10	.473	-.113	-.391	-.030	.114	.024	-.128	.178	-.292	.274	.040	.043	.050	.100	.055
CR_10	.274	-.188	.376	-.186	-.175	-.037	.342	.042	.057	.017	.224	-.243	.444	.171	.156
CA_8	.405	-.112	-.252	.303	-.317	.019	.208	-.063	.148	-.256	.142	-.070	-.259	-.009	-.078
CA_9	.532	-.288	.150	.020	-.060	-.185	.112	.104	.378	.131	.016	-.062	-.103	.067	.024
CR_11	.439	.268	.047	.013	.169	-.289	-.298	-.229	-.136	-.186	.228	-.194	.169	-.083	-.011
LC_11	.422	.295	-.153	-.266	.058	.149	.216	-.255	.115	.032	.099	.056	-.228	.075	-.186
UR_6	.420	-.204	.015	.328	.042	.052	-.167	.329	-.249	-.279	.084	.153	.018	.027	.020
UR_7	.403	.087	-.166	-.306	-.329	-.018	.124	-.008	-.285	.272	-.175	-.087	.167	-.172	.020
LC_12	.386	-.137	-.269	-.065	.176	-.035	.141	.003	-.236	.406	.040	.171	-.045	-.179	.161
LC_13	.256	-.081	.186	-.044	.194	-.320	.268	.281	.231	.112	.344	.304	.084	.047	-.082
LC_14	.360	.329	-.205	.113	-.249	-.100	-.151	-.030	-.037	.131	-.138	-.282	-.096	.055	.068
CA_10	.408	-.297	-.216	-.181	.035	-.002	-.074	.017	.074	.058	.215	.354	-.111	-.129	.284
CR_12	.231	.433	.263	.336	-.066	-.144	.323	-.031	-.146	.045	.200	-.158	.026	.068	.359
UR_8	.558	-.238	-.247	.181	-.163	-.235	-.065	.061	.238	.012	.017	-.066	-.042	-.088	.089

Extraction Method: Principal Component Analysis.

a. 15 components extracted.

On the basis of higher eigen values following variables were considered as most important dimensions. Total seventeen factors were considered

Variable	Eigen Value	Variable	Eigen Value	Variable	Eigen Value	Variable	Eigen Value
CA_4	.511	CR_10	.444	LC_10	.473	UR_1	.489
CA_5	.491	CR_2	.452	LC_2	.462	UR_2	.446
CA_7	.493	CR_3	.675	LC_4	.446	UR_8	.558
CA_9	.532	CR_5	.527	LC_7	.540		
		CR_6	.482				
		CR_8	.470				

Since, the iterations were very less/ negligible and further to confirm the factors with structural equation modeling, a confirmatory factor analysis with IBM AMOSS is carried out.

A Structural Equation Modeling – Applied CFA and confirmed thirteen main attributes and are classified in four categories given by freifrances" Frei's model of overcoming the trade-off. That is Classic reduction, Low cost accommodation, Classic accommodation and Uncompromised reduction.
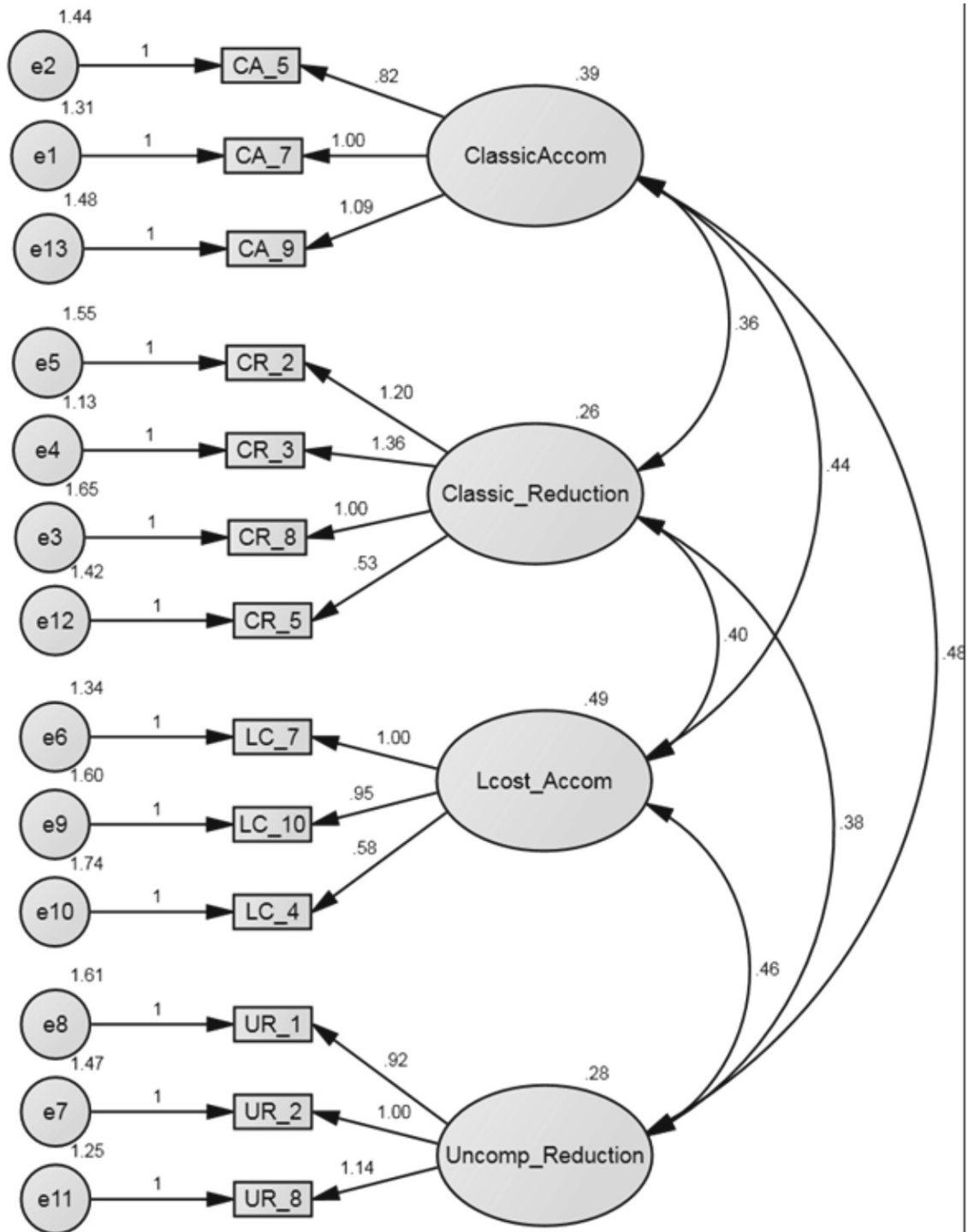
The CFA diagram with scores/ weights represents that the four basic parameters are showing very weak correlations, the scores are very less. This indicates that these four parameters are exclusively independent.

Model Fit Indicators

1. The chi-square score is adequate wherein CMIN/DF is 2.183wihich is very close to 2.0

2. GFI score is 0.932 which is very close to the expected score – 1.0

3. The RMSEA value is 0.067, it is expected to be equal or less than 0.5. the RMSEA value of 0.67 is close to 0.5 and is tolerable.

4. The P-Close value is expected to be less than 0.5, the calculated P-Close value is 0.4 which indicates a good fit

The overall indicators of model acceptable and represents a good fit.

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	32	128.787	59	.000	**2.183**
Saturated model	91	.000	0		
Independence model	13	598.556	78	.000	7.674

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.104	**.932**	.896	.605
Saturated model	.000	1.000		
Independence model	.373	.620	.557	.532

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.785	.716	.871	.823	.866
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.756	.594	.655
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	69.787	40.810	106.507
Saturated model	.000	.000	.000
Independence model	520.556	446.437	602.151

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.486	.263	.154	.402
Saturated model	.000	.000	.000	.000
Independence model	2.259	1.964	1.685	2.272

RMSEA

| Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	**.067**	.051	.083	**.040**
Independence model	.159	.147	.171	.000

Interpretations:

In the competitive hospitality world, it has been always a difficult task to find out the balance between escalating costs and service quality. This study has gathered the opinions from various strata of professionals from leading hotels and has reached to certain specific strategies that may adopted by hotels for overcoming the trade-off.

The factor analysis and confirmatory factor analysis helped to understand the most significant strategies under four different categories that would help reduce customer variability. It has yielded thirteen most significant factors as below.
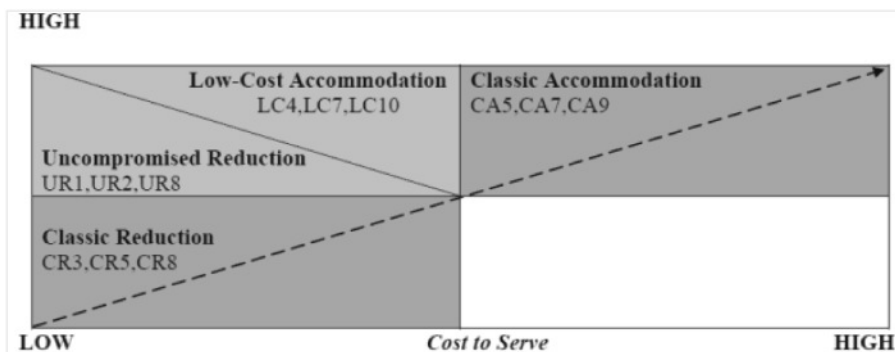
Low-Cost Accommodation:

a)   LC4: Automate services with technology.

b)   LC7: Design services with improved customer participation in service.

c)   LC10: Create self-service options that require no special skills.

Classic Accommodation:

d)   CA5: Train employees in communication skills.

e)   CA7: Anticipate customer requirements and be proactive.

f)   CA9: Show eagerness to serve and do work for customers.

Classic Reduction:

g)   CR3: Limit service availability to particular customers.

h)   CR5: Persuade customers to compromise their requests.

i)   CR8: Require customers to increase their level of capability before they use the service.

Uncompromised Reduction:

j)   UR1: Create complementary demand to smooth arrivals without requiring customers to change their behavior.

k)   UR2: Segment customers on basis of their requests.

l)   UR8: Use a normative approach to get customers to increase their effort.

The most trusted and traditional approach of Classic Accommodation may be implemented successfully by adopting a strategy to provide the frontline employees with better training and improved communication skills to handle varied customers requests. It also necessitates the eagerness to serve which should be evident by some actions that may be imbibed as basic character of employees. It also suggests predicting or anticipating the customer needs and initiating the services without being asked for. This requires experience and eye for details amongst the servers. Another traditional approach is of Classic Reduction whereby hoteliers have favored discounting the prices at off-peak time to sell maximum inventory for improved bottom-line as well as limiting services to segments of customers at given price band to reduce arrival variability. At some point of time it is also required to persuade customers to compromise their requests with a gentle request and diplomatically. Most common example of this strategy is no frill apartments or economy rooms. The other modern approach is Low Cost Accommodation with specific strategies using latest hotel technology providing service through automation mode which may include express check-ins, installation of vending machines and use of POS at, hand held devises. It reduces the service cost significantly without compromising the quality. Hoteliers should also prepare SOPs which have maximum scope for self service by designating services with improved customer participation in coproduction of services viz., buffet service at peak breakfast time, mini bar in guest room, online room reservation. The self service can be encouraged by creating options in those services which does not require specific skills such as providing tea-coffee making facilities in the guest rooms. These strategies would act as win-win for hotels and guests. The unorthodox and complex approach used by hoteliers is Un-compromised Reduction. It requires customer skills and acumen in service for reducing arrival variability by creating complementary demand for facilities to smoothen arrivals without requiring customers to change their behavior. It reduces the burden on frontline staff and helps in retaining service quality. In larger context, the customers may be segmented on basis of their requests and focus the

services as per specific needs. It also suggests using a normative approach to get customers to increase their effort in selection and delivery of service. This helps in designing tailor-made services with clear focus on maximum satisfaction.

These approaches in turn would result in reducing customer variability in different stages and ultimately reduce the service quality gaps.

Conclusion

The service tradeoff model suggested by Frei Frances and the factors extracted and categorized in this paper can be pivoted on efficiency Vs responsiveness scale. It is very clear that the variability in the services increases the responsiveness while reducing the variability is to achieve the efficiency. It is a segment, service business type and the stars earned in hospitality industry to decide the scope on extracted factors to achieve their strategic fit between efficiency and responsiveness.

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