

Service Fairness Scale: Development, Validation, and Structure

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Abstract

Service fairness lacks a clear dimensionality and there remains uncertainty about the structural relationship among dimensions within this construct. A comprehensive measurement model of service fairness in the context of consumer-retailer is developed in this study. We make a theoretical justification of the five dimensions which composes this construct and its factor structure. According to the systematic approach, we obtain five reliable and valid subscales of service fairness and also confirm service fairness is a three-order structural model.

Keywords: factor structure, measurement, scale, service fairness

1. Introduction

Following the principles of relationship marketing, many service providers treat customers differently based on their profitability (Mayser & von Wangenheim, 2013). It produces many fairness problems. Although the concept of fairness has received great attention in consumer behavior research lately (Nguyen & Klaus, 2013), extant research on fairness adopts many dimensions whose definitions and measures vary (Blader & Tyler, 2003). Thus, these fairness studies lack comparability (Darke & Dahl, 2003; Clemmer, 1993).

Dimensionality of service fairness lacks a consensus opinion (Ashworth & Free, 2006). Its dimensionality maybe a single underlying dimension (e.g., Cropanzano & Ambrose, 2001; Lind, 2001), two dimensions (i.e., distributive & procedural fairness) (e.g., Brockner & Wiesenfeld, 1996) or more other dimensions including interactional (e.g., Bies & Moag, 1986; Colquitt, 2001; Cropanzano, Byre, Bobocel, & Rupp, 2001), interpersonal (e.g., Carr, 2007; Colquitt, Wesson, Porter, Conlon, & Ng, 2001) and informational fairness (e.g., Carr, 2007; Colquitt, Wesson, Porter, Conlon, & Ng, 2001). In near years, relatively complete research on service fairness is Carr (2007). Five distinct fairness of distributive, procedural, interpersonal, informational, and systemic or overall fairness were discussed in the article. However, the work focused on the first four fairness influences systemic or overall fairness. It was not a rigorous scale development research and did not involve the factor structure of service fairness.

Considering all that exposed, and in the absence of a clear and complete dimensionality and factor structure of service fairness, the present study widely collects the items of service fairness and develops a thorough tool to measure service fairness. The main contributions of this article have three aspects. First, this article provides a reliable and valid scale of measurement for this construct, especially applicable to the context of consumer-retailer. Second, this article identifies the dimensionality of service fairness. Third, this article develops a higher order factor model.

2. Multidimensional Structure of Service Fairness

The literature discusses various dimensions of fairness however these lack systematic integration. In the following paragraphs we review the fairness literature on the development of fairness dimensions.

2.1 Distributive Fairness

Both equity theory and the theory of distributive justice argue that individuals general use the concept of equity to evaluate the distribution of outcomes (Cohen, 1987). Equity assessment involves individuals comparing inputs and outcomes relative to a reference point (Gilliland, 1993; Lacey & Sneath, 2006; Xia, Monroe, & Cox, 2004). So, consumers perceive distributive fairness when they perceive outcomes as commensurate with their inputs

(Homans, 1961; Sindhav, Holland, Rodie, Adidam, & Pol, 2006). Distributive fairness in the context of service delivery involves the four principles of cost, amount of service, correctness, and excellence (Bowen, Gilliland, & Folger, 1999). Cost represent a consumer's input; on the other hand, the amount of service, correctness, and excellence are outcomes. Based on the concept of distributive fairness we divide distributive fairness into outcome fairness and input (price) fairness.

2.1.1 Outcome Fairness

Outcome fairness is a customer's assessment about whether s/he receives the service outcome, either in terms of quantity or quality, equivalent to that other customers receive.

2.1.2 Price Fairness

Price fairness considers the buyer's assessment about the difference, or lack of, between a seller's price and that of other comparative sellers is reasonable, acceptable or justifiable. A customer perceives price unfairness when s/he pays a higher price than other customers but receives a same quality product (Martins & Monroe, 1994). In addition, the gap between the expected and the actual price leads the customer to feel s/he has been treated unfairly (Yieh, Chiao, & Chiu, 2007).

2.2 Procedural Fairness

Organizational procedures represent the activities and policies the organization uses to allocate resources (Carr, 2007). In exercising these procedures Leventhal's (1980) identifies rules to create procedural fairness that include: consistency, neutrality, accuracy of information and freedom from bias. Customers consider a service procedural fair through adherence to these rules. Under the situation which service procedure is fair, all customers receive the same service procedures. There is no bias in the application of service procedures (Carr, 2007).

2.3 Interactional Fairness

An organization interacts with customers through its representatives. Some fairness problems are related with representatives of the organization. Interactional fairness concerns individuals' actions and behaviors occurring during procedures of service delivery (Sindhav, Holland, Rodie, Adidam, & Pol, 2006) and focuses on human interaction and communication process between the source and the recipient of fairness (Bies & Moag, 1986; Tyler & Bies, 1990). Specifically, interactional fairness is judged by: (1) justification: providing explanations so participants understand the rationale behind decisions, (2) truthfulness: candidness, (3) respect: behaving politely, and (4) propriety: behaving appropriately (Bies & Moag, 1986). Interactional fairness considers the fairness associated with the exchange of information and communication for outcomes (Goodwin & Ross, 1992). Greenberg (1993) and Colquitt (2001) present a two-dimensional conceptualization of interactional fairness as interpersonal and informational fairness.

2.3.1 Interpersonal Fairness

Interpersonal fairness concerns the manner in which outcomes are distributed. This may be as simple as smiling and greeting customers but can involve a concerted effort to give all customers polite and personal attention (Carr, 2007; Greenberg, 1993). Interpersonal treatment associates with interactional fairness to explain the two-way flows between consumers and service providers. This includes the manner in which the customer is treated in terms of respect, interest, friendliness, honesty, and politeness (Lacey & Sneath, 2006).

2.3.2 Informational Fairness

Customers evaluate how processes are implemented and the way in which the processes and outcomes are explained (Lacey & Sneath, 2006). Informational fairness is defined as providing information or knowledge to consumers to explain outcomes and procedures (Goodwin & Ross, 1992; Greenberg, 1993). Consequently, it involves consumers' perception about open, thorough, reasonable, and timely communication from the service personnel (Sindhav, Holland, Rodie, Adidam, & Pol, 2006). Consumers' perceptions of service fairness are not only based on perceived service differences, but also information. It helps buyers to judge whether the seller should be responsible for the service difference and whether such difference is reasonable. Marketers can provide relevant information to influence buyers' attributions for the service discrepancies. This may be as basic as providing brochures or as intricate as providing long, multifaceted explanations of complex services (Carr, 2007).

2.4 Overall Fairness

Several researchers posit the existence of an overall fairness that emerges from perceptions of distributive, procedural, and interactional fairness (Beugre, 1998; Carr, 2007; Greenberg, 1996). While the literature suggests

the concept of overall fairness it has not been empirically validated, nor has its role in more elaborated theory been established (Carr, 2007). In this study address this gap in our understanding by empirically testing for an overall fairness construct and examining its relationship with other fairness dimensions.

3. Research Design

To extend previous research on service fairness and to develop the service fairness scale, we employed both qualitative and quantitative methods, and followed Churchill's (1979) and Gerbing and Anderson's (1988) paradigm for development of marketing scales.

First, to develop the measured items, we used some qualitative methods such as depth interview and focus group interview. Then, we used the quantitative method to identify the different dimensions of service fairness, construct their corresponding scales and test the relationship among the dimensions.

Respondents were auto repair customers in Taiwan. Auto repair centers offer the customers a wide variety of services to meet differing requirements demanded by very varied segments. On the other hand, the services they offer have many fairness problems. Therefore, auto repair centers are suitable to fairness research. Through personal contacts we identified an auto repair center that gave us permission to collect data. At the auto repair center we gave questionnaires to customers who had just finished auto repair (i.e., a convenience sampling strategy). The questionnaires were collected in the same manner at each of the four stages of scale development. In the first two stages of scale purification we separately collected 80 valid questionnaires. In the third stage of testing the scales dimensionality, reliability and validity we collected 200 valid questionnaires. Finally, in the fourth stage we collected 178 questionnaires to confirm the stability of our proposed service fairness scales.

4. Constructing Consumers' Service Fairness Scale

4.1 Step 1 Understanding the Definition of Service Fairness

As suggested by Churchill (1979) the first step involved was specifying the domain of the construct to delineate exactly what is included in the definition. Unlike service quality which is evaluated through a comparison with some personal expectations of favorableness, service fairness has a different comparison base. The comparison base is that how similar others were actually treated by the service providers. Our literature review reveals there are five types of service fairness i.e., outcome, price, procedural, interpersonal, and informational fairness. Outcome fairness relates to the core services which consumers acquire. Price fairness concerns the cost consumers pay. Procedural fairness relates to the process by which consumers acquire services. Interpersonal fairness addresses the personal interaction between consumers and service providers. Informational fairness relates to the information that service providers provide to consumers.

Table 1. Items of service fairness scale

Construct / dimension	Code	Items	Source
DISTRIBUTIVE FAIRNESS			
Outcome fairness	OUT1	Service staff help all customers get the outcomes they need without favoring any one group	Carr (2007)
	OUT2	Service staff produce desired results for all customers without bias of any kind	Carr (2007)
	OUT3	Service staff deliver good outcomes for all customers regardless of who they are	Carr (2007)
	OUT4	In general, service staff deliver reasonable results for all customer	Carr (2007)
	OUT5	I can get the same outcomes as others do	Sindhav et al. (2006)
	OUT6	Service staff provide me service amount same as I expected (deleted)	Bowen et al. (1999)
	OUT7	Service staff deliver the promised service accurately the first time (deleted)	Bowen et al. (1999)
	OUT8	Service staff provide me service quality same as I expected (deleted)	Bowen et al. (1999)
Price fairness	PRI1	Labor wages charged by the service center are reasonable	Bei & Chiao (2001); Yieh, Chiao, & Chiu (2007)
	PRI2	Cost of auto parts charged by the service center is reasonable	Bei & Chiao (2001); Yieh, Chiao, & Chiu (2007)
	PRI3	Labor wages charged by the service center are acceptable	New

	PRI4	Cost of auto parts charged by the service center is acceptable	New
	PRI5	Compared with other service center, auto repair fee is too expensive (-) (deleted)	Bowen et al. (1999)
	PRI6	Compared with repair outcome, auto repair fee is too expensive (-) (deleted)	Bowen et al. (1999)
	PRI7	Auto repair fee as I expected	Bowen et al. (1999)
PROCEDURAL FAIRNESS	PRO1	The process of working with service staff is generally fair	Carr (2007); Sindhav et al. (2006)
	PRO2	The activities of service staff are conducted without bias	Carr (2007); Sindhav et al. (2006)
	PRO3	The processes involving service staff attempt to meet all customer needs	Carr (2007)
	PRO4	The procedures used by service staff are consistent across customers	Carr (2007); Sindhav et al. (2006)
	PRO5	I can appeal should I feel mistreated during service procedures (deleted)	Sindhav et al. (2006)
	PRO6	Service process is smooth (deleted)	Bowen et al. (1999)
	PRO7	Waiting time is reasonable	Bowen et al. (1999)
INTERACTIONAL FAIRNESS			
Interpersonal fairness	INT1	Service staff are polite	Carr (2007)
	INT2	Service staff are respectful	Carr (2007)
	INT3	Service staff treat customers with dignity	Carr (2007); Sindhav et al. (2006)
	INT4	Service staff are courteous	Carr (2007); Sindhav et al. (2006)
	INT5	Service staff are friendly	Bowen et al. (1999)
	INT6	Service staff treat me with an unbiased attitude	Bowen et al. (1999)
	INT7	Service staff are honest (deleted)	Bowen et al. (1999)
	INT8	Service staff show consideration for me (deleted)	Bowen et al. (1999)
	INT9	Service staff work hard for me (deleted)	New
Informational fairness	INF1	Service staff give timely and specific explanations	Carr (2007); Sindhav et al. (2006)
	INF2	Service staff give thorough explanations	Carr (2007); Sindhav et al. (2006)
	INF3	Service staff provide reasonable explanations	Carr (2007); Sindhav et al. (2006)
	INF4	Service staff tailor their explanations to customer needs	Carr (2007)
	INF5	Service staff give open communication with customers	Sindhav et al. (2006)

4.2 Step 2 Generation of Scale Items

After defining all dimensions specifically, we developed initial items through reviewing extant literature and summarizing opinions of a few consumers and professors. We interviewed ten consumers of auto repair service through the method of critical incident technique and five professors teaching service management as a focus group. Thirty six initial items were collected. Through comparing our thirty six items with literature, our analysis found three additional items. We showed the details in Table 1. Each item in the measure was formed on a 7-point Likert Scale ranging from “very strongly disagree” to “very strongly agree”.

4.3 Step 3 Scale Item Purification—First Stage

We conducted two exploratory factor analyses (EFA) in the purification process of two stages to determine the dimensions of service fairness, and then, followed by two confirmatory factor analyses (CFA) to test the model fit and factor structure.

In the first stage of scale item purification, the first EFA with varimax rotation was applied over the 36 initial items. The result generated seven factors with eigenvalues greater than 1. We deleted the items with factor loading of below .5 and those with the cross-loadings difference of below .3. Consequently, 10 items were deleted: OUT 6, 7 and 8; PRI 5 and 6; PRO 5 and 6 and INT 7, 8 and 9. This left 26 items and five factors.

Table 2. Factor loadings for second stage purification

	Factor				
	1	2	3	4	5
INT2	.875	-.085	.187	.139	.178
INT5	.852	.070	.307	.154	.138
INT1	.829	-.024	.297	.238	.191
INT3	.816	-.016	.296	.214	.103
INT4	.694	.164	.389	.288	.137
INT6	.649	.205	.255	.168	.293
PRI1	.016	.867	.065	.207	.135
PRI2	-.039	.853	.128	.259	.145
PRI3	.247	.819	.050	.118	.248
PRI4	.087	.789	-.023	.206	.332
PRI7	-.091	.713	.019	.099	.178
INF3	.283	.023	.853	.127	.024
INF2	.300	-.031	.825	.224	.187
INF5	.233	.307	.738	-.005	.166
INF1	.289	-.054	.723	.305	.121
INF4	.343	.066	.715	.057	.292
OUT4	.220	.169	.184	.789	.122
OUT5	.093	.153	.149	.721	.284
OUT3	.135	.230	.086	.708	.313
OUT2	.382	.250	.071	.704	.211
OUT1	.219	.195	.147	.639	.114
PRO4	.248	.243	.133	.217	.755
PRO7	.098	.258	.108	.167	.724
PRO2	.293	.249	.120	.365	.706
PRO1	.143	.312	.316	.284	.706
PRO3	.298	.309	.263	.226	.623

4.4 Step 4 Scale Item Purification—Second Stage

We repeated the process given in step 3. We made the second purification for the 26 items by using another sample (N = 80). The EFA results (Table 2) indicated that these items have strong factor loadings (above .6) and loaded on the expected factors. Up to now, the purpose of purification had attained. Therefore, we continued to the next step of identification of scale dimensions and items.

4.5 Step 5 Identification of Scale Dimensions and Items

The results of the EFA revealed five dimensions which are consistent with our initial theoretical classification. The final number of items was distributed as follows: five items for outcome fairness; five items for price fairness; five items for procedural fairness; six items for interpersonal fairness; five items for informational fairness. All items used appear in the Table 1 together with their conceptual source.

4.6 Step 6 Confirmation of the Scale's Reliability and Validity

Regarding the identified five dimensions of service fairness, we examined the reliability and validity of the five subscales, including individual item reliability, composite reliability, criterion validity, convergent validity, and discriminant validity.

Table 3. CFA of the five dimensions of service fairness

Dimension	code	FL	ER	IR	CR	$\chi^2(df)$	p	χ^2/df	RMR	GFI	AGFI	CFI	RMSEA	AVE
Outcome	OUT1	.83*	.31	.69	.90	8.67(5)	.12	1.73	.016	.98	.95	.99	.057	.70
	OUT2	.80*	.36	.64										
	OUT3	.79*	.37	.62										
	OUT4	.78*	.39	.61										
	OUT5	.79*	.37	.62										
Price	PR11	.82*	.33	.67	.90	10.85(5)	.054	2.17	.033	.98	.94	.99	.070	.62
	PR12	.72*	.48	.52										
	PR13	.83*	.32	.69										
	PR14	.79*	.38	.62										
	PR17	.78*	.39	.61										
Procedural	PRO1	.72*	.48	.52	.87	8.86(5)	.11	1.77	.024	.98	.94	.99	.066	.56
	PRO2	.72*	.48	.52										
	PRO3	.79*	.38	.62										
	PRO4	.78*	.40	.61										
	PRO7	.74*	.45	.55										
Interpersonal	INT1	.80*	.37	.64	.90	14.83(9)	.096	1.65	.024	.97	.94	.99	.065	.61
	INT2	.78*	.40	.61										
	INT3	.76*	.42	.58										
	INT4	.79*	.38	.62										
	INT5	.80*	.37	.64										
	INT6	.78*	.39	.61										
Informational	INF1	.78*	.40	.61	.92	9.61(5)	.087	1.92	.021	.98	.95	.99	.064	.70
	INF2	.85*	.28	.72										
	INF3	.86*	.26	.74										
	INF4	.89*	.22	.79										
	INF5	.81*	.34	.66										

Note: *p < .001.

FL: factor loading; ER: error; IR: individual reliability; CR: composite reliability.

4.6.1 Reliability

Table 3 presents the final set of items and scale reliabilities. We evaluated the reliability for each service fairness dimension by measuring internal consistency, including individual item reliability and composite reliability.

The lowest value of individual item reliability is .52. Thus, all items satisfy the requirement of minimum .5 for individual item reliability (Hair, Anderson, Tatham, & Black, 1998). In addition, composite reliabilities for all service fairness dimensions exceed .87 which meets the preferred level of .6 (Fornell & Larcker, 1981).

4.6.2 Validity

4.6.2.1 Criterion Validity

According to prior empirical studies there is a significant and positive relationship between fairness and customer satisfaction (Szymanski & Henard, 2001; Tax, Brown, & Chandrashekar, 1998). Therefore, we used customer satisfaction as the criterion variable. We assessed the level of satisfaction using three items based on the following semantic differential scale: 1=very dissatisfied, 7=very satisfied; 1=very terrible, 7=very perfect; 1=very angry, 7=very happy. Table 4 reports the results of the Pearson correlation analysis test of the criterion validity for each service fairness dimension. The results show that all five fairness dimensions significantly and positively relate with customer satisfaction ($p < .001$). This supports criterion validity.

4.6.2.2 Convergent Validity

We individually tested the unidimensionality and convergent validity of the five dimensions of service fairness by CFA. Table 3 shows the results.

First, we used model fitness to evaluate the unidimensionality. The results of the individual evaluations for five dimensions show that five measurement models' chi-square value is non-significant, chi-square value divided by degree of freedom is less than 3 (Carmines & McIver, 1981), RMR (root mean squared residual) is less than .05

(Byrne, 2001), GFI (goodness of fit index) is greater than .90 (Hu & Bentler, 1999), AGFI (adjusted goodness of fit index) is greater than .90 (Hu & Bentler, 1999), CFI (comparative fit index) is greater than .95 (Hu & Bentler, 1999), RMSEA (root mean squared error of approximation) is less than 0.08 (Browne & Cudeck, 1992). Therefore, each of the five dimensions of service fairness we propose has unidimensionality.

To assess convergent validity, we measured the average variance extracted (AVE) for all of the service fairness dimensions. It is recommended that the AVE should be greater than .5 (Fornell & Larcker, 1981) meaning that 50% above variance of the indicators is accounted for. All AVE values (Table 3) are greater than .5 thus indicating convergent validity. We examined the significance and direction of the factor loadings to further confirm convergent validity of the indicators for each service fairness dimension (Anderson & Gerbing, 1988). All t values are highly significant ($p < .001$) and in the anticipated direction. Therefore, we can conclude that convergent validity exists for five service fairness dimensions.

Table 4. Correlation coefficients and square root of variance extracted (N = 200)

	mean	std dev	outcome	price	procedural	interpersonal	informational	satisfaction
outcome	5.30	0.78	.84 ^a					
price	4.58	1.02	.58*	.79 ^a				
procedural	5.15	0.82	.42*	.50*	.75 ^a			
interpersonal	5.39	0.82	.37*	.41*	.35*	.78 ^a		
informational	5.35	0.93	.41*	.50*	.45*	.56*	.84 ^a	
satisfaction	5.19	0.96	.30*	.40*	.42*	.38*	.52*	.91 ^a

Note: * $p < 0.001$.

^a represents square root of average variance extracted.

4.6.2.3 Discriminant Validity

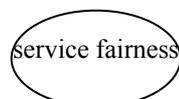
Our exploratory factor analysis has provided a significant evidence for discriminant validity of service fairness dimensions. Another measure of discriminant validity is to evaluate whether the square roots of the AVE of two dimensions are greater than the correlation between them (Fornell & Larcker, 1981). Table 4 indicates that this condition is satisfied for all dimensions; all values on the diagonal are significantly greater than those off the diagonal. As a final step to confirm discriminant validity we compared two nested models for each pair of service fairness dimensions in which we either allowed the correlation between two dimensions to be free or restricted to 1. Our empirical result supports discriminant validity because the chi-square statistic is significantly lower in the unconstrained model than in the constrained model for all dimensions ($p < .05$). Therefore, the existence of discriminant validity for five service fairness dimensions is supported.

Overall this reveals our five service fairness dimensions are reliable and valid. Our next step was to examine structural relationships between these dimensions.

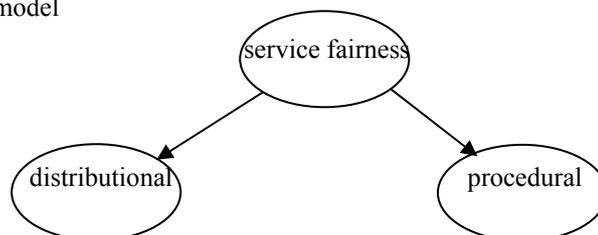
5. The Factor Structure of Service Fairness

To clarify the structural relationship we tested the underlying factor structure of the 26 items by comparing competing models using CFA. We followed Noar's (2003) suggestion to analyze possible competing models; each with a distinct factor structure. Figure 1 shows the six competing models and a description of each model follows.

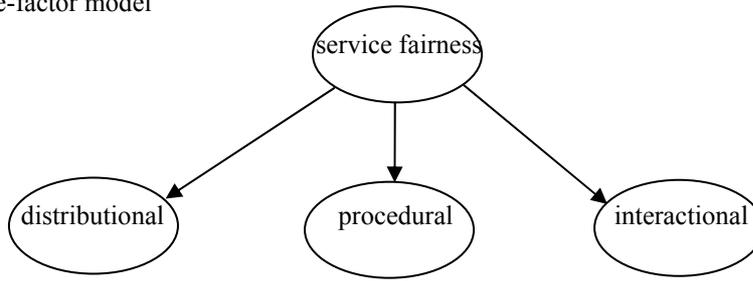
one-order one-factor model



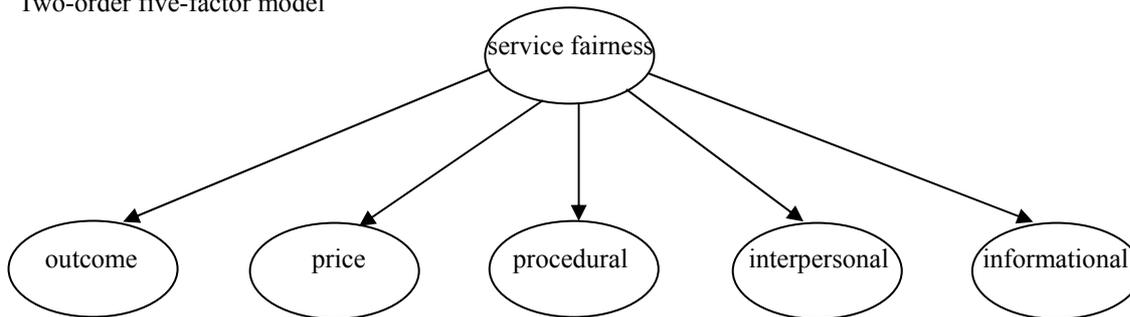
two-order two-factor model



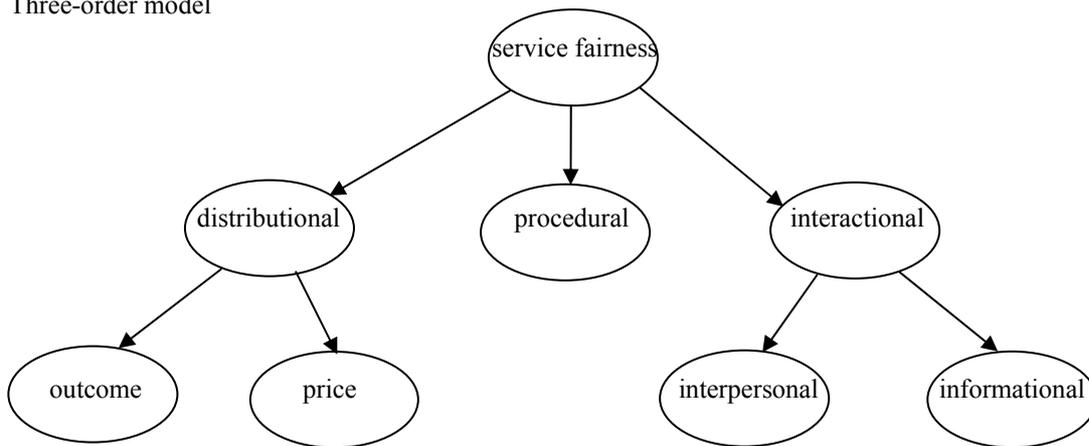
Two-order three-factor model



Two-order five-factor model



Three-order model



One-order five-factor correlation model

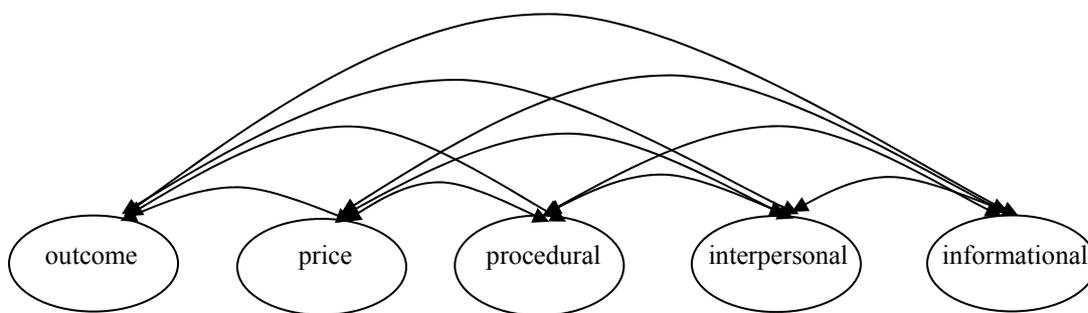


Figure 1. Six competing models of service fairness

Based on Ambrose's (2001) and Lind's (2001) argument, we designed a one-order one-factor model of service fairness. In this case, all items from the five subscales (outcome, price, procedural, interpersonal, and informational) were used to measure a single factor model (service fairness).

On the other hand, some literature on fairness and justice (e.g. Brockner & Wiesenfeld, 1996) led to a conceptual two factor model based on distributional fairness and procedural fairness. Our two-order two-factor model aggregated outcome and price items as distributional fairness, and procedural, interpersonal, and informational items to represent procedural fairness.

Some researchers also suggested fairness has three dimensions of distributional, procedural, and interactional fairness (e.g., Bies & Moag, 1986; Cropanzano, Byre, Bobocel, & Rupp, 2001). Our two-order three-factor model followed this point. This left the procedural fairness items unchanged (i.e., as above), aggregated outcome and price items to measure distributional fairness and incorporated interpersonal and informational items to measure interactional fairness.

We further divided distributional fairness into outcome fairness and price fairness and interactional fairness into interpersonal fairness and informational fairness. Then, we developed a one-order five-factor correlation model of outcome, price, procedural, interpersonal and informational fairness and also developed a two-order five-factor model.

Finally, we also developed a three-order model in which service fairness is composed of distributional, procedural, and interactional fairness. Following, distributional fairness is composed of outcome and price fairness as well as interactional fairness is composed of interpersonal and informational fairness.

We compared the fit of these competing models to identify the most representative structure. Table 5 summarizes the results of this analysis. The fit of the one-order one-factor model, two-order two-factor model, and two-order three-factor model is mediocre. The fit statistics of the two-order five-factor model, three-order model, and one-order five-factor correlation model are good. However, on further comparison we find the three-order model is a superior fit to the data ($\chi^2(df = 292) = 400.54$, $p < .00$, $\chi^2/df = 1.37$, $RMR = .048$, $GFI = .92$, $AGFI = .90$, $CFI = .99$, $RMSEA = .042$, and $AIC = 520.54$).

Table 5. CFA of structural model of service fairness

	$\chi^2(df)$	p	χ^2/df	RMR	GFI	AGFI	CFI	RMSEA	AIC
one-order one-factor model	2522.81(299)	.00	8.44	.13	.51	.42	.86	.19	2626.81
two-order two-factor model	2460.09(297)	.00	8.28	.18	.51	.42	.88	.19	2568.09
two-order three-factor model	2108.30(296)	.00	7.12	.17	.55	.47	.90	.18	2218.30
two-order five-factor model	422.09(294)	.00	1.44	.056	.85	.82	.99	.047	536.09
one-order five-factor correlation model	406.99(289)	.00	1.41	.050	.86	.83	.99	.045	530.99
three-order model	400.54(292)	.00	1.37	.048	.92	.90	.99	.042	520.54
fit criterion	small	>.05	<3	<.05	>.90	>.90	>.95	<.08	small

6. Cross Validity of the Factor Structure of Service Fairness

In order to consider the three-order model's stability we conducted an examination of cross-validity. This involved testing our proposed factor structure against a new respondent sample ($n = 178$). The model fit is good ($\chi^2/df = 1.37$, $RMR = .045$, $GFI = .93$, $AGFI = .91$, $CFI = .99$, $RMSEA = .040$). This provides further confirmation that our three-order model of service fairness is stable.

7. Conclusions

Scholars and practitioners recognize the importance of maintaining relationships with customers. Service fairness is a means of retaining customers (e.g., Vargo & Lusch, 2004). Despite the fact that many studies recognize the role of fairness there little academic research explicitly examines this construct in the consumer-retailer context. In particular researchers of service fairness rarely consider all components of service fairness and its factor structure.

This study confirms that service fairness as a multidimensional concept. It is plausible to conclude that consumers' overall judgment of service fairness depends on the five basic dimensions of outcome fairness, price fairness, procedural fairness, interpersonal fairness, and informational fairness. This involves the feeling that service consumers have been treated (un)equally as far as distribution of outcomes (outcome fairness) and the charge for service (price fairness). It covers the feeling that the procedures and processes performed by the

service provider are handled in an even-handed way; not favoring any one group (procedural fairness). Fairness perceptions involve the manner of interpersonal interactions between the service provider and consumers (interpersonal fairness). Finally, fairness perceptions also involve consumers' perception about open, thorough, reasonable, and timely information provided by the service provider (informational fairness).

Without a clear and complete description of the dimensionality of service fairness, prior researchers could not define the factor structure of service fairness. This study reveals the multidimensional nature of service fairness and evolving understanding requires developing an appropriate understanding of relationships between these dimensions. This study also clarifies the relationship among the five dimensions of service fairness. This is an important contribution as the extant literature lacks this understanding. We find the structure of a three-order model is the best fit to the domain of service fairness. According to this model, service fairness is composed of distributional fairness, procedural fairness, and interactional fairness. Distributional fairness has two sub-dimensions of outcome fairness and price fairness while interactional fairness comprises interpersonal fairness and informational fairness.

Through a rigorous scale development process we developed five subscales to measure the components of consumer service fairness. Our each subscale of service fairness is a concise multiple-item scale with good reliability and validity. Using our scales to test consumers, service providers can understand their consumers' perceptions of service fairness, establish the improving priorities, and so facilitate improvements in service delivery. The instrument has been designed to be applicable across a broad spectrum of services and can be easily adapted to fit the characteristics or specific research needs of a particular industry. We hope the availability of this instrument will stimulate much-needed empirical research focusing on service fairness and its antecedents and consequences.

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