

# **PLS Path Modeling in presence of a Group Structure: Multi-Group Analysis and Latent Class Detection**

## ***Methods, Applications and Software***

ESSEC Business School, Cergy-Pontoise (Paris, France)

**15 May 2007      9h30-18h00**

Conference Room: **PA 113**

### **Theme of Workshop #1**

Structural Equation Models include a number of statistical methodologies allowing the estimation of a causal theoretical network of relationships linking latent complex concepts, each measured by means of a number of observable indicators.

Two main approaches are available for the estimation of such models: the classical covariance structure based analysis, also known as LISREL (LInear Structural RELations), and the PLS (Partial Least Squares)-based methodology, also known as PLS-PM (PLS Path Modeling).

The two approaches are more complementary than competing, and the choice of one rather than of the other should depend on the purpose of the analysis and the research context. However, since PLS-PM is known to be a “soft modeling” technique, it is more often adapted to deal with problematic datasets analyzed in real applications.

Traditionally, Structural Equation Models assume homogeneity over the observed population, i.e. all units are supposed to be well represented by a unique global model estimated on the whole set of statistical units. Instead, in many real world applications (e.g. when modeling customers’ behaviors and choices to exploit opportunities resulting from customer heterogeneity that help in defining targeted and more efficient strategies), it is reasonable to expect that different sub-groups showing heterogeneous behaviors may exist. Heterogeneity may be related either to a known group structure defined by well known directly observed variables or to unobserved discrete moderating factors. This Workshop addresses both issues by discussing multi-group analysis and latent class detection within the PLS Path Modeling framework.

### **Scientific Programme**

<b>9h30</b>	<b>Arrival of participants at ESSEC Business School in Cergy and Welcome Coffee</b>
10h00	Welcome address and Introduction to the ESSEC-HEC Research Workshop Series Vincenzo Esposito Vinzi (ESSEC, France) and Michel Tenenhaus (HEC, France)
10h10-10h50	Vincenzo Esposito Vinzi (ESSEC Business School, France) <i>PLS Path Modeling and the PLEASURE (Partial LEAst Squares strUctural Relationships Estimation) Software</i>

## Multi-Group Analysis

- 10h50-11h30 Jörg Henseler (Nijmegen School of Management, The Netherlands)  
*A New and Simple Approach to Multi-Group Analysis in PLS Path Modeling*
- 11h30-12h10 Michel Tenenhaus (HEC School of Management, France)  
*A bridge between PLS path modeling and ULS-SEM. Application to the measure of a moderating effect in SEM*
- 12h10-12h30 Floor Discussion
- 12h30-14h00 Lunch at the ESSEC Faculty Club**

## Latent Class Detection

- 14h00-14h40 Christian Ringle (Universität Hamburg, Germany)  
*FIMIX-PLS: Methodology, Numerical Examples and Future Research*
- 14h40-15h20 Silvia Squillacciotti (Electricité de France, France)  
*PLS Typological Path Modeling*
- 15h20-16h00 Laura Trinchera (University of Naples "Federico II", Italy)  
*REBUS-PLS: REsponse-Based procedure for detecting Unit Segments in PLS path modeling*
- 16h00-16h20 Coffee Break**
- 16h20-17h00 Tomàs Aluja (Universitat Politècnica de Catalunya, Spain)  
Gastón Sánchez (Universitat Politècnica de Catalunya, Spain)  
*A Simulation Study of PATHMOX (PLS Path Modeling Segmentation) Sensitivity*
- 17h00-17h40 Rosaria Romano (KVL, Denmark)  
*The Fuzzy Approach to PLS Path Modeling*
- 17h40-18h00 Floor Discussion
- 18h00 Closing address & presentation of Workshop #2  
(HEC School of Management, fall 2007)**

**The participation in the Seminar is open to all interested people and it is free of charge**  
Lunch will be served at the ESSEC Faculty Club (payment on site)

If you wish to participate, please fill in the attached **Registration Form** and send it to Prof. Vincenzo Esposito Vinzi ([vinzi@essec.fr](mailto:vinzi@essec.fr)) by no later than **28 April 2007**

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### REGISTRATION FORM

Last name		Title	
First name(s)			
Institution/Company			
Street/P.O.Box			
Postal Code	City	Country	
Phone		Fax	
E-mail			

I will attend the PLS Workshop at the ESSEC Business School on **15 May 2007** (free)

I will have lunch at the ESSEC Faculty Club (to be paid on site)

I will not be able to attend this Workshop but I like to be informed on the next ones

Date \_\_\_\_\_

Signature \_\_\_\_\_

Please fill in and return this form to:  
**Prof. Vincenzo ESPOSITO VINZI**  
 via e-mail ([vinzi@essec.fr](mailto:vinzi@essec.fr)) or fax (01 34 43 36 91)  
 by no later than **28 APRIL 2007**