

## **Book Review: Handbook of Partial Least Squares: Concepts, Methods and Applications**

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### **Book Information**

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## BOOK REVIEW

Business and management researchers would probably agree that some applied research projects have limited participants because of the project nature. Surveying multinational CEOs, female senior executives, or physically disabled workers can be challenging because the sample size can be small and the data distribution is often skewed. These problems may cause researchers to draw incorrect inference and prevent them from carrying out structural equation modeling (SEM) where strict data assumptions are required.

Partial Least Squares (PLS) is a soft-modeling approach developed by Herman Wold in the mid 60s. Since PLS is insensitive to data non-normality, with no parameter identification problem, and has relatively small sample size requirement, it is often considered by researchers to be a good alternative to traditional covariance-based approach in SEM.

The first edition of the Handbook of Partial Least Squares was just published by Springer in February 2010, after a 3-year publication delay. This 800-page book is the second volume in the Springer Handbooks of Computational Statistics series. It is positioned to be a comprehensive reference guide that explores the concepts, methods, and applications of the PLS statistical procedure. The book is written for professors, PhD students, and research professionals who want to gain a better understanding of this emerging multivariate analysis approach. Since it assumes some knowledge of intermediate statistical knowledge, this book is not a beginner text for college students. The global research community would benefit from this handbook due to a general lack of PLS publication in the market. This book is timely as PLS has gained increasing attention of the research community in the past decade.

This handbook is edited by V. Esposito Vinzi et al. who are renowned experts in the PLS field. A whopping 33 articles are contributed by 74 authors from the global academic and research community. There are three main parts to the handbook, which one should read in sequence from the book's beginning to end.

The first part explores the PLS methodology in general. The articles are grouped into five sections to help readers understand PLS in a step-by-step manner. The first section (Chapter 1-3) consists of three articles, discussing the basic concept and model assessment of PLS. I enjoy reading Dijkstra's article the most because he reveals the history of PLS from a first hand perspective. As Wold's PhD student at the Wharton School, he brings readers back in time to view the early development of PLS vividly. Dijkstra clearly explains the "basic design" and how PLS can be used to construct proxies for the latent variables. The second section (Chapter 4-7) extends the PLS Path Modeling discussion to help readers design advanced, multi-block models. I find Chin and Dibbern's article interesting as they present a new permutation-based procedure for carrying out multi-group PLS analysis. The issue of classification is being covered in the third section (Chapter 8-10), while the fourth section (Chapter 11-14) illustrates how PLS path modeling can be used in customer satisfaction studies. Advanced PLS regression modeling is explored in the fifth section (Chapter 15-17). Readers may find the paper by Wold, Eriksson and Kettaneh useful as it explores the use of PLS in data mining and data integration.

Part two (Chapter 18 to 27) is my favourite as it shows how PLS can be applied to solve marketing problems. It covers case studies ranging from employee satisfaction, brand preference, customer loyalty, customer value, web strategy, to total quality management. I believe business and management researchers will appreciate the various examples presented in the book. PLS is presented as a good alternative to traditional AMOS or LISREL approach in conducting SEM analysis if the model is designed properly. Kristensen and Eskildsen's article "Design of PLS-Based Satisfaction Studies" is a must read for marketers who want to make use of PLS in their customer satisfaction projects.

The final part of this book (Chapter 28 to 33) is designed to be a tutorial for PLS learners. It is a collection of "how to" articles, guiding readers to properly design and build PLS models. I enjoy reading Chin's article "How to Write Up and Report PLS Analyses" as it helps readers to report their research findings in a professional manner.

While this book serves as a great resource to those who are new to PLS, researchers who have been actively using this statistical procedure and following its development since the late 90s may find it a slight disappointment. This is because the book mainly consists of extended version of existing PLS literature that has been published in the past decade. Another imperfection can be found in the tutorial section. While the articles in part three help readers to choose the right software and develop advanced model for PLS analysis, the book lacks sufficient guidelines to alert readers what "not to do" when using PLS in their research projects. As *MIS Quarterly (MISQ)* has twice pointed out in its editorial (Marcoulides & Saunders, 2006; Marcoulides, Chin & Saunders, 2009), PLS is not a magical silver

bullet for all kinds of research projects. Researchers must pay attention to its limitations and restrictions. These important messages seem to be lacking from this otherwise great handbook of PLS.

With a suggested retail price of £224.00, the Handbook of Partial Least Squares is certainly not an impulse purchase for most readers. If you are a professor or researcher who wants to gain insights into this statistical procedure to tackle problematic data set, this book is a good buy considering the enormous effort the editors have put in to bring this book to life. For those who want to take a peek of this masterpiece, you will be pleased to learn that Google Books has a copy for your preview.

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Publishing; 798 pages; "Handbook of Partial Least Squares: Concepts, Methods and Applications (Springer Handbooks of Computational Statistics)," by Vincenzo Esposito Vinzi, et al. Fulfillment by Amazon (FBA) is a service we offer sellers that lets them store their products in Amazon's fulfillment centers, and we directly pack, ship, and provide customer service for these products. Enter your mobile number or email address below and we'll send you a link to download the free Kindle App. Partial Least Squares is a family of regression based methods designed for the analysis of high dimensional data in a low-structure environment. Its origin lies in the sixties, seventies and eighties of the previous century, when Herman O. A. Wold vigorously pursued the creation and construction of models and methods for the social sciences, where soft models and soft data Partial Least Squares is a family of regression based methods designed for the analysis of high dimensional data in a low-structure environment. Start your review of Handbook of Partial Least Squares: Concepts, Methods and Applications. Write a review. Jan 06, 2011 Walter Reade rated it liked it. You can write a book review and share your experiences. Other readers will always be interested in your opinion of the books you've read. Vincenzo Esposito Vinzi Wynne W. Chin J rg Henseler Huiwen Wang Editors Handbook of Partial Least Squares Concepts, Methods and Applications 13. Editor-in-Chief ESSEC Business School of Paris and Singapore Department of Information Systems & Decision Sciences Avenue Bernard Hirsch - B.P. 50105 95021 Cergy-Pontoise Cedex France vinzi@essec.fr Nijmegen School of Management Institute for Management Research Radboud Universiteit Nijmegen 6500 HK Nijmegen The Netherlands j.henseler@fm.ru.nl Editors Bauer Faculty Fellow Department of Decision and Information Sciences C.T. Book Title: Handbook of Partial Least Squares: Concepts, Methods and Applications. Author: Esposito Vinzi, V.; Chin, W.W.; Henseler, J.; Wang, H. Publisher: Springer. Partial Least Squares (PLS) is a soft-modeling approach developed by Herman Wold in the mid. 60s. Since PLS is insensitive to data non-normality, with no parameter identification problem, and has. relatively small sample size requirement, it is often considered by researchers to be a good alternative. to traditional covariance-based approach in SEM. The first edition of the Handbook of Partial Least Squares was just published by Springer in. February 2010, after a 3-year publication delay. This 800-page book is the second volume in the. Springer Handbooks of Computational Statistics series.

Partial Least Squares is a family of regression based methods designed for the analysis of high dimensional data in a low-structure environment. Its origin lies in the sixties, seventies and eighties of the previous century, when Herman O. A. Wold vigorously pursued the creation and construction of. Concepts, Methods and Applications. Editors: Esposito Vinzi, V., Chin, W.W., Henseler, J., Wang, H. (Eds.) Free Preview. Offers an up-to-date review of recently developed Partial Least Squares methods and their applications in marketing. Provides a complete and comprehensive overview of the field. Focuses both on statistical methodology and selected real world problems. This handbook provides a comprehensive overview of Partial Least Squares (PLS) methods with specific reference to their use in marketing and with a discussion of the directions of current research and perspectives. It covers the broad area of PLS methods, from regression to structural equation modeling applications, software and interpretation of results. The handbook serves both as an introduction for those without prior knowledge of PLS and as a comprehensive reference for researchers and practitioners interested in the most recent advances in PLS methodology. Download from free file storage Information about the open-access article 'Book Review: Handbook of Partial Least Squares: Concepts, Methods and Applications' in DOAJ. DOAJ is an online directory that indexes and provides access to quality open access, peer-reviewed journals. Book Review: Handbook of Partial Least Squares: Concepts, Methods and Applications. International Journal of Business Science and Applied Management. 2011;6(2):52-54. Journal Homepage. Journal Title: International Journal of Business Science and Applied Management. ISSN: 1753-0296 (Online). Publisher: International Journal of Business Science and Applied Management. LCC Subject Category: Social Sciences: Commerce: Business. Country of publisher: United Kingdom. This edited book presents the recent developments in partial least squares-path modeling (PLS-PM) and provides a comprehensive overview of the current state of the most advanced research related to PLS-PM. The first section of this book emphasizes the basic concepts and extensions of the PLS-PM method. The second section discusses the methodological issues that are the focus of the recent development of the PLS-PM method. The third part discusses the real world application of the PLS-PM method in various disciplines.