



## Methodological Challenges in B2B Marketing Research

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## Dominant Research Paradigm in B2B

- Research design: Cross-sectional
- Data-collection: Survey
- Analysis: Structural Equation Modeling



## Important Issues

- No true causal relationships
- Common-method variance problems
- No actual behavior of firms
- Problems around discriminant validity of constructs
  - E.g. commitment, trust, satisfaction...
- SEM fitting instead of testing

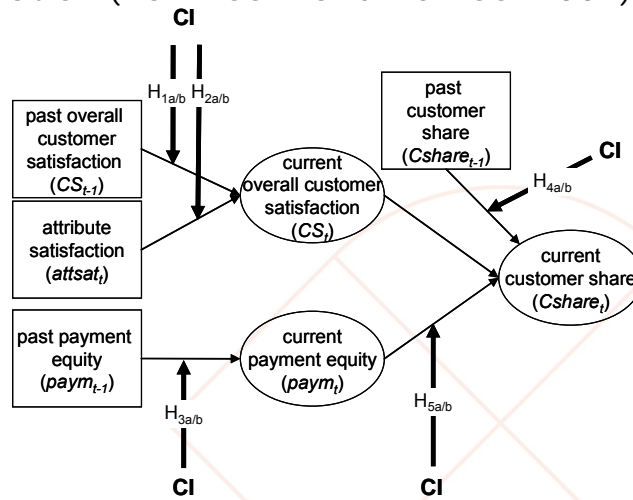


## "Paradigm Shift in Methodologies"

- More Longitudinal Data
- More Actual Behavioral Data
- Use of process data in customer exchanges
  - More advanced econometric modeling
- Experimental Designs



## Longitudinal Design: Impact of CI on satisfaction formation and customer share formation (Van Doorn and Verhoef 2007)



## Econometric Model

Moderated CI-model (estimated with 3SLS):

$$CS_t = \alpha_{01} + \sum_{k=1}^2 \varphi_k \cdot CS_{t-1,k} + \sum_{k=1}^2 \sum_{l=1}^L \omega_{lk} \cdot attsat_{ltk} + \chi_{1j} \sum_{j=1}^4 d_{industry,j} + T_1 \cdot d_{time} + \epsilon_{1t}$$

$$paym_t = \alpha_{02} + \sum_{k=1}^2 \theta_k \cdot paym_{t-1,k} + \chi_{2j} \sum_{j=1}^4 d_{industry,j} + T_2 \cdot d_{time} + \epsilon_{2t}$$

$$Cshare_t = \alpha_{03} + \sum_{k=1}^2 \beta_k \cdot Cshare_{t-1,k} + \gamma_k \cdot CS_{tk} + \delta_k \cdot paym_{tk} + \chi_{3j} \sum_{j=1}^4 d_{industry,j} + T_3 \cdot d_{time} + \epsilon_{3t}$$

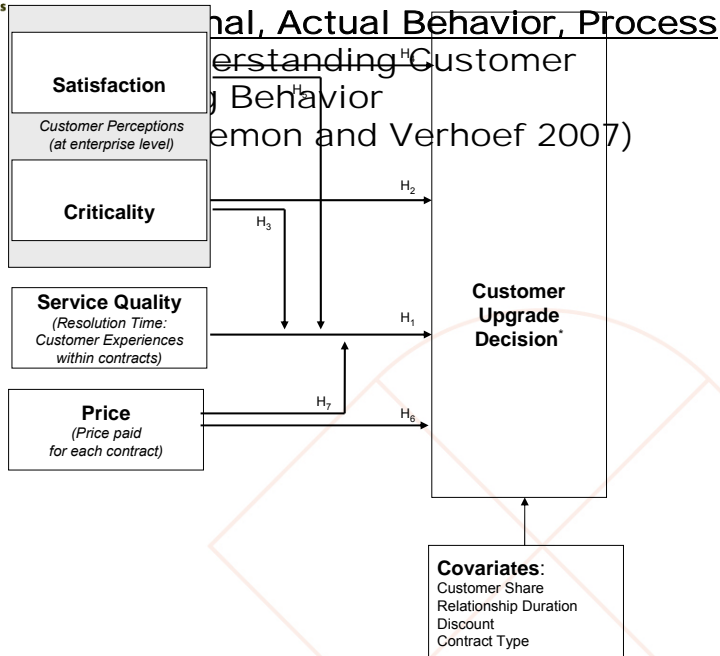
where  $k=1$  (CI occurred),  $2$  (no CI)  
 $CS_t$  = customer satisfaction at  $t$   
 $attsat_{lt}$  = satisfaction with the attribute  $l$  at  $t$   
 $paym_t$  = payment equity at  $t$   
 $Cshare_t$  = customer share at  $t$   
 $d_{industry,j}$  = industry-dependent dummy-variable



# Model Simulation: Understanding the Impact of CI

| Customer Share                               |                                    |                    |                     |
|--|------------------------------------|--------------------|---------------------|
|  |                                    | low $Cshare_{t-1}$ | high $Cshare_{t-1}$ |
|  |                                    | $Cshare_{t-1} = 2$ | $Cshare_{t-1} = 5$  |
| low overall satisfaction/<br>payment equity  | $CS_t = 1.87; paym_t = 2.87$ CI    | 1.79               | 4.18                |
|  | $CS_t = 2.39; paym_t = 3.16$ no CI | 2.28               | 4.44                |
|  | $\Delta CI - no CI$                | -0.49              | -0.25               |
| high overall satisfaction/<br>payment equity | $CS_t = 5.28; paym_t = 4.52$ CI    | 2.36               | 4.75                |
|  | $CS_t = 5.79; paym_t = 4.52$ no CI | 2.39               | 4.54                |
|  | $\Delta CI - no CI$                | -0.03              | 0.21                |

- Strongest **decline** in customer share due to CI with low past customer share and low overall satisfaction/payment equity
- Customer share **rises** due to a CI with high past customer share and high overall satisfaction/payment equity





## Data and Method

- Longitudinal
- Contract level and Supplier level
- Survey
- Process-data (i.e. resolution time)
- Actual upgrade behavior per contract
- Random Coefficients Model (multiple observations per customer)

| Variable (Name)                              | Description and Measurement   | Data Source         | Data level |
|--|---|---------------------|------------|
| Upgrading ( $Upgrade_{ik}$ )                 | Contract upgraded or not.<br>A dichotomous variable determined by comparing billing records for January 1999 versus January 1998  | Billing             | Contract   |
| Satisfaction ( $Satisfaction_i$ )            | Average of the following questions (Coefficient alpha =0.70)<br>How satisfied ... (1= extremely unsatisfied, 5 extremely satisfied)<br>.. as a whole with the customer service which you buy from [the supplier]?<br>.. with the value that [the supplier] adds to the business activities?<br>.. are you overall with your relationship to [the supplier]? | Survey              | Supplier   |
| Service Quality ( $SQual_{ik}$ )             | Log of the average resolution time (in minutes) for the focal contract:<br>1998 average resolution time per request for focal contract  | Operations          | Contract   |
| Criticality <sup>3</sup> ( $Criticality_i$ ) | When your system fails, what effect does that have on your business?<br>Dichotomous variable derived from self-report data (1=very serious)   | Survey              | Supplier   |
| <b>Covariates</b>                            |   |                     |            |
| Share of Customer ( $Share_i$ )              | Percentage of service contracts purchased by customer from the supplier.<br>Calculated as: the total dollar value of contracts purchased from the supplier (from the billing data) divided by the dollar value of the total support budget (as reported by the decision maker).   | Survey, Master File | Supplier   |
| Relationship Duration ( $Duration_i$ )       | Duration of relationship in years.<br>Calculated as the years between January 1999 and start of relationship  | Master File         | Supplier   |
| Price ( $LogPrice_{ik}$ )                    | Log of the price level per contract.<br>Dollars per contract (scaled for reasons of confidentiality).   | Billing             | Contract   |
| Discount ( $LogDiscount_{ik}$ )              | Log of the price discount per contract.<br>Discount is expressed as a percentage of the dollar price per contract.  | Billing             | Contract   |
| $ContractType_{pk}$                          | Contract level (medium=1, zero otherwise)   | Master              | Contract   |



## Experimental Research

- Experimental research can be powerful in showing effects of theoretical variables.
- Conjoint studies have been popular (e.g. Wathne, Biong and Heide 2001; Stremersch et al. 2002; Wuyts et al. 2004).
- New addition is combination of conjoint study (within subjects) with between subjects design to test for contextual factors (e.g. Wuyts, Verhoef and Prins 2007).



## To Conclude

- B2B researcher should move beyond traditional survey-design methods.
- Important given the increasing criticism.
- New approaches may provide new insights
- One might get beyond the traditional constructs/ behavior.
- *“You are the one to arrange this shift in methods”*