

## A DATA MINING APPROACH OF CONSUMER DECISION MAKING PROCESS AND EMOTIONAL INTELLIGENCE ON MARKETING

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### **ABSTRACT**

*In a rapidly evolving and ever-changing world, a changing international environment where there is plenty of information and products, the sale and consumption of goods is an integral part of most of the world's inhabitants' daily routine. People make decisions and make choices on what products they will consume depending on the needs they want to satisfy. Therefore, it is essential to look at it, motivations and feelings of consumers that lead to reception-specific decisions concerning the choice of products or products services they consume daily. Also, maximizing customer utility, ongoing customer relationships, creating and developing "smart" technology, for instance, require emotional intelligence.*

*The aim of this empirical paper is to explain the motives, emotional and non-emotional, and the decision-making process that lead consumers to the product market through use of psychometric tools of emotional intelligence and emotional empathy that administered to young adults and social media consumers. Also, the utility of psychometrics and innovative techniques in measuring consumer behavior is indicated through the present study. The findings demonstrate amongst others that emotional ability may provide an effective perspective providing ways to marketers in order to appeal consumers with a means for selecting and targeting consumer groups likely to buy or use their product or service.*

*In conclusion, Consumer Decision Making Process can be promoted and evaluated by psychometric assessment tools and also via innovative data analyses such as machine learning methods and the findings of the present project can be expanded for further research.*

**KEYWORDS:** *Consumer Decision Making, Consumer Behavior, Machine Learning, Emotional Intelligence*

### **INTRODUCTION**

In recent years, terms, consumer behavior, philosophy of marketing, and purchasing behavior models have been proposed by large multinational companies and domestic, medium, and even small businesses to attract an ever-increasing consumer size. Business and marketers' goal is to reach consumers by offering financial incentives and a network of psychological and psychoanalytic factors to be in the subconscious of consumers/clients and thus to direct their behavior.

In a rapidly evolving society and in an ever-changing international environment where there is plenty of information and products, the sale and consumption of goods is an integral part of the majority of the world's inhabitants' daily routine. People make decisions and choose what products they will consume depending on what they want to satisfy. Therefore, it is essential to look at consumers' motivations and feelings that lead to specific decisions regarding the choice of products or services they consume daily. Also, maximizing customer utility, ongoing customer relationships, creating

and developing "smart" technology, for instance, require emotional intelligence. The present review is studied whether there is a link between the theory of consumer behavior and emotional intelligence through specific psychometric scales of consumer behavior and emotional state.

Contemporary research on Consumer Behavior considers a wide range of factors influencing the consumer and acknowledges a broad range of consumption activities beyond purchasing. Two primary components that influence consumer behavior are personality and emotional intelligence. Personality' refers to the pattern of thoughts, feelings, and behavior that makes each separate from others. These affect the way of think, feeling, and behaving towards itself and others. Emotional intelligence (EI) can be defined as the ability to monitor one's own and other people's emotions, discriminate between different emotions, label them appropriately, and use emotional information to guide thinking and behavior. Trait EI is "a constellation of emotional self-perceptions located at the lower levels of personality." In lay terms, trait EI, refers to an individual's self-perceptions of their emotional abilities.

Human behavior is significantly influenced by emotions, not just logic. Consumers are often very emotional and intuitive in their behavior, working through the centers of brain feelings and regardless of consciousness control. If the basis of consumer behavior is emotion, the same foundation is the relationship between business and consumer. Of course, since the basic function of the brain is to predict and compare, this with little words mean that brain architecture is based on control and it balance between functions. For example, the left hemisphere (logical thinking) deals with the past and the future, right (sentiment) deals with it now, thus balancing two basic brain functions.

The Consumer Behavior Theory examines how individuals make decisions to spend their available resources (money, time, effort) on various items for consumption. Consequently, the Theory of Consumer Behavior includes the answer to the following questions:

- What do consumers buy?
- Why do they buy it?
- When do they buy it?
- Where do they buy it from?
- How often do they buy it?

Our emotions play a very important role in our lives, as through successive phases we lead to decision-making. Feelings help us to consolidate our limits; they also have the potential to serve as an internal moral and ethical compass and are essential for making a good decision. Scientists have highlighted the importance of Emotional Intelligence in achieving personal and collective goals, the success of our interpersonal relationships, and the important role it plays in defining our purchasing behavior (Figure 1).



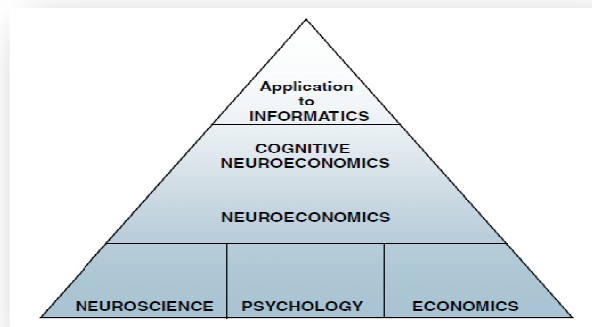
Figure 1: Pyramid Outline.

### Psychological Theoretical Framework and E-Marketing

The hierarchy of needs based on Maslow's theory which has been developed in the field of clinical psychology and is used to explain the orientation of human behavior to the needs-motivation, can be an important area of research for the optimization of various techniques of marketing. According to Maslow's theory, there are five levels of human needs, in hierarchical order: (1) Normal (2) Security (3) Love, (4) Assessment and self-assessment and (5) Self-fulfillment or completion. Just needs a level met, the person will go to the next level. It should be noted that online services of marketing and online advertising products can meet the needs and aspirations in five hierarchical levels. The main reason for the wide acceptance of Maslow's theory is probably, its simplicity. A number of surveys and studies support the view that consumer behavior in the field of e-marketing and online advertising is geared towards the target. Also, incentives affect the nature and volume of the necessary information, and the manner in which such information will be used by targeting the most appropriate choice of the online product, i.e., at the choice that offers the most desired market chances of achieving.

### Decision-Making

Decision-making is a field of interest for philosophers, and other scientists from applied research fields like behavioral neuroscientists, neuropsychologists, and marketers. A crucial point that drives research in this field is the theme that people who are appeared to have the same options, finally make different choices. It is not clear in what way the cognitive and neurological processes lead people to different outcomes. It is true that rational economic models and the traditional theory of decision-making that is applied in economics do not predict in an accurate way the human behavioral models of decisions and choices (*Halkiopoulos et al, 2020*). Neuromarketing and neuroeconomics in general is an emerging field that could provide adequate explanations in combination with similar scientific perspectives and theories from psychology, economics and behavioral neuroscience (Figure 2).



**Figure 2: Pyramid Outline.**

### **Emotional Intelligence Measurement Models**

The above dominant models in the study of Emotional Intelligence led to the creation of corresponding measurement tools. The problem of the measurement of Emotional Intelligence lies both in the emotional its background and its relatively recent discovery and study. However, these efforts are reflected in the following tools:

#### **Emotional Quotient Inventory (EQ-I) (Bar-On, 1997)**

Evaluates 15 factors, emotionally and socially, grouped into the scales: Intrapersonal, Interpersonal, Adaptive, Stress Management, Positive, General Disposition & Total Emotional Intelligence. It is a self-assessment measure of Emotional Intelligence which has been developed as a measure of emotional and social ability, behavior that provides an appreciation of one's emotional and social intelligence. This tool does not measure features of personality or cognitive ability but the mental ability to successfully meet your environmental requirements(Bar-On, 2004).

In particular, the behavior of the consumer in the market of products or services, the purchase of which is influenced by emotional or emotional impact, with different marketing methods used by modern enterprises in order to attract consumers. Consumers daily choose products and make purchases to meet their needs. Apart from the rational motivations (e.g., satisfaction of a need) that lead those to make a market, there are also emotional motives that affect the way consumers act. Because emotions are part of the decisions we make in our lives, we need to study how important the emotional motivations that lead us to our final decisions are, and if there are statistically significant differences in emotional consumer intelligence that have different attitudes and perceptions. In this way, we will try to describe the characteristics of the consumers, to estimate the percentage of each category and to predict the behavior of consumers about the decisions they take, as well as the factors that determine the extent to which Emotional Intelligence affects the attitudes and their perceptions.

#### **Trait Emotional Intelligence (EI)**

Emotional Intelligence was evaluated using the standardized psychometric scale Trait Emotional Intelligence Questionnaire(TEIQue) based on the Trait model of emotional intelligence as it proposed by K.V. Petrides. TEIQue is developed in order to examine all the dimensions of trait emotional intelligence model and consists of fifteen (15) subscales classified under four (4) factors: Well-being, self-control, emotionality and sociability(Cooper & Petrides, 2010; (Petrides, & Furnham, 2006;2003).Also, TEIQue,is a psychometric tool useful in identification of affective aspects of

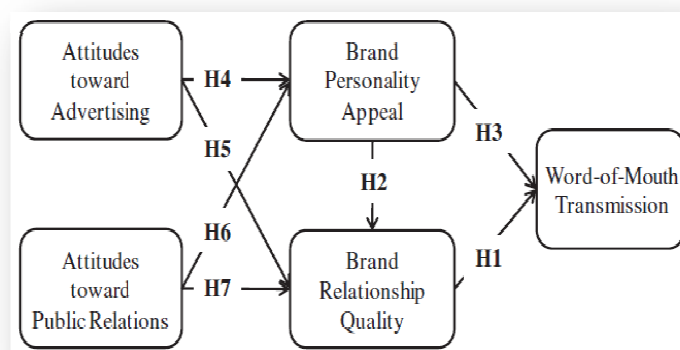
personality and has been used in numerous studies wherein included research in scientific fields such as neuroscience, behavioral genetics, psychopathology, addictive behavior and general health (*Espinosa & Rudenstine, 2019; Sarrionandia, & Mikolajczak, 2019; Sechi, Loi & Cabras, 2020*)

### Brand Personality Appeal (BPA)

The personality of a trademark consists of a combination of human features associated with a brand. Consumers use the personality of a brand name as a means of personal identification but also positioning on the product in question, with the result that it often appears as a personality identity with the personality of that trademark. Within a consumer society, a brand is no longer the subject of financial exchange, recognition, and consumers themselves. Consumers use the brand when their personality helps them identify, place, and recognize themselves. Such an adaptation of course also depends on the ability of the mark to make it attractive to consumers. For this reason, the brand personality must be discreet, attractive, and recognizable to all consumers. These brand features determine its personality, the ability of a brand to reach consumers by combining the human characteristics associated with it (Figure 4). Many empirical researches on brand-consumer relationships has shown that brand personality allows consumers to express themselves by shaping and enhancing the relationship between brands and consumers. For this reason, consumers tend to build, develop, and strengthen their relationship with the brand (*Freling et al., 2010*).

### The Conceptual Model of Brand Personality Appeal Scale:

- **H1:** Brand relationship quality has a positive effect on WOM transmission.
- **H2:** Brand personality appeal has a positive effect on brand relationship quality.
- **H3:** Brand personality appeal has a positive effect on WOM transmission.
- **H4:** Attitudes toward advertising have a positive effect on brand personality appeal.
- **H5:** Attitudes toward advertising have a positive effect on brand relationship quality.
- **H6:** Attitudes toward public relations have a positive effect on brand personality appeal.
- **H7:** Attitudes toward public relations have a positive effect on brand relationship quality.



**Figure 4: BPA Conceptual Model.**

### The Balanced Emotional Empathy Scale (BEES)

Balanced Emotional Empathy Scale (*Mehrabian, 1996;2000*), is a unidimensional scale measuring affective or emotional empathy. It is a self-report tool consisting of thirty (30) items. Half of these items are positively worded, whereas half of them are negatively worded. Empathy is separated in two types: cognitive and emotional empathy. Cognitive aspect refers to understanding instinctively another person's thoughts, feelings and actions, whereas emotional empathy is mostly the feeling of emotion of other people indicating a compassionate perspective. This second aspect of empathy is measured by BEES but also five components of emotional intelligence are measured: Self-awareness, managing emotions, motivating oneself, empathy and social skills (Figure 6). As far as the psychometric properties of the tool, it is referred to have internal consistency ( $\alpha=.87$ ), test-retest reliability ( $r=.77$ ) and predictive validity for identifying people with potential to behave in an aggressive or violent manner. It is a psychometric tool with psychometric properties which evaluates the emotional aspect of empathy (*Mehrabian, 1996; 1997;2000*).



Figure 5: BEES.

### The Empathy Quotient (EQ)

Empathy is an essential part of normal social functioning, yet there are precious few instruments for measuring individual differences in this domain (*Muncer & Ling, 2006*). The Empathy Quotient (EQ) is a 60-item questionnaire designed to evaluate empathy in adults. This psychometric tool was developed by Simon Baron-Cohen at the University of Cambridge (*Baron-Cohen & Wheelwright, 2004*). This specific measure can be administered by mental health professionals to evaluate social skills in neurodevelopment disorders and even between marketers and other professionals who can administer it as a casual measure of temperamental empathy in the general population (*Sucksmith et al., 2012*).

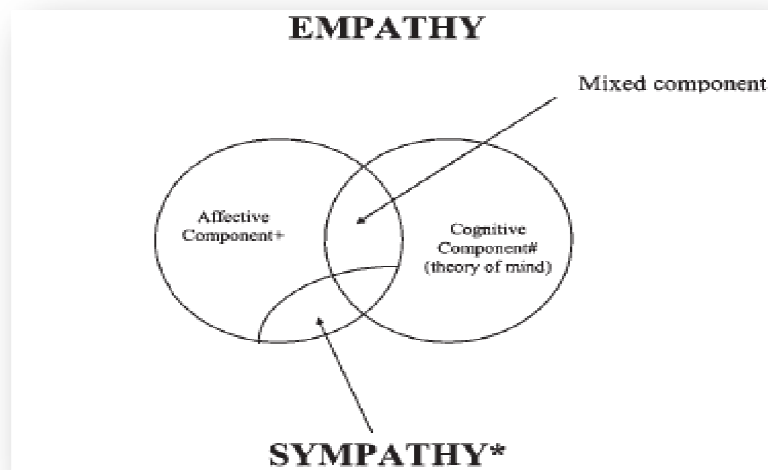


Figure 6: EQ.

### Personality, Emotions and Decision-Making in Consumer Behavior

The role of mood and personality characteristics in decision-making has been explored in foreign literature (Gohm & Clore, 2002; Luce, 1998; Ruth, 2001). The analysis thoroughly understands how customers, according to their personality characteristics, use emotional knowledge to make effective choices. An increasing body of research focuses on the emotions present in situations of consumption, but a stronger understanding of emotional management skills can have a profound impact on the results of customer success. Emotional intelligence, the personality of consumers, and the consumer behavior of young adults who are users of social networks are the subject of current research.

Consumer emotional intelligence is defined here as the person's ability to use emotions to attain the optimum consumer result, comprised of a range of emotional skills of the first order that enable people to understand the implications of emotional patterns that underlie consumers' decision-making and to reason and solve problems based on them (Mayer and Salovey 1997).

In developing knowledge of consumer behavior, a better understanding of emotional ability can have considerable value. For instance, it can provide answers to questions such as how does emotional processing affect purchasing decisions; which choices are more readily made by high vs. low EI customers; how could EI affect relationships between core customer variables such as impulsivity and purchase intention?

Furthermore, we may also be able to classify those consumers who make the highest (and lowest) quality consumer decisions with this understanding of emotional ability. For instance, consumers with high levels of nutritional awareness that lack the emotional capacity to understand which emotions are important and how to control those emotions against unhealthy eating are likely to make decisions of poor quality. Recognizing these emotional deficits will provide a way of enhancing the consistency of consumption decisions subsequently (Gkintoni et al, 2015; Halkiopoulos et al, 2020).

Recent advances in personality psychology can allow us to predict consumer motivation with regard to the effect of personality characteristics on consumer behavior. Traits are characterized as permanent and consistent behavioral habits, behaviors, emotions, which differ from person to person.

Researchers have historically been interested in learning how people vary, so they put a great deal of work into figuring out how to quantify, chart, and describe personality characteristics. In order to identify personality traits, an attempt was made through trait theory. Trait theory implies that a set of quantitative measurable attributes or units known as traits are composed of personality.

Traits are pre-dispositional and relatively stable attributes. Each personality has a specific combination of characteristics and given its stability, it can be assumed that individuals with a given combination of characteristics will behave consistently through situations and over time.

Researchers are now re conceptualizing what characteristics are and where they come from—with characteristics that motivate their decision-making being recognized as chronic predictors.

Researchers, for instance, have related personality characteristics to various outcomes such as experiential purchasing patterns, political affiliation, use of natural language, pet choice, the state of one's personal living room, and even more significant outcomes of life such as divorce, morbidity, and career achievement. Some recent studies have shown that people in disease-ridden settings appear to be less accessible and extroverted personality, possibly because they are less inspired to explore and interact with others (which reduces the chance they will become infected).

### **Emotion-Based Strategies in Consumers**

Emotion is a crucial aspect of decision-making and judgment, since it offers valuable knowledge about who we are and how we communicate with others. Nothing is understood about how emotions impact marketing efficiency. The application of emotional theories to marketing has contributed to research focused on: 1) Emotion as a catalyst to actions, 2) Emotion as a result, and 3) Emotion as an effect on marketing relationships as mediated or moderate. In exchanges and relationships, what is the role of emotions and how do consumers use emotional tools to improve marketing decisions?

A requirement for good judgment in human beings is emotion-based decision-making, the capacity to use emotions when making decisions. Emotional empathy is an ability that makes it possible to understand human beings' separateness and at the same time to interact by attending to and experiencing others' emotional experiences. Empathy is the ability to consider and react appropriately to others' feelings, thoughts, attitudes, and acts in order to support those in need.

Empathy is often seen as an indicator of the other-oriented thought and reactivity of a person over self-oriented response. It is commonly accepted that empathy is a two-dimensional, multifaceted construct: cognitive empathy and emotional empathy. One difference between the two dimensions is that when they see or identify with someone else's misfortunes, emotional empathy refers to the emotional arousal one feels, while cognitive empathy relates to the mental awareness of someone else's misfortune without having experienced it before. Emotional empathy is based on one's tendency to be emotionally conscious. People who shop compulsively will lack emotional empathy, and decision-making is more intuitive rather than reasonable.

### **Consumer Emotional Ability Scale (CEAS)**

The Consumer Emotional Ability Scale explores the contribution of emotional influences as prognosis, effects, moderators and mediators of actions, seeking to explore how people use actual emotions and emotional knowledge in the sense of consumption to perform desirable behaviors. To obtain a desired outcome, the use of emotional (or cognitive) knowledge implies the capacity to process and use this information. The definition of emotional competence and the way it applies to



behavioral success in marketing is regulated by the CEAS. Scale based on four emotional skills underlying (i.e., perceiving, facilitating, understanding, managing). This instrument enabled further analysis of how emotional intelligence influenced consumer relationship outcomes. Brief overview of skills: The Four-Branch Consumer Emotional Intelligence Model Branch name:

- Perceiving Emotion (Branch 1)

The capacity to detect feelings in oneself, others, faces, things, items, packaging, and other stimuli.

- Facilitating Emotion (Branch 2)

The capacity to produce, use and experience emotions as required in other cognitive processes to express feelings or implement them.

- Understanding Emotion (Branch 3)

The ability to understand consumer-related emotional information and understand how emotions combine, blend to get her and change.

- Managing Emotion (Branch 4)

The ability to be responsive to and modulate emotions in oneself and others in order to facilitate awareness and creation of user applications and relationships.

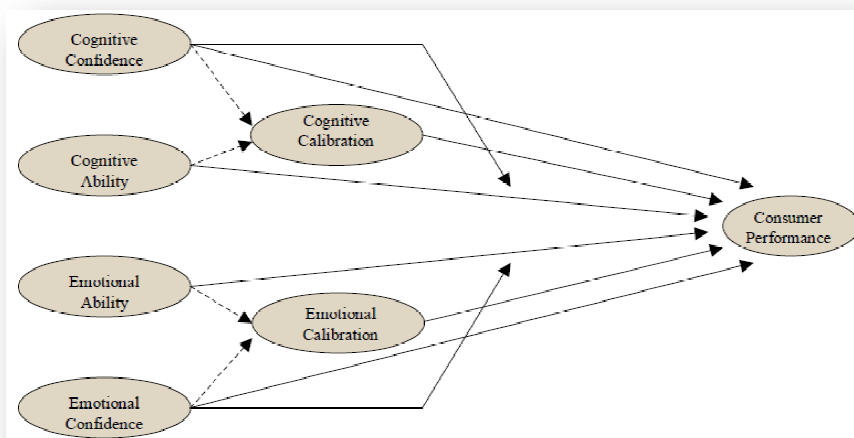


Figure 7: CEAS.

## METHODOLOGY

Machine Learning and Data Mining techniques were applied in this study to analyze emotional aspects of consumer behavior through the psychometric methods provided in the previous section of consumers of social networks. The methodology, which was implemented, consists of three concrete steps.

Digital questionnaires were generated and posted via the website <http://www.cicos.gr> during the first step. Subsequently, data from the questionnaires was obtained and preprocessed. 264 e-consumer cases have been collected in particular.

The data set for review consisted of demographic elements of respondents, such as gender, place of birth, current place of residence, educational history of both respondents and their parents, parents' professional jobs, and all psychometric test subscales.

The data set was analyzed on the basis of data mining techniques during the third stage, and the findings were evaluated. More precisely, classification algorithms were used in order to explain the underlying hidden patterns in the data. Decision trees are a powerful way of representing and enabling (psychological) analysis of results, representing subsequent decisions and variable outcomes over a specified time.

### **Data Mining Techniques**

Data Mining or the discovery of knowledge from databases is the finding - interesting, self-evident, obscure, and possibly useful - information or patterns from large databases using grouping or categorization algorithms and the principles of statistics, artificial intelligence, machine learning and database systems (Maimon & Rokach, 2010). The goal of data mining is the automatic or semi-automatic analysis of large amounts of data to extract an interesting pattern that was previously unknown, such as clusters of data records (clustering), anomaly detection and dependencies (correlation rules). Knowledge extraction as a process consists of the repetitive sequence of the following steps:

- Data Clearance, to remove noise, incorrect data, and unnecessary information.
- Data Integration, where multiple data sources can be combined.
- Data Collection, where data related to the analysis process is retrieved from the database.
- Data Transformation, where data is transformed or consolidated into forms suitable for mining, performing, for example, summary or aggregation functions.
- Data Mining, an essential process where intelligent methods are applied to extract data patterns.
- Method Evaluation, to identify interesting methods that represent knowledge.
- Presentation of knowledge, where the techniques of representation and representation of knowledge are used to present the extracted knowledge to the user.

Data mining involves some of the following classes of processes:

- Anomaly detection: The identification of unusual data entries, which may be of some interest or error in the data requiring further investigation.
- Association rules: Searches for relationships between variables. For example, a company can collect data on its consumers' shopping habits and, using correlation rules, can calculate which products are usually bought together and use this information for purchasing purposes.
- Clustering: The process of discovering groups and structures in data that are "similar" in some way, without using known structures in the data.
- Classification: The process of generalizing known structures for their application on new data.
- Regression (statistics): Finding functions that model the data with the least error.

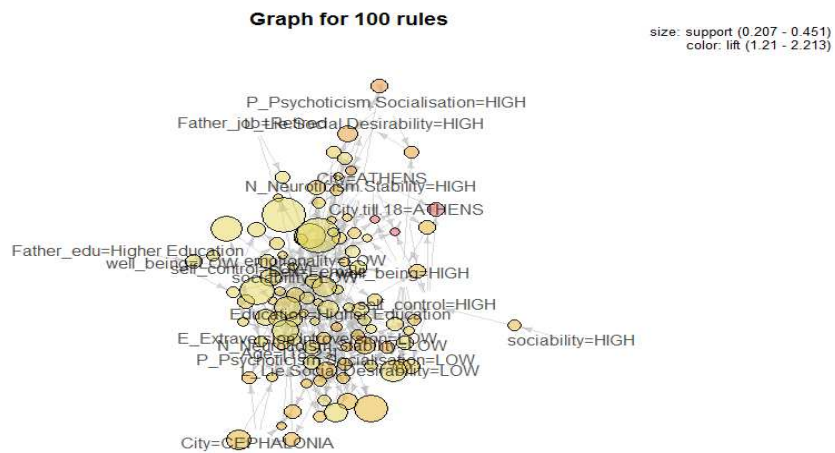
**RESULTS**

- Correctly Classified Instances **257 97.3485 %**
- Incorrectly Classified Instances **7 2.6515 %**
- Kappa statistic 0.9648
- Mean absolute error 0.007
- Root mean squared error 0.075
- Relative absolute error 3.2455 %
- Root relative squared error 22.9153 %
- Total Number of Instances **264**

**Association Rules** present association or correlation between item sets. An association rule has the form of  $A \rightarrow B$ , where A and B are two disjoint item sets (Figure 11).



**Figure 8: Descriptive Statistics.**



**Figure 9: Graph Rules.**

Parallel coordinates plot for 100 rules

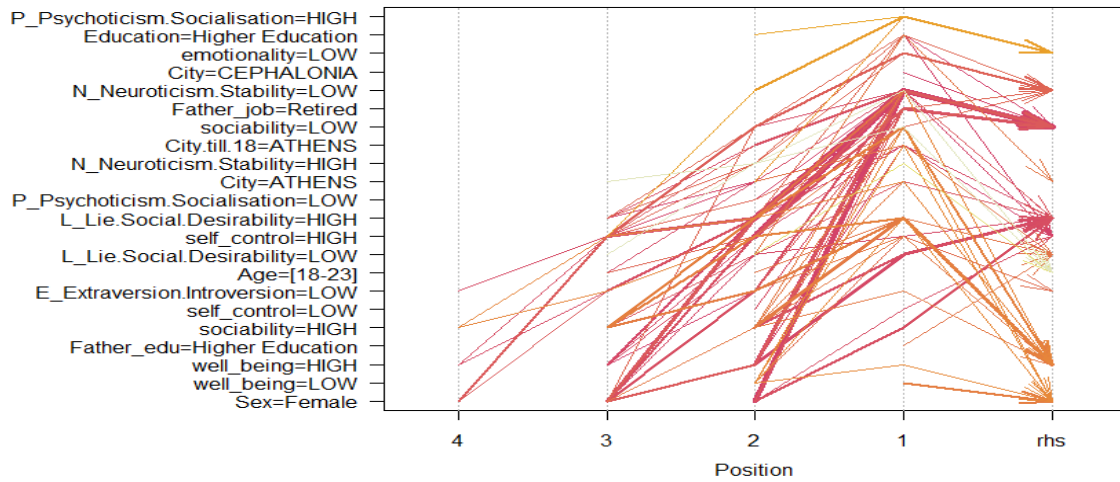


Figure 10: Parallel Coordinates Plot.

Table 1

Detailed Accuracy by Class

TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
1,000	0,008	0,857	1,000	0,923	0,922	1,000	0,988	1
1,000	0,000	1,000	1,000	1,000	1,000	1,000	1,000	2
1,000	0,009	0,962	1,000	0,981	0,976	1,000	1,000	3
0,963	0,006	0,990	0,963	0,977	0,961	1,000	0,999	4
0,929	0,000	1,000	0,929	0,963	0,957	1,000	0,996	5
1,000	0,009	0,938	1,000	0,968	0,964	1,000	0,996	6
1,000	0,000	1,000	1,000	1,000	1,000	1,000	1,000	7
Weighted Avg.	0,973	0,006	0,975	0,973	0,974	0,965	1,000	0,998

Table 2

Confusion Matrix

a	b	c	d	e	f	g	<-- classified as
12	0	0	0	0	0	0	a = 1
0	18	0	0	0	0	0	b = 2
0	0	51	0	0	0	0	c = 3
0	0	2	104	0	2	0	d = 4
2	0	0	1	39	0	0	e = 5
0	0	0	0	0	30	0	f = 6
0	0	0	0	0	0	3	g = 7



B31=1 B64=1 186 ==> B56=1 183 <conf:(0.98)> lift:(1.08) lev:(0.05) [13] conv:(4.23)

B57=1 B64=1 186 ==> B56=1 183 <conf:(0.98)> lift:(1.08) lev:(0.05) [13] conv:(4.23)

B57=1 B64=1 186 ==> B60=1 183 <conf:(0.98)> lift:(1.17) lev:(0.1) [26] conv:(7.4)

B68=1 B76=1 186 ==> B72=1 183 <conf:(0.98)> lift:(1.22) lev:(0.12) [32] conv:(8.98)

B52=1 B64=1 183 ==> B56=1 180 <conf:(0.98)> lift:(1.08) lev:(0.05) [13] conv:(4.16)

B57=1 B60=1 B64=1 183 ==> B56=1 180 <conf:(0.98)> lift:(1.08) lev:(0.05) [13] conv:(4.16)

B56=1 B57=1 B64=1 183 ==> B60=1 180 <conf:(0.98)> lift:(1.17) lev:(0.1) [26] conv:(7.28)

B57=1 B72=1 180 ==> B60=1 177 <conf:(0.98)> lift:(1.17) lev:(0.1) [25] conv:(7.16)

B79=1 B92=1 180 ==> B96=1 177 <conf:(0.98)> lift:(1.14) lev:(0.08) [21] conv:(6.14)

## DISCUSSIONS

The purpose of this empirical study was to explain the motives, emotional and non-emotional, and the decision-making process that lead consumers to the product market. Young adults and social media consumers were administered psychometric scales measuring their emotional ability. Innovative methods of analysis were applied for the interpretation of the results. Data mining rules extracted from repetitive sequences. Specifically, 264 cases of e-consumers extracted. In the parameter of trait emotional intelligence and particularly the results of the psychometric scale of TEIQue, females (age range: 18-21) have shown lower sociability and emotionality rather than males of the same age range. On the other hand, males (age range: 22-24) indicate normal rates in the factors of emotionality, sociability and well-being, whereas females of this particular age range, tend to present high sociability. Both males and females (age range: above 25 years) present normal rates in the four factors of TEIQue and high values in the majority of the scale CEAS questions (excluding questions 2,5 and 7 where the observed values were in low rates). Regarding gender, male over women, appeared to occur more influenced by their personality in their consumer behavior via social media as it affects the way of think, feelings and behaving towards themselves and others. In other scales that administered (BEES, EQ) in the emotional parameter of empathy, no significant differences can be referred and also, there were not sex differences between males and females.

The proposed study can be useful in some respects. With advances in empirical understanding of the underlying dimensions of emotional ability, and advances in psychometrics and in innovative computational methods of analysis, research may now begin to develop useful instruments to assess a consumer's level of emotional ability. With this knowledge, researchers will begin to understand how these emotional abilities affect, not only individual decision making, but also group interactions.

## CONCLUSIONS

In order to conclude and clarify the consumer behavior of young adults on social networks, one general determination of outcomes can be exported. In the field of marketing, this paper may be a convenient tool for interpreting psychological issues of young adulthood in the male-female emotional intelligence community. The magnitude to which planning is beneficial in ensuring consistent use of health services depends on its capacity to adapt the provision of facilities to support consumer decision-making.

The approaches outlined in this article have included approach to the consumer behavioral analysis that can help clarify the required reforms. Modeling the development of individual expectations for primary healthcare providers offers an alternative valuable method to consider the trade-offs between the characteristics of the provider on which consumer decisions are based.

In addition, the findings indicate that variations in decision-making, as measured in an experimental setting, are related to the socioeconomic and behavioral characteristics of the sample. Further research could allow the decision-making strategies of massive samples to be predicted on the basis of surveys of small sample sizes.

In certain ways, health care options are different from those discussed in most consumer research: thus, one does not assume a simple transition of methods from one setting to another. Some of the possibilities of the transition of psychometric modeling techniques to the study of consumer health care decisions have been demonstrated by this research. The outcomes are positive and promote further work in this direction, despite the many problems remaining unresolved.

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