

2018

# Contemporary advanced statistical methods for the science of marketing: Implicative Statistical Analysis vs Principal Components Analysis

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**ICME 2018**

**INTERNATIONAL CONFERENCE ON MARKETING AND  
ENTREPRENEUSHIP, NEAPOLIS UNIVERSITY  
PAFOS**

**7 - 8 December 2018**

**CONFERENCE PROCEEDINGS**



**Contemporary advanced statistical methods for the science of marketing:  
Implicative Statistical Analysis vs Principal Components Analysis**

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**Introduction:** Even though there is a substantial development and utilization of patterning methods in the science of marketing, a direct comparison of multivariate methods in group/cluster identification in the field of Consumer Behavior has not been carried out.

**Objective:** This study analyses two different statistical techniques: i.e the Principal Components Analysis (PCA) and the Implicative Statistical Analysis (ASI). The main objective is to compare patterns derived from Principal Components Analysis (PCA) and Implicative Statistical Analysis (ASI) procedures with respect to Consumer Behavior.

**Design:** A survey was carried out using a structured questionnaire for a sample of 335 adults, customers of 125 Greek e-shops. These were conventionally approached by the Marketing Laboratory of a major public University in Northern Greece. Information Seeking, Information Sharing, Responsible Behavior subscales are related to Customer Participation Behavior. These subscales were measured by 15 items, rated on a seven-point Likert format, ranging from 1 (strongly disagree) to 7 (strongly agree).

**Methods:** The study focuses on the presentation of the two main types of clustering methods, Implicative Statistical Analysis (ASI) and Principal Components Analysis (PCA).

**Results:** PCA's results showed the existence of 3 Component, amongst which the first is shown to be the Component of Responsible Behavior, the second is shown to be the Component of Information Sharing, and the third is shown to be the Component of Information Seeking.

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ASI results release a similarity tree and a cohesive tree. Similarity tree showed that *Information Seeking* is the par excellence most powerful constituent of the creation of Customer Participation behaviour values and *Information Sharing* is the next similarity tree also showed that customers' *Responsible Behaviour* is the weakest constituent for the creation of Customer Participation Behaviour values.

Hierarchical group of the items in conceptual construct *Information Seeking* exhibits the externally significant cohesion. Beliefs on conceptual construct *Information Sharing* imply beliefs on *Responsible Behavior with* exceptionally high cohesion.

**Key words:** Principal Components Analysis, Implicative Statistical Analysis, Consumer, Behavior

# AGENDA

1<sup>st</sup> International Conference on Marketing and Entrepreneurship – ICME 2018

7, 8 December 2018. Neapolis University, Pafos

Coordinator: Dr. Andreas Masouras

Meeting called by ICME 2018  
Attendees: open  
Please read: Instructions  
Rooms: Seminar room & G5

## Friday, 7<sup>th</sup> December 2018

10.30 – 11.00 Keynote speakers Seminar Room  
**Prof. Pantelis Sklias** | Rector, Neapolis University

**Prof. Constantinos Athanasopoulos**, Neapolis University | Η Προώθηση Δημοσιότητας των Στελεχών Επιχειρήσεων: Ουτοπία ή αναγκαιότητα;

**Prof. Angelos Tsaklagkanos**, Neapolis University | Η Τεχνολογική Διάσταση της Καινοτομίας

11.00 – 12.00 Session 1 Seminar Room  
**Mr. Kokou George**, Industry Liaison Office, Cyprus University of Technology | Innovation as a

powerful tool for Problem Solving: The key role of Universities

**Mr. Harry Ph. Sophocleous**, Strategico Consulting Group | Voting Consuming Behaviour, Political communication campaigns and Ideological Clarity - a parallel review of academic/empirical evidence

**Prof. Anastasia Reppa**, Neapolis University | Επιχειρηματική Εκπαίδευση στα Σχολεία

**Prof. Polimenis Vassilis**, Aristotle University of Thessaloniki / Neapolis University | StartUps financing

**12.00 – 12.30 Coffee break**

12.30 – 13.15

Session 2

Seminar Room

**Dr. Sotiroula Liasidou**, Cyprus University of Technology | Promoting the European member states online: A critical discourse analysis (CDA) of the official tourism websites

**Prof. Sofia Anastasiadou**, University of Western Macedonia & **Ms. Zafeiria E. Papadaki**, International Hellenic University | Consumers' perceptions toward E-Service Quality, Perceived Value, Purchase and Loyalty Intentions

**Dr. Thomas Fotiadis & Prof. Sofia Anastasiadou,**  
University of Western Macedonia | Contemporary  
advanced statistical methods for the science of  
marketing: Implicative Statistical Analysis vs  
Principal Components Analysis

**Dr. Thomas Fotiadis & Prof. Sofia Anastasiadou,**  
University of Western Macedonia | Contemporary  
advanced statistical methods for the science of  
marketing: Principal Components Analysis vs  
Analysee Factorielle des Correspondances

**13.15 – 14.15 Lunch**

14.15 – 15.15

**Session 3**

**Seminar Room**

**Dr. Artemis Savvidou,** Neapolis University |  
Παγκοσμιοποίηση και Ανταγωνισμός. Ρυθμίσεις  
υπερεθνικού και εθνικού επιπέδου και ιδίως  
ποινικής υφής

**Mr. Anastasiadis Lazaros,** University of Crete &  
**Mr. Christoforidis Christos,** Neapolis University |  
Evaluating citizens' actual perceptions and  
expectations and assessing e-Service Quality Gap  
in Public Sector related to e-Government Services

**Dr. Giossi Styliani,** University of Macedonia, **Prof.**  
**Sofia Anastasiadou,** University of Western  
Macedonia, **Mr. Gamanis Achilleas and Mr.**  
**Gamanis G. George** | Tracing the concept of

entrepreneurship and the role of an entrepreneur:  
A critical review

**Dr. Christos Papademetriou & Ms. Charalampous  
Constantia**, Neapolis University |  
Entrepreneurship and Innovation in Education:  
The model of the Inclusive Leader

**Saturday, 8<sup>th</sup> December 2018**

Session 4

**11.00 – 12.00, Room: G5**

**Mr. Ioannis Komodromos**, Neapolis University | New Generation of Consumers in the Tourism  
Industry: secondary research

**Mr. Petros Philippou**, Brand Strategist | Marketing Redefined

Workshop / Discussion / Συζήτηση.