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### Clustering and Profiling Consumer Buying Behavior: The Greek Case During Crisis Period

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#### **ABSTRACT**

This paper aims to identify the factors that affect consumers' buying behavior towards goods of consumers' shopping basket to classify them into groups according to their similar buying behavior patterns and to profile each group of consumers. A primary survey conducted to 242 consumers in Greece. Principal component analysis (PCA) conducted to identify the main factors that affect consumers purchasing behavior. Cluster analysis performed to classify consumers into groups with similar purchasing behavior whilst discriminant analysis conducted to check cluster predictability. Nonparametric tests are performed to profile each group of consumers according to their demographic characteristics and other factors. PCA identified six main factors: (1) price, (2) entertainment during shopping, (3) advertisement, (4) public relationships, (5) product features, (6) promotion activities. Cluster analysis classified consumers into three groups: (1) advertisement-orientated consumers, (2) promotion-orientated consumers, and (3) entertainment-orientated consumers.

#### **KEYWORDS**

Buying Behavior, Cluster Analysis, Consumer Behavior, Consumers' Shopping Basket, Crisis Period, Discriminant Analysis, Principal Component Analysis

#### INTRODUCTION

The Great Recession of 2008/2009 was characterized by the most severe year over year decline in consumption since 1945 (De Nardi et al., 2011). The recession had prompted a reconsideration of what is acceptable consumerism (Williams, 2008). The financial crisis had "aimed its death ray" at "the very ethos of conspicuous consumption" (Dewan, 2009). Reports about how conspicuous consumption is out of vogue appeared and consumers claimed that they are less conspicuous (Nunes et al., 2011).

Pop and Rosca (2009) and Perriman et al. (2010) think that during the period of recession, many unexpected changes bring to the consumers a feeling of insecurity, they doubt about the nature of the upcoming events and so, they become much more careful when dealing with certain expenses.

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When shopping becomes more costly to consumers as a result of increases in relative product prices, then consumers may have an incentive to economize on shopping trips to save money during recessions, or to buy in bulk to obtain price discounts (Foster et al., 2011).

Perriman et al. (2010) divide the factors of influences in two categories: internal and external. Internal factors are related to psychological and personal characteristics of consumers. Personality, attitudes, motivation have a great importance in making a purchase. All of these may be affected in a certain way in times of economic distress, maybe more than all the other factors and it can be very difficult to change the psychological effects of the financial crisis. External factors refer to the changes that consumers are forced to make by the environmental influences. These do not depend on them and are very difficult to control.

A shopper typology based on shopping adaptations in an economic crisis classifies consumers. The analysis shows a more knowledgeable shopper, more concerned with value than before. This concern reflects in general increases in purchase planning, price consciousness, more containment of impulsive behaviors, less purchasing of ethical alternatives, and increased patronage of cheaper brands in groceries and clothing (Hampson & McGoldrick, 2013). Communication with consumers is of special importance. Lost consumer interest, due to reduced discretionary income, can be reacquired through promotion activities. By this means, consumers tend to change their brand preferences more frequently during crises than at other times (Haluk Köksal & Özgül, 2007).

Since 2008, where the economic crisis started in Greece, its economy felt in deep recession. To be more specific, since May 2010, after the announcement of the financial agreement of the Greek government with the Eurozone countries and the IMF on a bailout loan for the country, conditional on the implementation of austerity measures, Euro area Member States and the IMF provided financial support to Greece through an Economic Adjustment Programme. The GDP reduction since 2010 dropped by more than 20%, the unemployment rate reached 25% in 2016 (ELSTAT, 2018). This percentage represented the greatest decline of GDP in comparison to six other European countries affected by the crisis (Ireland, Portugal, Spain, Italy, and France). Moreover, the unemployment rate surged from 7.3% in May 2008 to 27.2% in May 2014. The purchasing power of the average gross wage during the five years 2010–2014 decreased by 23% and returned to the salary levels of 1995 (ELSTAT, 2014). The Euro Working Group on 2 May 2017 ended with confirmation of the provisional agreement between the Greek government and its creditors, but without any talks on the lightening of the Greek debt (European Council, 2018).

Hence, this paper explores consumers purchasing behaviour in economic depression period. The novelty of this study is that identifies the factors that affect consumers' buying behaviour towards goods of consumers' shopping basket during a deep recession period and classifies them into groups according to their similar buying behaviour patterns and to profile each group of consumers according to their demographic characteristics and other factors. In other words, it takes into consideration all the intrinsic and extrinsic characteristics and values, marketing mix issues (product issues, price related issues, promotion issues and marketing channel's issues) and demographic characteristics in exploring the factors that affect consumers purchasing behavior during a deep economic recession period.

#### LITERATURE REVIEW

Research into consumption behavior has indicated a major shift in the types of goods bought, with less goods related to lifestyle and self-expression purchased (Brunso & Grunert, 1995; Nanaki, 2018). Consumers have reported different behavioral modifications regarding their shopping behavior, a very important field of study, especially in the last few years, when the economic situation had suffered dramatic changes all around the world (Stefura, 2010). Booth and Shepherd (1988) argued that cultural and economical factors, consumer's personality, attitudes, values and emotions, affect consumers' decision-making process regarding food selection. A decade later, Steenkamp (1997) identified that biological, psychological and socio - demographical consumer's characteristics, marketing of

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