DETERMINANTS IN A BUSINESS-TO-BUSINESS CONTEXT

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SATISFACTION WITH COMPLAINT HANDLING: A REPLICATION STUDY ON ITS DETERMINANTS IN A BUSINESS-TO-BUSINESS CONTEXT

Research on the drivers of satisfaction with complaint handling (SATCOM) underlines the importance of procedural, relational, and interactional justice (Orsingher et al. 2010). Since these SATCOM-studies are largely conducted in business-to-consumer (B2C) markets, it is unclear what drives SATCOM in business-to-business (B2B) markets. Therefore, we replicate the justice model in an industrial context and find significant differences for procedural justice and interactional justice but not for distributive justice. While distributive justice is equally important in both contexts, procedural justice is more important in B2B markets whereas interactional justice drives SATCOM only in B2C markets.

Keywords: Complaint management; satisfaction with complaint handling; business-to-business; replication

1. **Motivation for the Replication Study**

Within the last 20 years, strong interest in consumer reactions to service failures and ways to recover customers has emerged. Numerous constructs have been suggested to correlate with satisfaction with complaint handling (SATCOM). Particularly, justice theory has uncovered the importance of procedural, distributive, and interactional justice as the major determinants of SATCOM (Blodgett et al. 1993; Goodwin and Ross 1992; Tax et al. 1998). While procedural justice refers to the processes of complaint handling, distributive justice is determined by the quality of the failure compensation, and interactional justice refers to the behavior of the employees during the complaint process.

Among the three justice dimensions, a recent meta-analysis by Orsingher et al. (2010) suggests distributive justice to have the strongest effect on SATCOM followed by interactional justice and procedural justice. The authors note that their results are based on 60 independent samples from 50 empirical studies exclusively from business-to-consumer (B2C) markets; the drivers of SATCOM in business-to-business (B2B) markets have been largely neglected.

This is surprising since in industrial markets the average transaction value is higher and the number of customers is lower than in consumer markets, making an effective complaint management system potentially more important. Due to the lack of empirical studies, it is unclear whether industrial customers expect the provider to handle the complaint professionally by being equally excellent in terms of processes (procedural justice), interpersonal contact (interactional justice), and compensation of the failure (distributive justice) or whether the business customers do not care much about procedural or interactional justice and instead primarily evaluate complaint handling in terms of the received compensation.

To the best of our knowledge, the only available studies assessing the impact of justice dimensions on SATCOM using (at least in part) business customers are Homburg and Fürst (2005), Yanamandram and White (2010), and Ellyawati, Purwanto, and Dharmmesta (2012).

Homburg and Fürst (2005) assess the impact of organizational complaint handling on customer loyalty. As part of a broader model, they also assess the links between three justice dimensions and SATCOM. However, their study was not intended to specifically test these links in a B2B context. In fact, their sample consists of B2C and B2B customers and it is not possible to derive the effect sizes for the B2B sample.

Contrary to Homburg and Fürst (2005), the study from Yanamandram and White (2010) gives a first impression about the importance of justice perceptions in industrial markets. The authors specifically assess the relationship of justice dimensions on SATCOM as part of a larger conceptual model. However, their study is different from ours in at least two aspects: First, while Yanamandram and White's (2010) data comes from business customers of a wide range of sellers, our study purposefully samples customers of one selling firm only. The advantage of that procedure is that our study is not biased by external factors such as systematic difference in customers based on industry affiliation that might influence the impact of justice dimensions on SATCOM. Second, Yanamandram and White's (2010) sample largely comes from service firms. It could be expected that (business) service customers interact more intensely with their seller, possibly making interactional justice a more important driver of SATCOM.

The third study assessing the impact of justice dimensions in a B2B context is Ellyawati, Purwanto, and Dharmmesta (2012). Their study's cross-sectional sample consists of 102 (Indonesian) retailers, of which over 90% have less than 20 employees, and about 75% have annual sales of under 50 Mio Rupiah (about 5,100 US-Dollar). Therefore, a potential bias

towards specific complaint issues pertinent to micro businesses might be expected. Further, while the study indicates that each justice dimension is positive linked to SATCOM, the authors provide only unstandardized estimates and no standard error, making it difficult to compare their findings with our findings.

Apparently, there is still urgent need to extend our knowledge on the drivers of SATCOM to B2B market. As an outcome of their meta-analysis, Orsingher and colleagues (2010) propose a research agenda for complaint management research. They suggest paying particular attention to the following two related questions, which we address in this replication study:

1.   *"How do justice dimensions behave in a B2B context?"*
2.   *"What explains satisfaction with complaint handling in a B2B context?"*

2.   Procedure

This study replicates the justice model of complaint satisfaction in an industrial setting. It is conducted as a "duplication of a previously published empirical work that serves to investigate the ability to generalize earlier research findings" (Evanschitzky et al. 2007, p. 411). Our intended contribution is twofold: First, we apply a complaint model from the B2C context to the B2B setting by analyzing how the justice dimensions impact SATCOM. Second, we compare the effect sizes of our findings with the effect sizes of Orsingher and colleagues' (2010) meta-analysis to deepen our understanding of the differences of failure recovery effectiveness between B2C and B2B markets.

To replicate the existing model our data was collected in a B2B setting using customer surveys. We randomly contacted 3,000 organizational buyers of a retailer selling to industrial clients exclusively. We purposefully sampled customers from one seller only to control for

external factors that might impact SATCOM across different industrial settings. The survey was conducted by telephone interviews, which resulted in a satisfactory participation rate of 63.9% (1,917). In total 463 customers (24.2%) noted that they have experienced a service failure within the last year and that they have contacted the provider to voice their complaint. We had to eliminate outliners with a standard deviation of zero as well as missing values in all justice dimensions, leading to a final sample of 397 customers ("complainer"). The majority of respondents were owners or CEOs (67.3%), followed by purchasing managers (14.9 %) and other employees in different functions (17.9%). All our key informants were responsible for the purchases of their company. All companies in the sample are from the construction industry. The number of employees' range from 1 to 250; the mean is 15.55 and the average sales per year is 734,164 € (from100,000 € to 20,000,000 €, see Table 1 for details).

The four main constructs of this research, perceived justice dimensions (procedural, interactional, and distributive) and complaint satisfaction, are measured with established scales from the complaint literature (e.g. Blodgett et al. 1993; Blodgett et al. 1997; Homburg and Fürst 2005). It can be noted that all alpha values are larger than .7 (Nunnally 1978), composite reliabilities (CR) are larger than .8 (Bagozzi and Yi 1988; Table 2), and discriminant validity is given as the average variance extracted (AVE) by each construct exceeds the squared correlations between all pairs of constructs (Fornell and Larcker 1981) (Table 3).

To understand in how far the importance of the three justices differs between B2B and B2C markets, we compared our findings with Orsingher et al.'s (2010) meta-analysis on complaint satisfaction in B2C industries, which captures 509 correlations from 60 independent samples drawn from 50 papers. Using the information provided in the meta-analysis, we were able to compare the differences in the path coefficients of our B2B model with the effect sizes of the

B2C model (for an overview of the data sources and the methodology underlying the empirical tests, see Technical Appendix).

3. Method and Results

To assess the impact of the justice dimensions, we employed structural equation modeling (SEM) and note good model-fit (CFI = .97, TLI = .96, RMSEA = .06, SRMR = .03). The path coefficients indicate that distributive justice, which refers to the compensation of the failure, positively impacts SATCOM (β =.47, p < .01). Similarly, we find a positive effect of procedural justice which refers to the fast and uncomplicated process of complaint handling (β =.49, p < .01). Surprisingly, interactional justice which describes the treatment by the employees did not impact SATCOM (β =.09, p=.13).

To assess the differences between B2B and B2C markets, we formally test whether the path coefficients in our study significantly differ from the results reported in Orsingher et al.'s (2010) meta-analysis. Using the adjusted average correlation matrix provided in their study as input for LISREL, we estimate the path coefficients and standard errors for the B2C model. Then, we conduct a t-test for the difference in paths between the B2C model and our B2B model using sample size, path coefficient, and standard error information (Table 4). We find significant difference for procedural justice (β_{B2B} =.49 vs. β_{B2C} = .09; Δ path coefficients = .40, p <.01) and interactional justice on SATCOM (β_{B2B} = .09 vs. β_{B2C} = .25; Δ path coefficients = .16, p <.01) but not for distributive justice (β_{B2B} =.47 vs. β_{B2C} =.45; Δ path coefficients = .02, p>.10).

4. Discussion, Limitations and Avenues for Further Research

Findings of our replication study have several important implications for research and complaint management practice in industrial markets. First, we found distributive justice to always matter independent of the setting. Hence, researcher and managers need to assess what shapes customer expectations in terms of compensation. Second, procedural justice is of greater relevance in B2B than in B2C, making the availability of sufficient complaint opportunities for the customer (call center, e-mail, face-to-face), process integration (installing follow-up calls by the provider), complaint responsibilities (key-account system), and effective complaint processes more important in B2B markets. Third, interactional justice seems to be less important in the B2B context. This finding is surprising, since it is often argued that the personal relationship to the sales personnel is of utmost importance in industrial markets. It seems that the treatment by the employees during the complaint management is less important compared to the handling of the complaint process and the compensation. It seems that industrial clients act more rational than consumers even in evaluating complaint handling. As a consequence, even customer-oriented and empathic employees could not make up for poor compensation or ineffective recovery processes. Since our model explains 87% of the variance of complaint satisfaction, we conclude that distributive justice and procedural justice are the major determinants of SATCOM in industrial markets while interactional justice only plays a minor role.

This replication study sheds new light on the relationship between justice dimensions and SATCOM in B2B markets. However, there are still some limitations and unanswered questions that offer avenues for further research. As our data comes from customers of one seller, we would call for extending the scope to include purposeful samples of other business customers in future studies. This would account for the fact that not all business customers are similar, for instance, in terms of relationship depth or duration. Adding to that, further research should

analyze B2B customer specific moderating effect such as transactional volume, purchase behavior, size of industrial customers, and relationship between the buyer and seller.

Further, the impact of the specific study context on the links between justice dimensions and SATCOM has yet to be determined. Comparing our findings with those obtained by Yanamandram and White (2010), which largely draw data from a service setting, both studies find similar results for procedural and distributive justice, yet not for interactional justice. Quite possibly, a setting characterized by more intense customer-seller interaction makes interactional justice more important as determinant of SATCOM. Future research should more closely assess the moderating role of the specific context.

Despite the limitations, our replication study is an important first step to determine the generalizability of important complaint management constructs and outcomes across different setting. Once more primary research in B2B settings is available, an updated meta-analysis comparing B2B and B2C markets is strongly suggested.

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TABLE 1
SAMPLE COMPOSITION (N=397)

	%
Relationship duration between buyer and supplier	
6 month	0.5
1 Year	1.3
2 – 4 Year	13.4
5 – 10 Year	35.5
11 – 20 Year	30.7
Over 20 Year	18.4
Missing	0.3
Frequency of purchases	
Daily	33.0
Several times per week	36.5
Weekly	17.4
Several times per month	6.3
Monthly	4.3
Several times per year	1.3
Less than several times per year	0.3
Missing	1.0
Sales per year (€)	
< 500,000 €	13.1
500,000 € – 999,000 €	8.3
1.000000 € – 4.999.000 €	19.7
≥ 5.000.000 €	2.5
Missing	56.4
Number of employees	
< 5	23.9
5 – 9	25.9
10 – 19	30.2
20 – 49	15.0
50 – 199	4.0
> 200	1.0
Missing	0

TABLE 2
RELIABILITY AND VALIDITY OF THE CONSTRUCTS

Scale/Item	Alpha	CR	AVE
Procedural justice	**.82**	**.83**	**.62**
The company quickly reacted to my complaint.			
The company gave me the opportunity to explain my point of view of the problem.			
Overall, the company's complaint handling procedure was fair.			
Interactional justice	**.92**	**.92**	**.69**
The employees seemed to be very interested in my problem.			
The employees understood exactly my problem.			
I felt treated politely by the employees.			
The employees were very keen to solve my problem.			
Overall, the employees' behavior during complaint handling was fair.			
Distributive justice	**.92**	**.92**	**.74**
I received an adequate compensation from the company.			
I received about as much compensation from the company as in the context of previous complaints.			
In solving my problem, the company gave me exactly what I needed.			
Overall, the compensation I received from the company was fair.			
Complaint satisfaction	**.94**	**.94**	**.83**
I was satisfied with the handling of my complaint.			
I had a positive experience when complaining to this company.			
I was very satisfied with the complaint handling of the company.			

Notes. All scales are measured using 5-point Likert scales anchored at 1 = strongly agree and 5 = strongly disagree.
Fit-Indices: CFI = .97; TLI = .96; RMSEA = .06; SRMR = .03.

TABLE 3
CORRELATIONS AMONG CONSTRUCTS

	1.	2.	3.
1. Procedural justice			
2. Interactional justice	.80		
3. Distributive justice	.63	.52	
4. Complaint satisfaction	.86	.72	.82

TABLE 4
COMPARING PATH COEFFICIENTS OF OUR STUDY WITH RESULTS OF THE META-ANALYSIS

Results of SEMs	β_{B2B} Present Study		β_{B2C} Meta-Analysis	Δ path coefficients	p
Procedural justice → complaint satisfaction	.49	>	.09	.40	.01
Distributive justice → complaint satisfaction	.47	=	.45	.02	n.s.
Interactional justice → complaint satisfaction	.09	<	.25	.16	.01

TECHNICAL APPENDIX

The purpose of this Appendix is to provide documentation of the data sources and methodology underlying the empirical tests done in the replication study; the actual databases can be downloaded from the homepage of the *International Journal of Research in Marketing*.

Similar to Orsingher's (2010, p. 179) approach, we used the reported correlation matrix as input for LISREL to fit their structural equation model with a median sample size of 3,214.[1] We did so since the meta-analysis reported the path coefficients but not the associated standard errors.

	SATCOM	DJ	IJ	PJ	RI	WOM	SAT
SATCOM	1						
DJ	0.64	1					
IJ	0.55	0.57	1				
PJ	0.47	0.55	0.55	1			
RI	0.46	0.5	0.47	0.44	1		
WOM	0.7	0.53	0.57	0.43	0.48	1	
SAT	0.38	0.51	0.52	0.59	0.65	0.34	1

After receiving the standard errors of interest for the B2C data set, we estimated the path coefficients and standard errors for the B2B sample and employed the following t-test to assess the differences in the paths:

$$t = \frac{Path_{sample\_1} - Path_{sample\_2}}{\left[\sqrt{\frac{(m-1)^2}{(m+n-2)} * S.E._{sample_1}^2 + \frac{(n-1)^2}{(m+n-2)} * S.E._{sample_2}^2} = \right] * \left[\sqrt{\frac{1}{m} + \frac{1}{n}}\right]}$$

This test follows a t-distribution with m+n-2 degrees of freedom.

As an alternative test, we employed the Smith-Satterthwaite test which differs from the first test in the assumption of equal variances for the two populations.

$$t = \frac{Path_{sample\_1} - Path_{sample\_2}}{\sqrt{S.E._{sample_1}^2 + S.E._{sample_2}^2}}$$

Since the sample sizes are large, both procedures yield similar results.

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[1] We estimated two models, the complete model being reported by Orsingher et al. (2010) including all variables and one model only including the three types of justice and satisfaction with complaint handling. The path coefficients and the standard errors of both models are identical.