



INTERNATIONAL  
HELLENIC  
UNIVERSITY

# **Consumer experience in Gamified marketing campaigns: A mixed survey using face tracking and questionnaire**

**Papadakis Iason**

**UNIVERSITY CENTER OF INTERNATIONAL PROGRAMMES OF STUDIES  
SCHOOL OF SCIENCE AND TECHNOLOGY**

A thesis submitted for the degree of  
***Master of Science (MSc) in e-Business and Digital Marketing***

January 2023  
Thessaloniki – Greece

Student Name: Iason Papadakis  
SID: 3305190043  
Supervisor: Prof. Katerina Tzafilkou

I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

January 2023  
Thessaloniki - Greece

## **Abstract**

This dissertation was written as part of the MSc in e-Business and Digital Marketing at the International Hellenic University.

The main goal of this dissertation is to examine the consumer experience in gamified marketing campaigns with a mixed survey (using face-tracking tool and questionnaire). Initially, we introduced what gamification is and 3 basic theories (Theory of Planned Behavior, Technology Acceptance Model and Theory of Reasoned Action). Afterward, we reported the face tracking tool we used for our survey and mentioned several variables that they were the basis for the questionnaire. The questionnaires were distributed from 6 to 29 of December, 2022. The participants who answered the questionnaires they played two games before. Totally, the participants were 50 individuals. Fifteen participants out of 50 were tracked with a face tracking tool during the games. The data from both the recording tool and the questionnaire were analyzed in order to examine how the variable of consumer experience is shaped within the context of gamification in our sample.

Finishing my master thesis, I would like to thank everybody who supported me during the whole time and helped me to finish it. First and foremost, I would like to give thanks to my research supervisor Mrs. Katerina Tzafilkou, who was guiding me all the time. Furthermore, I have to thank my family and my friends. Without their endorsement, this survey would have never been accomplished. I would like to thank you very much for your understanding.

Keywords: (gamified campaigns, face-tracking, consumer experience)

Papadakis Iason  
07 January 2023

# Contents

<b>1 INTRODUCTION</b>	<b>1</b>
<b>2 LITERATURE REVIEW</b>	<b>2</b>
2.1 WHAT IS GAMIFICATION	2
2.2 <i>THEORITICAL BACKGROUND</i>	3
2.2.1 <i>Theory of Reasoned Action</i>	3
2.2.2 <i>Theory of Planned Behavior</i>	4
2.2.3 <i>Technology of Acceptance Model – TAM</i>	5
2.3 DIGITAL MARKETING LANDSCAPE AND MARKETING FUNNEL	6
2.4 CUSTOMER EXPERIENCE	7
2.5 CUSTOMER ENGAGEMENT & BRAND AWARENESS	9
2.6 PERCEIVED ENJOYMENT	10
2.7 PERCEIVED ABSORPTION	10
2.8 CREATIVE THINKING	11
2.9 PERCEIVED OF ACTIVATION	12
2.10 PERCEIVED EASE OF USE	12
2.11 CUSTOMER EXPERIENCE AND PURCHASE INTENTION	13
2.12 6 TYPES OF EMOTIONS	14
2.13 FACE TRACKING	15
<b>3 EMPIRICAL ANALYSIS</b>	<b>19</b>
3.1 METHODOLOGY RESEARCH	19
3.2 <i>DATA ANALYSIS</i>	25
<b>4 RESULTS</b>	<b>25</b>
4.1 EXPERIMENT A	25
4.1.1 <i>Participants' Profile</i>	31
4.2 EXPERIMENT B	33
4.3 CORRELATION AND REGRESSION ANALYSIS	36
<b>5 CONCLUSIONS</b>	<b>40</b>
5.1 CONCLUSIONS	40

5.2 FUTURE WORK	42
BIBLIOGRAPHY	43
APPENDIX 1	

# 1 Introduction

Nowadays, there is a constant increase of the competition between the enterprises, as the number of businesses is steadily increasing. The increase of competitors forces the businesses that they want to be competitive to develop their strategy offering values to their potential customers. The marketing department of a business is usually responsible for building a strategy. Gamification is a technique or tool based on which can a business develop a strategy in order to attract new customers or to retain past customers. Businesses can apply gamification through gamified campaigns in social media or via newsletter. A gamified campaign encourages the user to be engaged and to interact with it. Through a gamified campaign can be promoted either a brand or a product or a service increasing the awareness. In other words, the customers are capable of recalling the brand or the products or the service after playing a game that is connected with one of them.

The study that follows has two main sections. The first section includes the theoretical background that is based on previous surveys. It contains scientific studies that are correlated with customer experience in gamified campaigns. Some of the sources shows variables that determines our main variable of customer experience. These articles form a subcategory of the first section. Furthermore, another one subcategory includes articles that are related with the face - tracking tool that we used, with the digital marketing landscape and with gamification in general.

The research objectives are below:

- Crosschecking of the 6 basic emotions (happiness, sadness, surprise, anger, fear and disgust), coming from gameful experience, combining data both from Face-tracking tool (FaceReader) and from online questionnaire.
- What are the variables that are related with the variable of consumer experience?

Subsequently, the second section of the dissertation is about the empirical analysis. Initially, it is presented the methodology of the research and then it is presented the A and B experiment that took place. The “A” experiment included the a face – tracking tool, a tool that has online games (puzzle, memory etc.) and the questionnaire. The aim of the first experiment is to cross check the answers of the participants with the data of the face-

tracking tool. The “B “ experiment included the tool with the online games and the questionnaire. The goal of the “B” experiment is to identify correlations between the independent and dependent variables in our sample. We used correlation analysis and then multiple linear regressions. In the end of the dissertation, it is presented the conclusions of the whole survey.

## **2 Literature Review**

### ***2.1 What is Gamification***

Gamification concept appeared about 2008 and was related to the Digital Media Industry. It includes applications of game design aspects in a non-gaming ambit (Deterding et al., 2011). Many applications of gamification have emerged across several fields, in the course of the time. (Baptista and Oliveira, 2019) identify some areas that this tool has implementation such as commerce, software development, education, energy, tourism, marketing, finance and funding etc. Nowadays, businesses try to change their approaches of new or repetitive customers due to the rapid and constantly increasement of the competition (Hsu et al., 2017) They do not depend just on the marketing mix but also apply the approach of gamification. This marketing tool helps the businesses creating a positive customers view (Morschheuser et al., 2015), enhancing the perceived customer enjoyment (Rodrigues et al., 2019), (University of Minnesota et al., 2017) and consequently the customer engagement (Robson et al., 2016), (Hsu and Chen, 2018).

There are four categories of participants in order for a businesss to create and apply a gamified experience. These 4 parties that are involved to are 1) designers, 2) players, 3) spectators and 4) observers. Each of them has different role during the process of creation and implementation. Specifically, designers are the people who make and design the whole gamified experience. They plan the strategy of the business based on their goals that they want to achieve. For instance, the role of designer may have Human Resources Manager (HRM) or Customer Relationship Manager (CRM). After the setup of the Gamified Experience they do not participate more. On the other hand, players take participation into a gamified experience that designers have created. A player can be an existing, a new or a potential

customer in the context of gamified experience through a business. Furthermore, a gamified experience can be implemented to the employee of a business. In other words, a gamified experience can include either internal or external stakeholders of a firm. Spectators are differentiated from players, as they do not take participation but they may have impact on the gamified experience indirectly. Observers are the last party of gamified experience that are involved in and they just are aware of the gamified experience without affect it (Bartle, 1996; Robson et al., 2015).

## **2.2 Theoretical Background**

There are many theories through which we can approach and analyze the customer behavior and the customer experience in the context of gamification. In our study, we focus on three basic theories, in particular Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM).

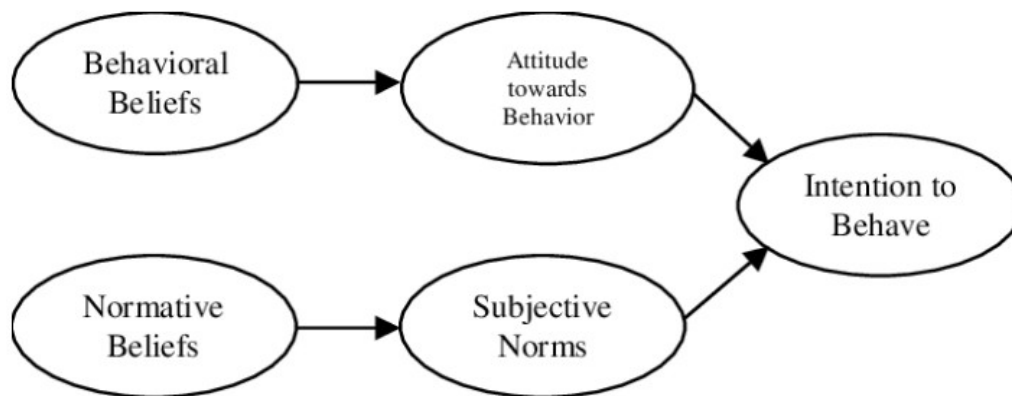
### 2.2.1 Theory of Reasoned Action

The theory of reasoned action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) is one of the most important theories that have been developed and explains how human behavior is shaped. There are two assumptions that are included in this model. The first one says that all the people are sane and the second one talks about the use of information that people have when they are going to perform a behavior.

Based on the analysis of Ajzen and Fishbein the behavior of an individual is determined by the behavioral intention. The last variable may have either positive or negative impact on the behavior. Apart from this relationship between the aforementioned variables the model explains how behavioral intention is affected. The first determinant is the attitude towards the behavior and the second is the subjective norm. The attitude towards the behavior is associated with the perception of the behavior. The subjective norm refers to social environment of a person and its effect on his/her behavior. His/her social environment may applaud or disapprove him/her for performing a behavior. The variables that were mentioned above can be affected by two extra variables. More specifically, the attitude towards the behavior depends both on the behavioral beliefs and the belief



evaluation of the person. Behavioral beliefs is whatever a human supposes regarding the outcome of the specific behavior. Furthermore, the evaluation of the belief is the positive or negative assessment of the outcome after performing a behavior.

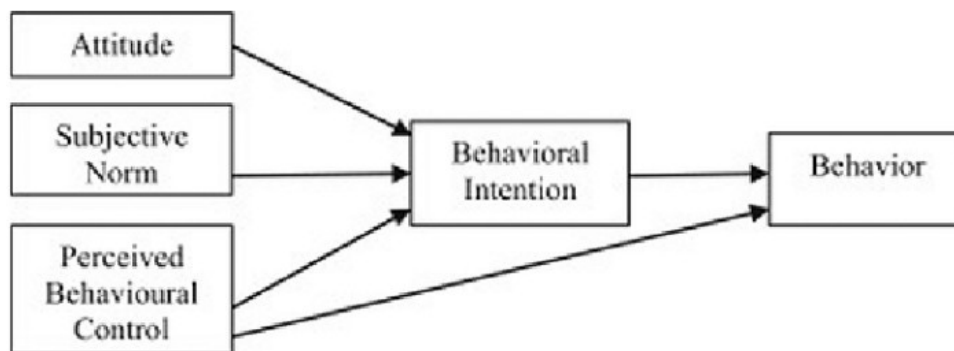


*Picture 1: Theory of Reasoned Action (TRA) Framework. (Source: Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975)*

### 2.2.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) (Ajzen, 1985,1991, Ajzen & Fishbein, 2005) was developed by Ajzen and Fishbein, as an improvement of the Theory of Reasoned Action. An essential difference between these two theories is that the TPB includes another one variable, the perceived behavioural control.

The perceived behavioural control affects the intention of behavior directly or indirectly. Based on the theory, it shows how easy or not an individual can express a specific behavior. There are another two variables that influence it which are the control belief (the degree based on which a person can define and control the factors that will affect hm/her during the process of performing a behavior) and the perceived facilitation (the comfort or the obstacles that factors such as skill sets or income can affect during the process of performing a behavior).



*Picture 2: Theory of Planed Behavior (TPB) Framework. (Source: Ajzen, 1985,1991, Ajzen & Fishbein, 2005)*

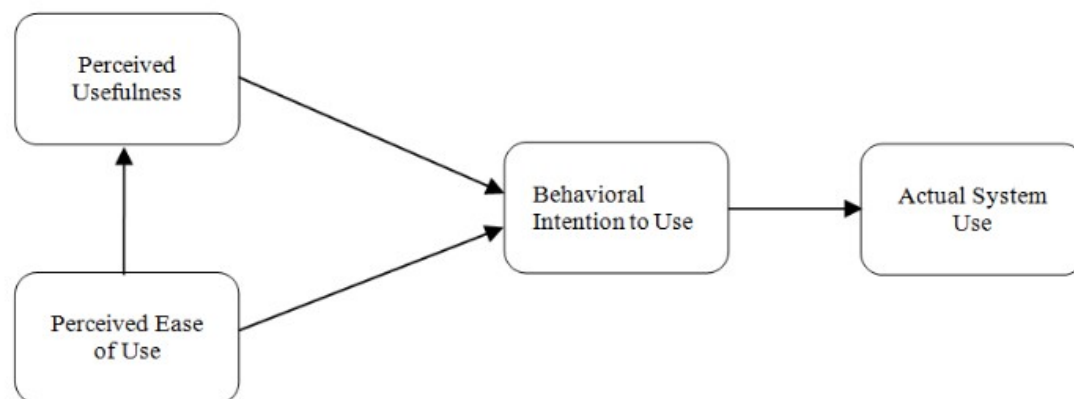
### 2.2.3 Technology of Acceptance Model – TAM

With regard to electronic sales (ecommerce) we should emphasize the interaction of people – potential consumers – with the technology or in other words the acceptance or rejection of technology by users. There is a model that describes this relationship (between consumers and technology) and is called Technology Acceptance Model (TAM) (Davis, 1989, Davis et al., 1989).

Based on the framework of Technology Acceptance Model there are two determinants that affect to some degree the acceptance or rejection of each technology. These are the variable of Perceived Ease of Use – PeOU and the variable of Perceived Usefulness – PU. The first variable has to do with the level to which a person think a technology user friendly or not. For example, in many cases a new technology may be very difficult for an individual and he/she should take so much effort in order to accept it. On the other hand, another person may accept the same technology taking lower effort. Furthermore, the other variable of Perceived of Usefulness indicates the usefulness related to the improvement of the individual’s efficiency.

The PeOU, based on the Model is connected with the PU and the Attitude Toward Using any type of technology – ATU. Perceived Usefulness is related to the possibility of an

individual to use technology. In other words, it affects the Behavioral Intention – BI of an individual. Apart from this relationship, the BI is determined by the attitude towards the behavior. Another one variable of this framework is the Actual Use, which indicated the intention of a person to a particular use technology. The Acceptance of Technology Model was the base for later surveys and models.



*Picture 3: Technology Acceptance Model (TAM) Framework (Source: Davis, 1989, Davis et al., 1989)*

### **2.3 Digital Marketing Landscape and Marketing Funnel**

Nowadays, digital marketing is widely accepted by enterprises in the context of building brands and increase sales and firms' revenue. It differs from marketing as the promotion on digital marketing is being online.

There are many channels that fall under the umbrella of Digital Marketing and used by Digital Marketeers. For instance, the area of Digital Marketing includes Search Engine Optimization (SEO), Search Engine Marketing (SEM), Email Marketing, Social Media Marketing (SMM), Affiliate Marketing etc.

- SEO: It is the online and offline optimization of the website in order to gain high ranking on the search engine results.
- SEM: It includes the paid results that are presented in the search engine, when a user makes a query.

- **Email Marketing:** This type of marketing is used by businesses for the promotion of offerings that they have by sending emails to the recipients (possible customers).
- **Affiliate Marketing:** An affiliate program includes 3 individuals, publisher, affiliate or advertiser and consumer and works by advertising publishers' products to possible consumers (by affiliates).
- **Social Media Marketing:** It is the marketing that is applied to social media platforms, such as Facebook, Instagram, LinkedIn, Twitter, Pinterest etc.

#### ***2.4 Customer Experience***

Holbrook and Hirschman mentioned first a new experiential aspect that was related with the customer behavior in the mid-1980s. After this first approach of Customer Experience two researchers, named Pine and Gilmore, made a reference about the concept of Customer Experience (Yang and He, 2011). Pine and Gilmore made a reference in their book, named "Experience Economy", in 1999 to Customer Experience as an extra enterprise offer to customers apart from goods and services. In general, Customer Experience is described as a collection of interactions between a customer and a product, service or any other touch point of a whole business that cause customers to react. To determine the level of customer interaction should take into consideration the customer expectations before any interaction with a business and the mental statement after during the customer journey (Sheng and Teo, 2012).

Customer Experience gives to enterprises another view of customers as it helps them consider customers as people. This way (Customers Focused Culture) gives the opportunity to people to understand or feel that they are appreciated. In other words it offers to customers an extra value for the businesses (Sheng and Teo, 2012).

Nowadays, the high percentage of business competitors forces any business that want to have large market share and be competitive to have and keep its competitive advantages. The high quality of customer experience is an excellent competitive advantage to which many businesses focus on (Jami Pour et al., 2021). In the opinion of Peter Kriss, keeping customers satisfied has as a result the increase of business revenue. Specifically, based on his survey, happy customers spent about 140% more conversion value than customers with lower level of happiness. In conclusion, there are not just the products and

product prices the variables that affect purchase intention of possible customers (Högberg et al., 2019). Many researchers have given many different definitions for the customer experience. According to Ernest Emeka Izogo and Chanaka Jayawardhena customer experience is the emotional response of the customers when interacting directly or indirectly with the products or the services of a firm (Jami Pour et al., 2021). Becker and Jaakola made a survey and consider that customer experience include all the experiences that a customer will gain purchasing, using, searching for a product or a service. CE differs from person to person, as each individual has different experiences, feelings and culture. An example is the difference of customer experience in gamification between old and younger customers. Specifically, young customers may have positive customer experience in contrast to the older customers (Djohan and Handhana, 2022.).

Schmitt divides customer experience into five categories, 1) sense, 2) feel, 3) think, 4) act and 5) relate. This approach took place in 1999. The first category, sense, contains sensorial and aesthetically attributes. The second type of experience includes feelings and emotional states. The third category is related with the way of thinking, convergent and divergent. Act experience has to do with motor actions and behavioral experience. Lastly, the relate experience that coorelates with the social experience (Yang and He, 2011).

Customer experience is configured from multiple delivers during the whole customer lifetime. Several researchers take into consideration three basic principles of the customer experience. The first principle is related with its interactional nature. It means that customer experience comes from the interaction of the customer with any asset (online and offline) of the business such as the sellers in the physical store, online chatbot etc. The second base rule is about the customer uniqueness. It is very important for the employees to reckon with the customer individually and keep him/her satisfied. The last principle is connected with the variety of channels that customer experience can be affected (Jami Pour et al., 2021).

A positive customer experience will affect customers positively. It means that a customer with positive CE will be more concerned with an enterprise than a customer with negative CE. Negative customer experience may lead him/her to search for another business or in general to stop any process related to a product/ service. So, enterprises should keep their customers happy, engaged, motivated and loyals giving to them a pleasant experience.

Customer Engagement is based on Customer Experience. Consequently, in order for a business to achieve high customer engagement it should offer a positive customer experience firstly (Djohan and Handhana, 2022.).

### **2.5 Customer Engagement & Brand Awareness**

Based on the customer engagement theory that (Palmatier et al., 2018) highlighted two very important elements of high level of customer engagement is dedication and confidence. In the past, many businesses were limited to the step of purchase. On the other hand, nowadays they approach the customer relationship differently. Specifically, firms have social media presence (Facebook, Instagram etc), as the users want to interact with their favorite brand. So, the relationship between customers and firms has shifted from just purchases to the relationship building. Despite this, we can say that customer-firm relationships vary, as it depends if the customer experience meets the customer expectations.

(Abou-Shouk and Soliman, 2021) (Xi and Hamari, 2020) have concluded that customer engagement has positive impact on brand awareness. In other words, it is a prerequisite of awareness and defines it significantly. Many businesses invest on gamification approaches in order to increase both engagement and awareness. The customers allot much time and energy through gamification on a brand, so they might remember this brand. In tourism industry is applied gamification in the context of tourism marketing, as an approach for extra motivation for tourists to know better their destination and visit more places (Xu et al., 2017). Tourism Authority of Thailand (TAT) has included in its marketing strategy the game of "Smiled Land Thailand". It is about tourist attraction aiming to target the younger travelers. Irish National Tourism Development Authority has created a game, called "Ireland Town" showing Ireland's sightseeing and targeting its potential visitors in a similar way.

H0. Brand awareness is not associated with purchase intention.

H1. Brand awareness is associated with purchase intention.

## **2.6 Perceived Enjoyment**

The high percentage of the user enjoyment is one of the main aims of seller in the context of the communication between them. It has been proved that it is indissolubly linked with the level of user entertainment. So, positive user experience gained by gamified campaigns affects the variable of perceived user enjoyment positively. It is high important for advertisers / sellers to offer positive user experience and in more general sense high level of perceived enjoyment, as user enjoyment has positive effect on the purchase intention (Jang and Hsieh, 2021), (Poncin et al., 2017). Enjoyment is the most important factor affecting Gameful Experience (GAMEX), apart from Absorption, Creative Thinking, Activation, Absence of Negative Effect and Dominance. The variable of Enjoyment promises the willingness of users to play a game. Gamification triggers users enhancing enjoyment (Rialti et al., 2022), (Eppmann et al., 2018).

H0. Perceived enjoyment by gamified campaigns (memory and puzzle game) is not associated with Gameful Experience (GAMEX) .

H2. Perceived enjoyment by gamified campaigns (memory and puzzle game) is associated with Gameful Experience (GAMEX).

## **2.7 Perceived Absorption**

Another one dimension of GAMEX is user absorption. It is connected with the level to which the users feel absorbed from the real environment playing with a gamified campaign. An example of absorption is when a user plays a campaign and forgets where he/she is. In other words, the user has shortage of self-consciousness and concentration (Eppmann et al., 2018; Rialti et al., 2022). Absorption changes the user's behavior throughout the game. In order for someone to understand if a gamified campaign was successful or not, it is important to identify the level of users absorption (Xu et al., 2020).

The phrase mental absorption describes a condition of extreme user involvement with a software, in our case gamified campaign. Cognitive absorption has five aspects: 1) temporal dissociation, 2) focused immersion, 3) heightened enjoyment, 4) control and 5)

desire to know. On the one hand it affects both perceived usefulness and ease of use. On the other hand, cognitive absorption is determined by playfulness and personal innovativeness (Visinescu et al., 2015).

H0. Perceived Absorption through Gamified campaigns (memory and puzzle game) is not associated with Gameful Experience (GAMEX) .

H3. Perceived Absorption through Gamified campaigns (memory and puzzle game) is associated with Gameful Experience (GAMEX).

### **2.8 Creative Thinking**

Analyzing the multidimensional GAMEX it is very important for creative thinking to be mentioned. Gamification gives the chance to the users to be more creative and use their imagination (Eppmann et al., 2018; Jang and Hsieh, 2021; Rialti et al., 2022). Customers creativity is a problem solver tool, as they think creative to overcome a problem which impedes them to achieve their goal. An different perception says that customers creative thinking is an inherently motivated feature including the pursuit for new and helpful consumption possibilities of action. Jessen, Hilken, Chylinski, Mahr, Heller, Isobel Keeling and De Ruyter made a survey and hypothesized that Augmented Reality (AR) would determine the customer mental imagery and would eliminate the customer effort that is related with creative thinking simultaneously. This hypothesis was approved in the context of their survey (Jessen et al., 2020). In the opposite direction, (Burroughs and Glen Mick, 2004) consider that customers creative problem solving feature is affected by mental skills (for instance analogical & metaphorical thinking) positively. These 2 different views have different variables that affect customer decision making. On the first aforementioned survey technology features affect decision making and on the second mental skills affect it much more (Jessen et al., 2020).

The study of Hirschman (1980) with the title “Innovativeness, Novelty Seeking, and Consumer Creativity” demonstrated two key factors that affect the customers ability for creative thinking positively. These two factors are 1) inter-concept networks and 2) consumption scripts. They both motivate customers increasing the probability for creativity.



H0. Creative thinking in Gamified campaigns (memory and puzzle game) is not associated user experience in gamification (GAMEX).

H4. Creative thinking Gamified campaigns (memory and puzzle game) is associated with user experience in gamification (GAMEX).

### **2.9 Perceived of Activation**

Gamification makes users to be active and energize, while they play the game. It has the capability to motivate them and increase their eagerness to participate in (Jang and Hsieh, 2021). The variable of activation calculates the degree of the interactivity of a game participants. Lopze- Belmonte et al. made a study and found that activation coming from gamification has positive impact on students in the context of teaching and learning process (López-Belmonte et al., 2020).

H0. Perceived activation during gamified campaigns (memory and puzzle game) is not associated with user experience (GAMEX).

H5. Perceived activation during gamified campaigns (memory and puzzle game) is associated with user experience (GAMEX)

### **2.10 Perceived Ease of Use**

The variable Ease of Use describes the level to which an individual thinks that the use of a new technology will be low effort. Generally, the new technologies that are considered with high level ease of use are more possible to be approved by the customers/ users. On the other hand, technologies that are not perceived with ease of use and perceived complex are more possible not to be accepted by the customers/ users. Some factors that determine the level of ease of use are a good design, a friendly interface, unambiguous instructions etc (Anh and Hoai, 2022). In this research, ease of use is related to the degree that customers can adopt and accept the technology that is used in the gamified campaigns

H0. Perceived ease of use is not associated with customer experience.

H6. Perceived ease of use is associated with customer experience.

### **2.11 Customer Experience and Purchase Intention**

Purchase intention variable is a high value object study in many surveys, as this variable helps the stakeholders to understand better the consumer behavior. In general, purchase intention is affected by all the marketing actions of an enterprise. Many researchers take into consideration the high value of purchase intention analysis, such Morwitz in 2014. Based on him, purchase behavior is predicted by purchase intention with high accuracy. The value that a business offers to its customers has as a result to determine purchase intention positively. When a customer receives high value from an enterprise, then it is more likely to buy products or services from its. A very important factor that enhance the value of a customer for a brand is the products' of the brand. So, increasing perceived value is more possible for customers purchase intention to be increased. It is very important to emphasize that the above statement depends on the personal characteristic (behavior) of each customer and his/ her emotional needs. For example, many people may have another perception of value for a specific product or brand from others (Esmailpour and Mohseni, 2019).

Purchase Intention is affected by many variables either positively or negatively. Customer experience is one of them and determines it bothn directly and indirectly. It affects purchase intention positively. Specifically, if the consumers have positive customer experience with a specific enterprise, then it is more possible for these customers to buy its products or services. On the contrary, customers with negative customer experience with a business is less possible to for individuals to buy its products or services.

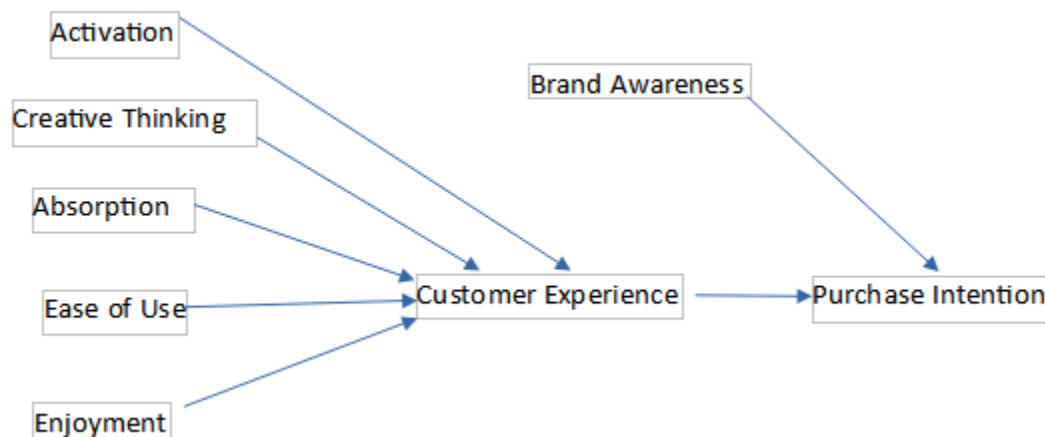
Many surveys have proved that there is a relationship between customer experience and purchase intention. An International Communication Company, named ASATSU-DK (or ADK), made a survey with 1000 participants in 2001 and 2002. The outcomes showed that customer experience is related with brand image, brand attitude and purchase intention. Another survey was made by Boyer and Hult in 2006. 2100 participants took place in this research. The results showed that the variable of purchase intention was varied from person to person and was affected from his/her experience (Yang and He, 2011).

Some others researchers have examined one step further. Holbrook and Hirschman showed that shopping experience has more impact on customers repurchase intention. For

example, the customers that have an extremely positive shopping experience are more probably to repurchase than the customers with negative shopping experience (Yang and He, 2011).

H0. Customer Experience is not associated with Purchase Intention.

H7. Customer Experience is associated with Purchase Intention.



Picture 4: Survey's Framework

### 2.12 6 types of emotions

American psychologist Paul Ekman identified the 6 basic emotions during the 1970's. These basic emotions are 1) happiness, 2) sadness, 3) fear, 4) anger, 5) surprise and 6) disgust. These 6 types were verified by lots of researchers that are the same for each individual. Below we analyze each emotion type separately.

- Happiness has to do with the enjoyment emotional statement or a positive emotion.
- Sadness is different from happiness and has to do with a negative emotion. It causes the feeling of loss of futility.
- Fear is an emotional state that provokes sometimes the conduct of evasion and is related to the state of survival.
- Anger is linked with the novelty both of heart rate and the muscle tone.
- Surprise is caused by something that is not expected. It may be either positive or negative or neutral feeling of surprise. It depends on the sign of the unexpected event.

- Disgust is connected with the feeling of a strong dislike to something or someone that it is considered as morally repugnant (Fotini-Rafailia, 2021).



*Picture 5: 6 basic emotions (Source: ManagementMania.com)*

### **2.13 Face Tracking**

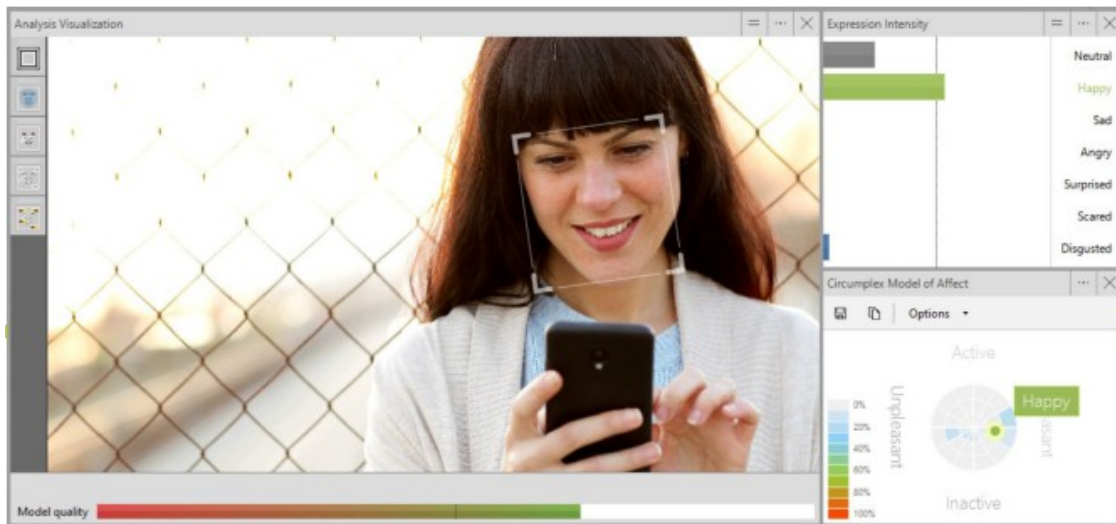
*Human face is a very powerful and helpful tool that helps people for their communication each other.* It features many characteristics of a human, such as his/her age, gender, intention etc. In other words, it is related to more than one signal and its analysis is very important in different industries. In 1978 Ekman and Friesen elaborated a technique describing and analyzing the muscle movements of the human face. This technique is the Facial Action Coding System (FACS) and face-tracking has been based on. Facial actions are determined by the emotional state of a person, so based on this the face-tracking tools try to understand the facial movements in order to recognize in depth the frame of mind and feelings of a human/user. A key element of the Facial Action Coding System is the Action Unit (AU), which characterizes the facial muscles when contracting or relaxing. Ekman and Friesen have included 46 Action Units of the Human face (Gottman et al., 2001; Liu, 2015.).

Many Face-Tracking tools have been launched for the Facial Emotion Recognition (FER) including FaceReader, Azure Face API, Luxand and numerous others. FaceReader (FR) is the tool that we are going to focus on and analyze more in this specific dissertation. It

detects with fully automated algorithm (degree of correctness about 91%) the facial gestures and match them with 6 + 1 feelings/ categories. These feelings/ categories are 1) happy, 2) sad, 3) angry, 4) surprised, 5) scared, 6) disgusted and 7) neutral. Lots of researchers from different area of expertise used the FaceReader in their studies with effectiveness (Pichierri et al., 2021; Terzis et al., 2015.).

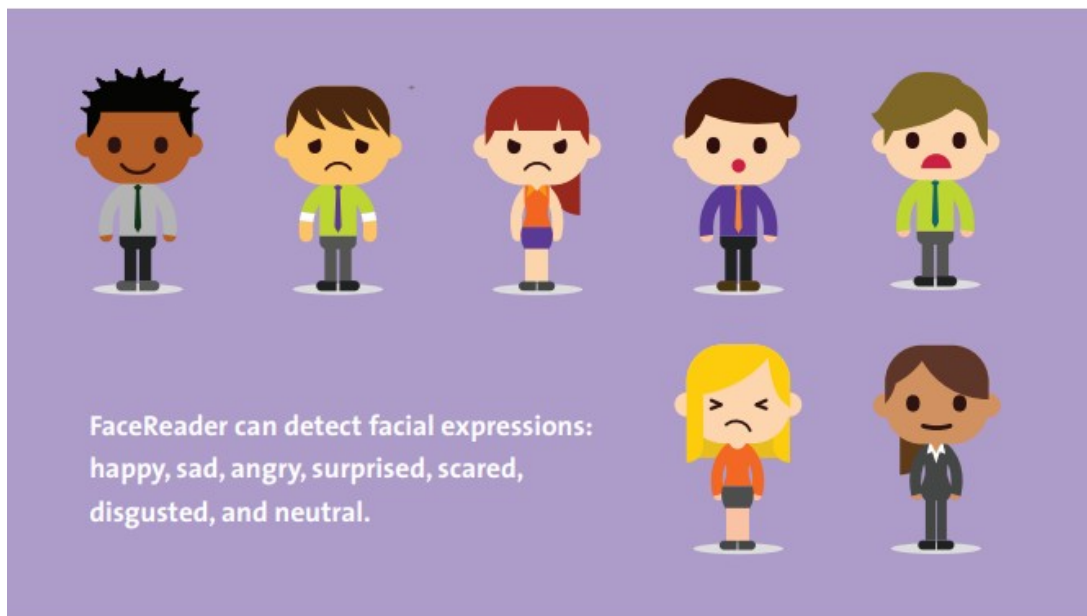
<i>Unit</i>	<i>Name</i>	<i>Facial Muscles</i>
1	Inner brow raiser	Frontalis pars medialis
2	Outer brow raiser	Frontalis pars lateralis
4	Brow lowerer	Depressor Glabellae, depressor super cillii, corrugator
5	Upper lid raiser	Levator Pal pebrae superioris
6	Cheek raiser	Orbicularis Oculi, Pars Orbitalis
7	Lid tightener	Orbicularis Oculi, Pars Palpebralis
8	Lips toward each other	Orbicularis Oris
9	Nose wrinkler	Levator Labii superioris, alaeque nasi
10	Upper lip raiser	Levator Labii superioris, caput infraorbitalis
11	Nasolabial furrow deepener	Zygomatic Minor
13	Cheek puffer	Caninus
14	Dimpler	Buccinator
15	Lip corner depressor	Triangularis
16	Lower lip depressor	Depressor Labii Inferioris
17	Chin boss raiser	Mentalis
18	Lip puckerer	Incisivii Labii Superioris; Incisivus Labii Inferioris
20	Lip stretcher	Risorius
22	Lip funneler	Orbicularis Oris
23	Lip tightener	Orbicularis Oris
24	Lip pressor	Orbicularis Oris
25	Lips part	Depressor Labii, or relaxation of Mentalis or Orbicularis Oris
26	Jaw drops	Masseter; Temporal and Internal Pterygoid Relaxed
27	Mouth stretches	Pterygoids; Digastric
28	Lip suck	Orbicularis Oris
38	Nostril dialtor	Nasalis, pars alaris
39	Nostril compressor	Nasalis, pars transversa and Depressor Septi alae nasi
41	Lids droop	Relaxation of Levator palpebrae Seperioris
42	Eyes slit	Orbicularis Oculi
43	Eyes close	Relaxation of Levator palpebrae Seperioris
44	Squint	Orbicularis Oculi, pars palpebralis
45	Blink	Relaxation of Levator Palpebrae and Contraction of Orbicularis Oculi, pars palpebralis
46	Wink	Orbicularis Oculi

Picture 6: Action Units of the Human Face (Source: Ekman & Friesen, 1978)



Analyzing facial expressions with FaceReader.

Picture 7: Facial Expressions Analysis (Source: Noldus White Paper)



Picture 8: Facial Expressions (Source: Noldus White Paper)

FaceReader has the chance to process data in two ways, either online (with the use of webcam) or offline (video files and images). After we insert the data, FR tool follows 3 steps to generate the final output. The first step is "Face Finding", in which the tool positions the face within a frame to recognize it with the use of deep learning face-detection algorithm. It follows "Face Modeling". The whole process of the second step is grounded on deep neural networks. The main point is to be identified 468 marks of the human face.

These key marks help for an outline of the face emotions. After this, it follows the “Face Classification”, the 3<sup>rd</sup> step. At this stage of the face tracking, FaceReader classifies the facial expressions in order to make a model. Image Pixels play an important role in this classification process. Around 20.000 images have been used for the training of the algorithm.

Apart from, the general model that FaceReader uses for the facial expressions analysis there are many others such as for the analysis of the facial expressions of babies or East-Asian people. There is an option before the start of the facial expression analysis in order for the user to select the face model. In case of bias analysis the user can implement calibration, an automate process to correct and eliminate bias. Calibration has two different methods: 1) participant and 2) continuous calibration.

Three main parameters, intensity, valence and arousal play an important role affecting and determining the FaceReader outputs. The variable of intensity characterizes the facial expression with the numbers “0” or “1”. The first one means that there is no expression and the second one the opposite. Valence describes the emotional state of the participant positively or negatively. The last parameter of arousal shows if the whole face tracking process is active (1) or inactive (0). In the event of in depth analysis there are some extra modules that can be implemented: 1) the project analysis module, 2) the action unit module and 3) the RPPG (Remote Photoplethysmography) module. (Krips and Loijens, 2021)

### **3 Empirical Analysis**

In this chapter, it is going to be presented and analyzed the Methodology that the survey was based on.

#### ***3.1 Methodology Research***

The aim of the present study is to be examined the consumer experience affected by gamified campaigns and the relationship between dependent (customer experience) and independent variable (enjoyment, absorption, creative thinking, activation, perceived ease of use) and how the level of customer experience shapes the purchase intention and the variable of brand awareness. In order to be examined the consumer experience in gamified campaigns it was applied a different approach with the case in which it was examined the relationship between the aforementioned variables.

In the first case, the empirical research was conducted with the use of electronic questionnaire, Easypromos and Facereader. The questionnaire was created based on previous scientific studies. The survey started 5<sup>th</sup> December 2022 and finished 16<sup>th</sup> December 2022. The total number of survey participants are 15. These users played the two games through Easypromos and during this they were tracked by Facereader. Furthermore, after they finished the game they answered the questionnaire.

The questionnaires were distributed online (Google Forms). The form of the questionnaire was simple and included closed- ended questions. The participants were above 18 years old both men and women.

The questionnaire was divided into 4 sections regarding the questions that had similar theme. The four sections are: 1) first game questions (puzzle game), 2) second game questions (memory game), 3) questions that are related to the whole customer experience through the aforementioned games and 4) demographic questions.

The first section was about the first game questions. Specifically, after playing the first game each participant should have answered the related questions. The participants should have given answers about his/her emotions that were provoked by playing the game. They declared if they felt happy, scared, sad, angry, disgusted or surprised by doing the online puzzle.



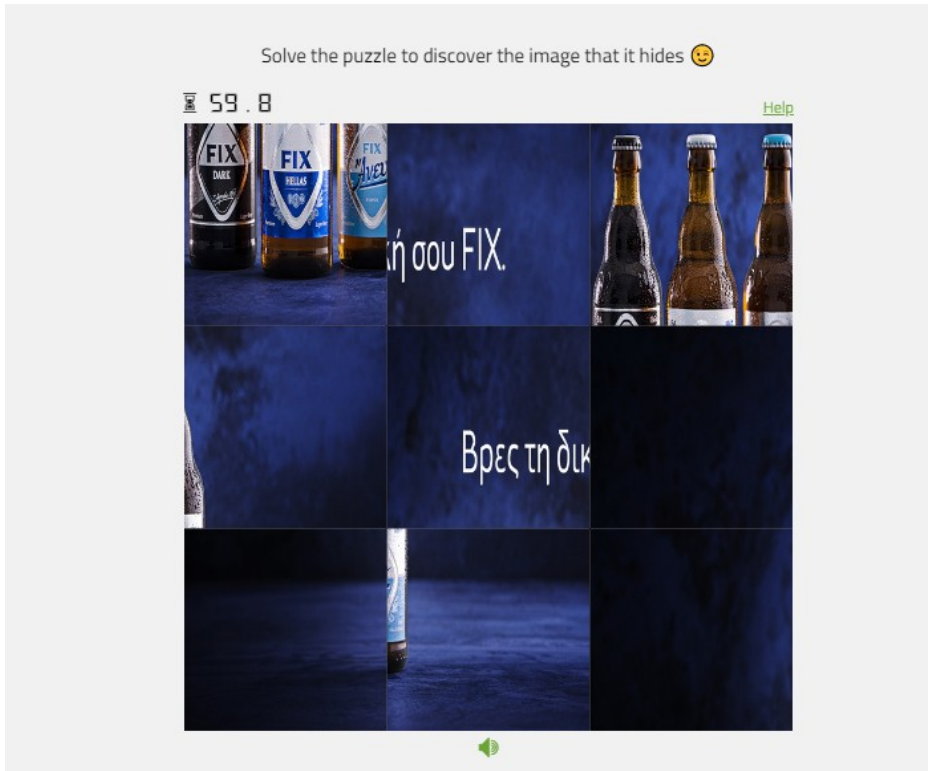
Since finishing the second game participants answered to the other 3 sections. The second section included similar questions with the first section but they were related to the feelings that were provoked by playing the memory game. Similarly to the first section, they asked if they felt happy, scared, sad, angry, disgusted or surprised finishing the second online game.

The third section consisted of questions that had to do with the whole customer experience that was shaped through the interaction of the users with the online games. People were asked if they enjoyed both games, if they felt absorbed while playing the games, if they felt activated, if they understood the games interaction easily, if they felt creative and to give a rate for the whole customer experience. Furthermore, there were 2 questions that one of these had to do with the participants' purchase intention towards the featured brands and the second one was if the participants' could have recalled the logos of the featured brands during the games.

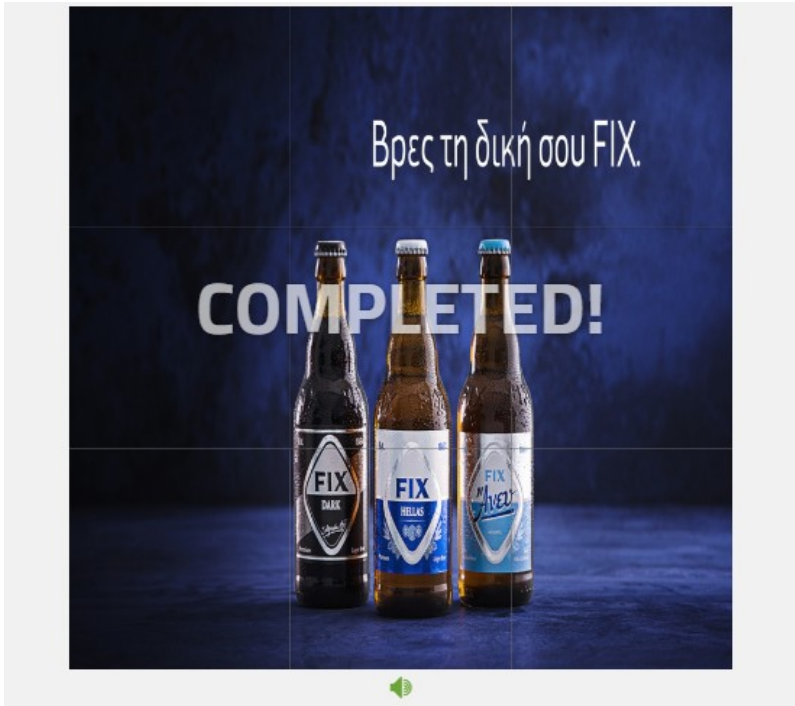
In the end of the questionnaire the participants should have declared their sex, their age and their educational level. These 3 questions belonged to the last section of the questionnaire (demographic questions).

The majority of the questions were formed with likert scale (1=strongly disagree, 5=strongly agree). Demographic questions were exceptions, as they did not form with liker scale.

Easypromos was the online platform that the participants used for playing the games. They played two games, a puzzle and a memory game. In the puzzle game each participant should have used drag and drop the puzzle pieces to put them where it should go on the screen. The puzzle game contained some products of the brewery Fix Hellas. The screenshots below depicts the aforementioned game.



Picture 9: Puzzle Game Start (Source: Easypromosapp.com)



Picture 10: Puzzle Game Completed (Source: Easypromosapp.com)

The second game was a memory game on Easypromo platform. It was a matching game in which the participants should have matched the same cards that they were upside down. The cards included electronic cars of Volkswagen.



Picture 11: Memory Game Start (Source: Easypromosapp.com)



Picture 12: Memory Game Completed (Source: Easypromosapp.com)

While users were playing the games, they were being tracked by Facereader. Facereader used to analyze the user statement provoked by the interaction with the games. These statements are happiness, sadness, anger, disgust, fear & surprise. They were informed and gave consent through this tool.

In the second case, the relationship measurement between variables, they were used some answers of the 15 participant who took part in the first case of the survey and the same answers of 35 extra participants. Totally, they were analyzed 50 questionnaires. The questionnaire distribution lasted from 17 to 29 of December, 2022. The last 35 participants were not tracked by Facereader, but they played the two games (puzzle and memory game). The questionnaire of the 35 participants included the below questions: 1) "I enjoyed playing the games very much", 2) "After playing the games, I felt like coming back to the real world after a journey", 3)

"While playing the games, I felt activated", 4) "My interaction with this game is clear and understandable", 5) "I can quickly recall the logos of these 2 brands", 6) "I will consider these companies the first choice from which to buy these products, 7) "While playing the games, I felt creative, 8) "Please rate your experience based on these two games" and questions about the age, the educational level and the gender. Similar with the first case the majority of the questions were formed with likert scale, apart from demographic questions, as they did not form with liker scale.

Six emotions based on the puzzle game

The puzzle game made me feel happy (Overgaard, 2019).

The puzzle game made me feel scared (Overgaard, 2019).

The puzzle game made me feel sad (Overgaard, 2019).

The puzzle game made me feel angry (Overgaard, 2019).

The puzzle game disgusted me (Overgaard, 2019).

The puzzle game surprised me (Overgaard, 2019).

Six emotions based on the memory game

The memory game made me feel happy (Overgaard, 2019).

The memory game made me feel scared (Overgaard, 2019).

The memory game made me feel angry (Overgaard, 2019).

The memory game disgusted me (Overgaard, 2019).

The memory game surprised me (Overgaard, 2019).

#### Enjoyment

I enjoyed playing the games very much (Eppmann et al., 2018), (Poncin et al., 2017).

#### Absorption

After playing the games, I felt like coming back to the “real world” after a journey (Eppmann et al., 2018).

#### Activation

While playing the games I felt activated (Jang and Hsieh, 2021), (Eppmann et al., 2018).

#### Perceived Ease of Use

My interaction with these games is clear and understandable (Jang and Hsieh, 2021), (Rodrigues et al., 2016).

#### Brand Awareness

I can quickly recall the logos of these 2 brands (Makgosa and A. Molefhi, 2012).

#### Purchase Intention

I will consider these companies the first choice from which to buy these products (Shang and Lin, 2013).

#### Creative Thinking

While playing the games I felt creative (Jang and Hsieh, 2021), (Eppmann et al., 2018).

Customer Experience

Please rate your experience based on these two games (Sheng and Teo, 2012).

### **3.2 Data Analysis**

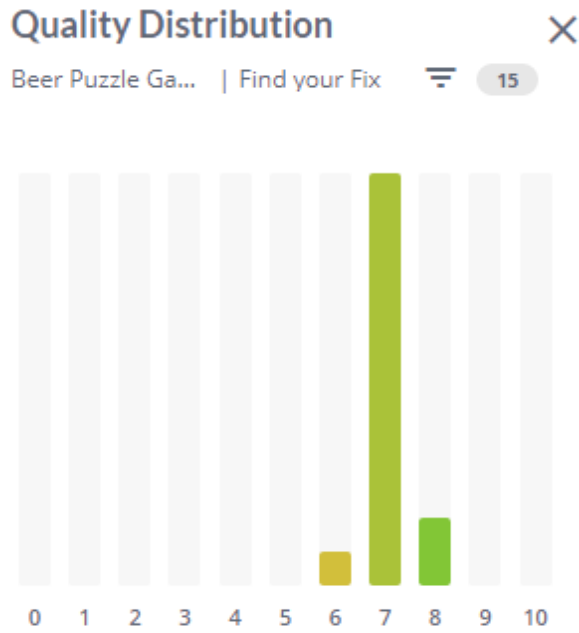
For the data analysis, both FaceReader and PSPP tool were used. FaceReader analyzed the data automatically through recording and collected all the data together. For the analysis of responses from questionnaires, PSPP was used. We imported the data into the tool and processed it to be ready for processing. Initially, we analyzed frequencies to see how often variables such as gender, age, sad, happiness etc. appear. After comparing these data with those from FaceReader, we proceeded to the analysis of the correlation of variables. Finally, linear regression was used to see the relationship of interdependence of variables.

## **4 Results**

### **4.1 Experiment A**

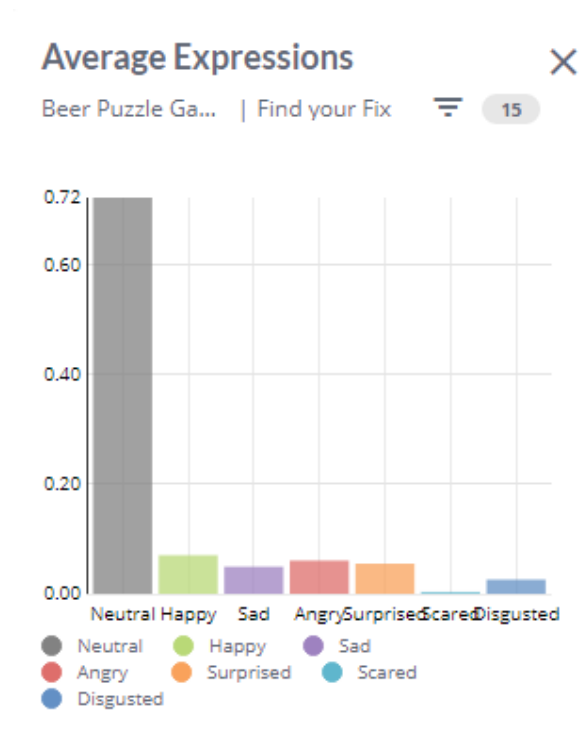
In the first experiment we analyzed the six emotions of fifteen participants both from Facereader and from the questionnaire. While the participants were playing the two games (puzzle and memory) the Facereader were tracking participants emotions. After they finished playing they answered the questionnaire and declared the six emotions provoked by each game separately. So, we are going to cross-check the data from the aforementioned sources.

The first game with beer has high quality distribution, as ten is the maximum value and the majority of the recordings have quality with 7 value. So, Facereader tracked with high accuracy and its results are reliable.



Picture 13: Quality Distribution, Puzzle Game (Source:Facereader)

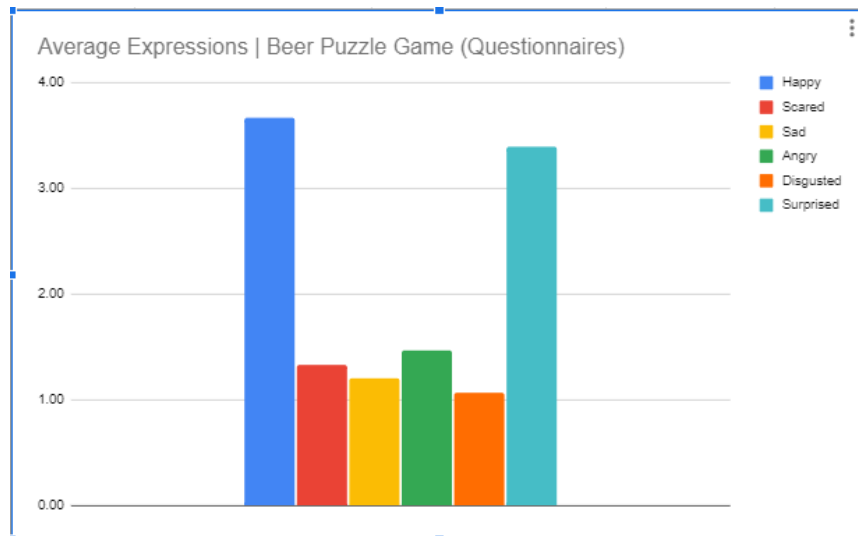
The emotional statement that dominates based on Facereader results is the neutral (72%) feeling. It means that the participants did not express largely any feeling during the puzzle game. Apart from neutral feeling, the face tracking tool tracked and others sentiments. Happiness (7%) is the second emotion that dominates. In other words, the participants expressed mainly happiness while they were playing the game. It follows the emotion of anger (6%), surprise (5%), sadness (5%) and disgust (3%). The statement of fear (0%) were not expressed. The participants were not scared while they were playing the game.



Picture 14: Average Expressions, Puzzle Game (Source: Facereader)

Based on the answers of the first questionnaire (Puzzle Game) we can mention that the emotion of happiness have dominated and the second is the sentiment of surprise. Regarding the other 4 sentiments the participants did not feel scare, sadness, anger and disgust during the game. Indeed, the specific game did not include any part that it was going to provoke scare, sadness or disgust. It seems that the participants enjoyed the puzzle game. There is below the corresponding Average Expressions Bar Chart that is based on the participants' answers.

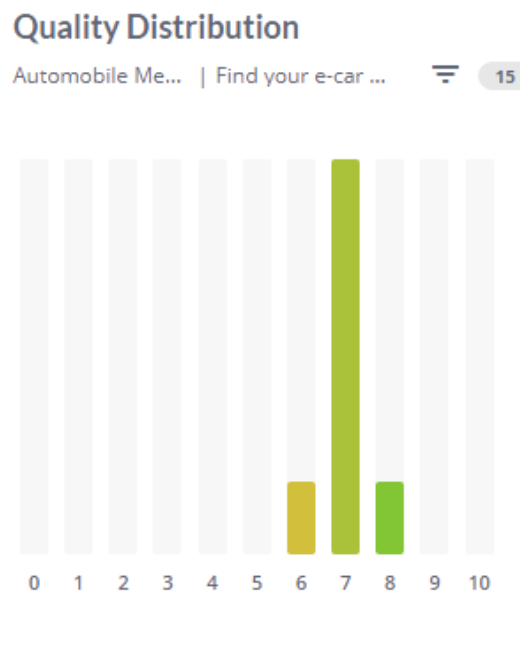




Picture 15: Average Expressions, Puzzle Game (Source: Online Form)

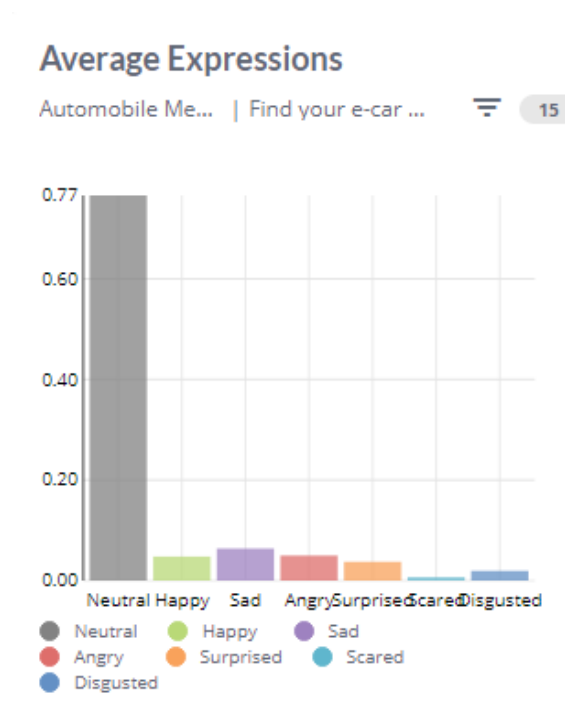
Comparing the results from the face tracking tool and from the online questionnaire we can say that happiness has been dominated. The participants were mainly happy while they were playing the game. Furthermore, we can conclude comparing the above bar charts that they were surprised by the game. They might have not played any similar game again in the context of advertising and that is why they were surprised.

The second game has similar quality distribution as the puzzle game. The quality distribution value of the memory game ranges mainly from 7 to 8 out of 10. It means that Facereader tracked with high precision each participant and its results are trustworthy. The bar chart below shows the quality distribution of the game.



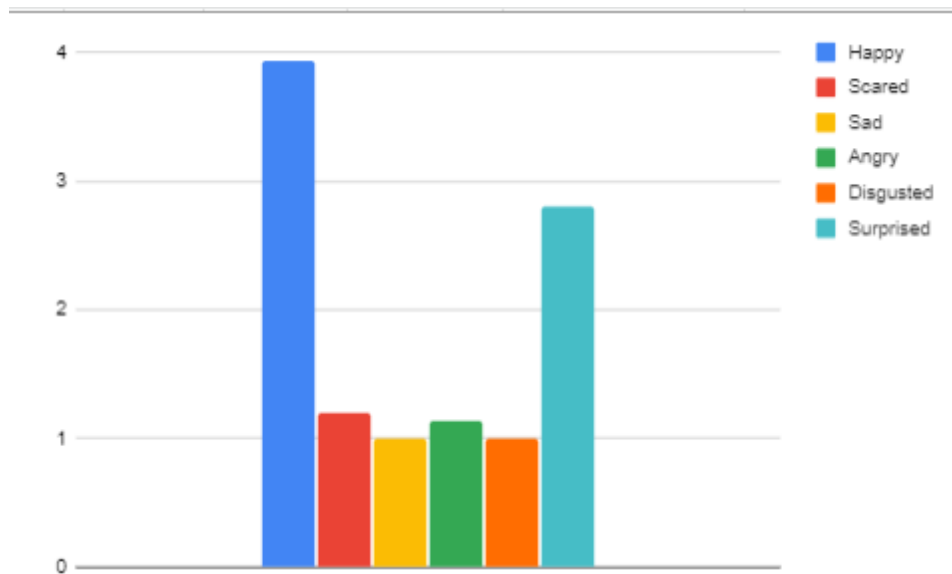
Picture 16: Quality Distribution, Memory Game (Source:Facereader)

The predominant state of the second game is the neutral state, similarly with the analysis of the first game. Facereader tracked sadness with higher frequency than the other five feelings. So, sadness is the first emotion. The participants might have felt sadness, because they could not find the solution of the memory game. In the second position are both happiness and anger. They have the same frequency. The emotion of happiness may have caused by the general interaction of the participants with the game or by finding and matching the similar elements of the game. In the opposite direction, the emotion of anger might have been determined by the existence of time limit or by failed attempts for the participants to match the similar elements of the game. The next sentiment is the surprise. This is the fourth sentiment in the row. The participants might have felt surprised due to their first experience with gamified campaign. In the last two positions with low average frequency is the emotion of disgust and scare. The participants did not feel disgust or scare while they were playing the memory game.



Picture 17: Average Expressions, Memory Game (Source:Facereader)

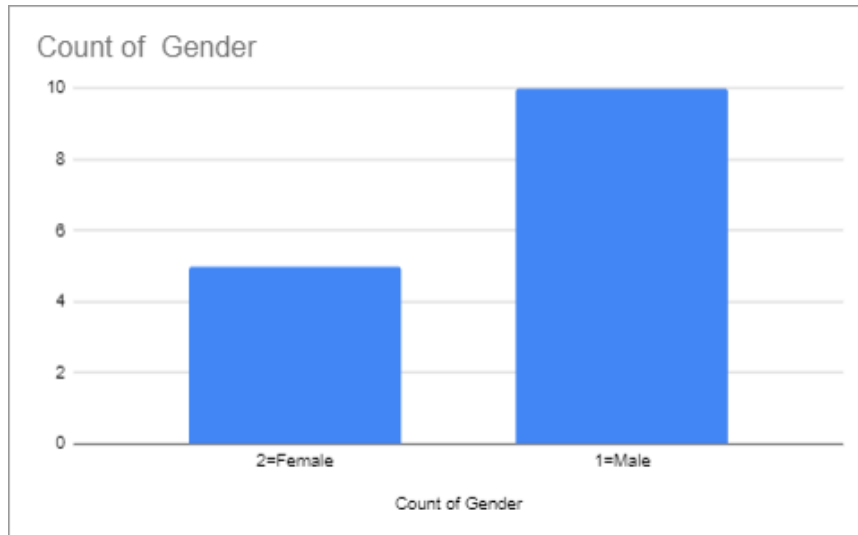
We analyzed and we are going to present the results of the questionnaire. The questions and their answers are related with the 6 emotions that the face tracking tool tracked. After the participants played the game they answered 6 questions that each of them describes each one of the six emotions. The results show that happiness is the emotion with the highest frequency. It is in the first position and in the second place is the surprise emotion. Next emotions are scare and anger. Sadness and disgust are in last place. The participants declared that they did not feel sad and disgust. The bar chart below depicts the answers of the participants about the 6 emotions that were caused by the interaction with the memory game.



Picture 18: Average Expressions, Memory Game (Source: Online Form)

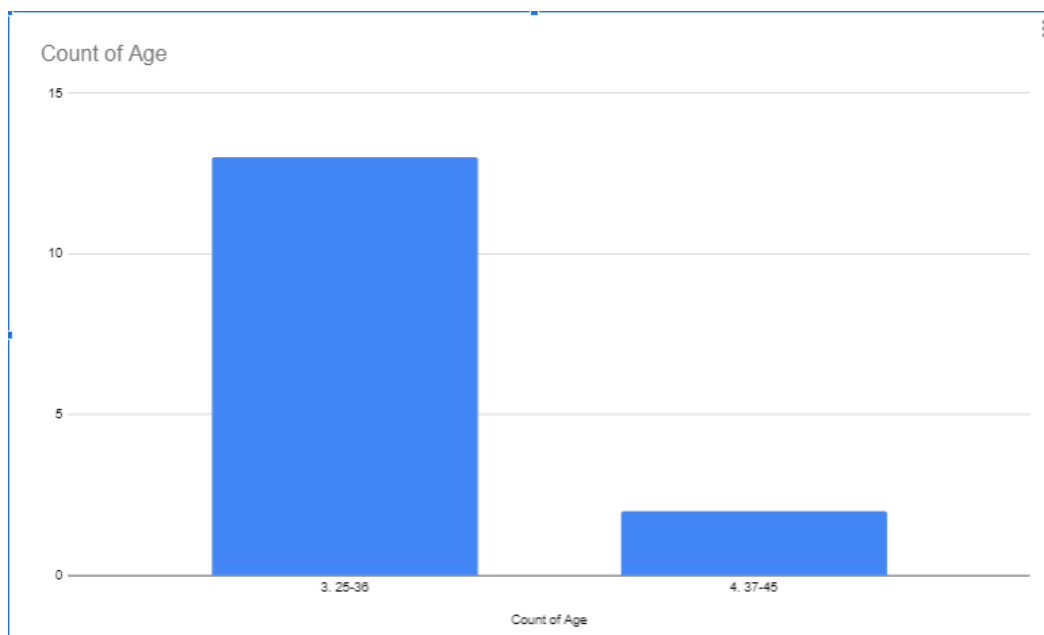
#### 4.1.1 Participants' Profile

In the above, mixed (questionnaire and facetracking tool) analysis took place 15 participants both men and women. The majority of them are men. Specifically, 10 out of 15 are men and 5 out of 15 are women. Over 50% are between 25-36 years old and the rest of participants are between 37-45 years old. Regarding the educational level of the sample, we have identified that the most of them (10 out of 15) have bachelor's degree. All other people have master's degree.

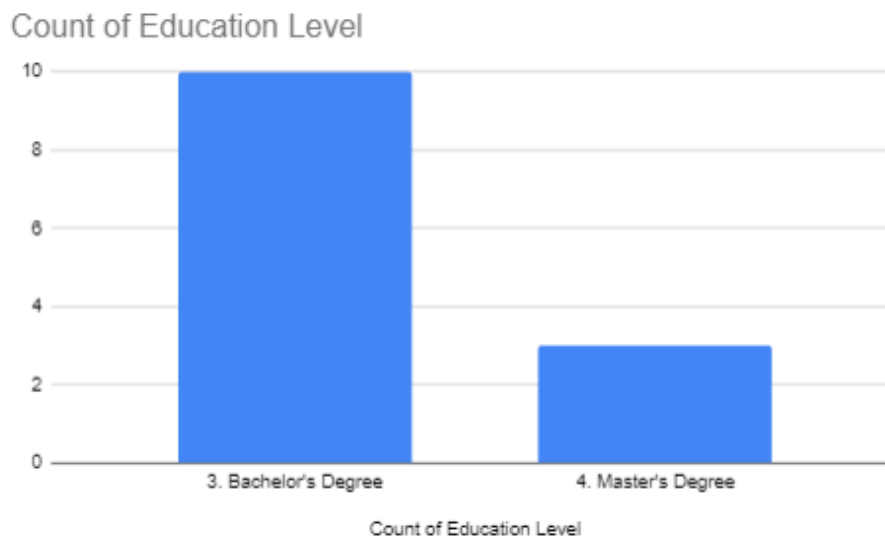


Picture 19:

Gender of the participants (Source: Online Form)



Picture 20: Age of the participants (Source: Online Form)



Picture 21: Educational level of the participants (Source: Online Form)

#### **4.2 Experiment B**

The total number of participants in the second part of the experiment is 50 individuals. From these people, who answered the questionnaire, 30 are male (60%) and the other 20 are female (40%). The highest percentage of the questionnaire participants are adults aged 25 to 36 (60%). The percentage of the adults aged 37 to 45 (24%) follows instantaneously. Two people of the total sample (4%) are between 18 and 24 years old. The same percentage have the participants that are between 46 to 56 (4%). The lowest percentage of the participants is age  $\geq 57$  (2%). Nobody from the participants is below 18 years old. Regarding the educational level of the participants, 30 people (60%) have declared that they have Bachelor's degree. Fifteen out of fifty (30%) have Master's degree. Four individuals (8%) have graduated from high school and one person (2%) has PhD. The percentage of the people who have graduated from the primary school is 0%.

The most of the people who participated in the survey and played both puzzle and memory game have enjoyed the gamification. Specifically, 22 people have declared "Strongly Agree" (44%) and 19 others have declared "Agree" (38%) in the question if they enjoyed playing the 2 games very much. Eight people (16%) answered "Neutral" and one individual (2%) answered "Disagree". Noone has responded "Strongly Disagree".

The data analysis showed that the majority of the sample population did not feel much absorbed during the 2 games. The percentage of 34%, in particular stated that they neither agree nor disagree with the question that was related with the absorption. So, 17 participants submitted "Neutral". The "Agree" reply was formed by 12 individuals (24%). The latter felt more absorbed than the former. "Strongly Disagree" and "Disagree" responded 7 (16%) and (14%) participants each in order. Only 6 people (12%) felt extremely absorbed and answered "Strongly Agree" in the question "After playing the games, I felt like coming back to the "real world" after a journey".

Activation variable has more positive responses than the Absorption variable. It means that the majority of the participants (42%) felt extremely activated during the two games. In other words, 21 participants answered "Strongly Agree" in the questionnaire. Next comes the statement of "Agree"; namely, 17 respondents (34%) answered "Agree". The "Neutral" statement was provided by 8 interviewees (16%). A minority of the sample (6%) population disagree and did not feel much activated during the games. One person (2%) did not feel activated at all.

The two games, puzzle and memory, of the survey were very easy from the aspect of the interaction based on the answers of the majority of the respondents. Pursuant to 30 interviewees (60%) the two games were extremely simple and comprehensible. Sixteen participants (32%) perceived ease of use of the two games and replied "Agree". The minority of the participants provided the "Neutral" (4%) and "Disagree" (4%) statement. No one gave the "Strongly Disagree" answer to the question "My interaction with these games is clear and understandable".

The gamified campaigns showed that had a positive impact on the brand awareness variable, as the majority of the people who participated in the survey could quickly recall the logos of the 2 brands that were contained both in puzzle and in memory game. The highest percentage (62%) of the participants answered "Strongly Agree" and 22% gave the "Agree" answer. Seven people (14%) provided the "Neutral" statement, as they might not remember the 2 logos. A person (2%) replied "Disagree" and not a single one gave the "Strongly Disagree" answer.

The purchase intention of survey participants did not seem to be affected positively or negatively after the two games. The majority of them (42%) responded the “Neutral” statement. It alludes that they neither agreed nor disagreed that would intend to buy the products of Volkswagen and Fix after playing the games. They might want more campaigns with objective awareness in order to buy the products. Twelve people (24%) said that they disagreed and they would not buy the products’ of the 2 brands. From the opposing point of view, 10 people (20%) answered that they agreed with the statement of buying the products after the games. Furthermore, 4 interviewees (8%) strongly agreed with question of the survey. They had high intent to buy products from the brands. Lastly, 6% of the total people who participated in the survey submitted the answer of “Strongly Disagree”. They would not have any intent to buy any product of these companies after playing the games.

The creative thinking variable was in high percentage and many questionnaire respondents perceived it after playing the games, as both memory and puzzle game needed a kind of thinking in a new way. Specifically, 18 individuals (36%) answered the “Agree” statement to the question “While playing the games, I felt creative”. In addition to this, 11 out of 50 (22%) said in response that they strongly agreed with the aforementioned question. With a smaller percentage (20%) are those who answered the “Neutral” statement. On the other hand, 16% of the sample population gave the answer of “Disagree” and 6% the answer of “Strongly Disagree”. Both groups of people did not feel any creativity while they were playing the games.

Finally we are going to analyze the user experience of the interviewees based on the two games (memory and puzzle). More than half (54%) of the people who participated in the questionnaire felt satisfied and 34% felt extremely satisfied. A smaller percentage (10%) declared “Neutral” and they did not feel neither satisfied nor unsatisfied, a person (2%) felt unsatisfied. Not one person felt extremely unsatisfied.



### 4.3 Correlation and Regression Analysis

We are going to examine the Hypothesis and more specifically the relationship between the independent and dependent variables with the use of regression analysis. The aim of this analysis is to examine if the variables of 1) activation, 2) creative thinking, 3) absorption, 4) ease of use, 5) enjoyment affect consumer experience and if both the consumer experience and brand awareness affects the purchase intention. Furthermore, we are going to check if there is any statistical significant relationship between 1) gender, 2) age 3) educational level and our dependent variables (consumer experience & purchase intention). The general form of the equation of the Multiple Linear Regression (MLR) is:

$$y = a + b_1X_1 + b_2X_2 + \dots + b_nX_n + e,$$

y: dependent variable,

a: invariant

$X_1, X_2, \dots, X_n$ : independent variables,

$b_1, b_2, \dots, b_n$ : multiple regression coefficient

e: error.

Taking into consideration the variables of our survey the above equation is shaped as follows:

$$1) \text{consumer\_experience} = a + b_1\text{gen} + b_2\text{age} + b_3\text{edu\_lev} + b_4\text{act} + b_5\text{cre\_thi} + b_6\text{abs} + b_7\text{ease\_of\_use} + b_8\text{enj} + e$$

$$2) \text{pur\_int} = a + b_1\text{con\_exp} + b_2\text{br\_awa}$$

enj: enjoyment

abs: absorption

act: activation

ease\_of\_use

br\_awa: brand awareness

pur\_int: purchase intention

cre\_thi: creative thinking

con\_exp: consumer experience

gen: gender

age

edu\_lev: educational level

Applying the Bivariate Analysis for our variables with the use of PSPP we have the data below:

1) Enjoyment (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)= 0,000 < 0,05

2) Absorption (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)=0,002 < 0,05

3) Activation (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)= 0,003 < 0,05

4) Ease of use (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)= 0,097 > 0,05

5) Creative Thinking (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)= 0,000 < 0,05

6) Gender (Independent var) and Consumer Experience (Dependent var) Sig.(2-tailed)=1,000 > 0,05

7) Age (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)= 0,465 > 0,05

8) Educational Level (Independent var) and Consumer Experience (Dependent var) Sig. (2-tailed)= 0,158 > 0,05

9) Consumer Experience (Independent var) and Purchase Intention (Dependent var) Sig. (2-tailed)=0,25 > 0,05

10) Brand Awareness (Independent var) and Purchase Intention (Dependent var) Sig. (2-tailed)= 0,022 < 0,05

11) Consumer Experience (Independent var) and Brand Awareness (Dependent var) Sig. (2-tailed)= 0,252 > 0,05

We can conclude that in our survey there is no correlation between 11) brand awareness and consumer experience, 9) purchase intention and consumer experience, 8) educational

level and consumer experience, 7) age and consumer experience, 6) gender and consumer experience, 4) ease of use and consumer experience, as it is in effect that  $p\text{-value} > 0,05$ . Based on these results we reject the H6 and H7 hypotheses. The variable of perceived ease of use is not associated with the consumer experience and consumer experience variable is not correlated with purchase intention. So, we accept the null hypotheses in both cases. On the other hand, we accept the other hypotheses h1, h2, h3, h4 and h5.

To examine how strong is the relationship between the above combinations we will check the value of Pearson correlation= $r$  in each combination. The results below comes from the correlation analysis:

- 1) Enjoyment (Independent var) and Consumer Experience (Dependent var),  $r = 0,644$  (Strong correlation)
- 2) Absorption (Independent var) and Consumer Experience (Dependent var),  $r = 0,424$  (Moderate correlation)
- 3) Activation (Independent var) and Consumer Experience (Dependent var),  $r = 0,411$  (Moderate correlation)
- 5) Creative Thinking (Independent var) and Consumer Experience (Dependent var),  $r = 0,488$  (Moderate correlation)
- 10) Brand Awareness (Independent var) and Purchase Intention (Dependent var),  $r = 0,323$  (Weak correlation)

All the above combinations show positive relationships between the variables, as the values of  $r$  are positives ( $r > 0$ ).

The data after the Multiple Linear Regression showed that there is statistical significant positive relationship between enjoyment and consumer experience. Specifically, the independent variable of enjoyment has positive impact on the dependent variable of consumer experience. The metrics are below:

- 1) Enjoyment (Independent Var) and Consumer Experience (Dependent Var),  $p\text{-value} = 0,000 < 0,05$  (Statistical Significant)
- 2) Creative Thinking (Independent Var) and Consumer Experience (Dependent Var),  $p\text{-value} = 0,159 > 0,05$  (Not Statistical Significant)

3) Absorption (Independent Var) and Consumer Experience (Dependent Var), p-value=0,796> 0,05 (Not Statistical Significant)

5) Activation (Independent Var) and Consumer Experience (Dependent Var), p-value=0,670>0,05 (Not Statistical Significant)

Based on these results we reject H3, H4 and H5 hypotheses and accept the H2 hypothesis. In our sample the variables of enjoyment, creative thinking and absorption don not affect the consumer experience. The simple linear regression showed that there is statistical significance between the independent variable of brand awareness and the dependent variable of purchase intention. The analysis showed

10) Purchase Intention (Dependent) and Brand Awareness (Independent), p-value=0,022<0,05 (Statistical Significant).

The relationship of these two variables is positive. It means that an increase in brand awareness will increase the possibility of a purchase. So, we accept the H1 hypothesis.

## **5 Conclusions**

### ***5.1 Conclusions***

In this study, we examined the consumer experience in gamified marketing campaigns. To do this we created a mixed survey using online questionnaire and a face-tracking tool. We run two different experiments. In the first experiment the users played two games and answered an online questionnaire. During the gaming they were tracked by a face-tracking tool. The second experiment differentiated from the first experiment in the absence of camera. The participants were not recorded with any face-tracking tool, while they were playing the two games.

The first experiment data was a combination of face-tracking results and questionnaire results. Combining the results of the face-tracking tool with those of the questionnaire within the framework of the first game, we can find similarities but also differences. The first game was a puzzle game. The dominant emotion is happiness in the first game. Both results from the questionnaire and from the face-tracking tool agree on this result. The participants were tracked but also submitted very happy during playing the game. The recording tool detected high levels of anger and surprise. In contrast, the questionnaire showed that participants had higher levels of surprise and then anger. These results have small deviation, as the recording tool recorded differently and the participants stated differently. The feelings of sadness, disgust and fear are at lower levels in both the questionnaire results and the recording tool results.

In the second game, which was a memory game, the same people participated as in the first game. Similarly, in this case we had results from both the questionnaire they answered and the tool that recorded them. In the case of the second game, there are more discrepancies between the results. In the results of the recording tool, the feeling of sadness dominates, while in the questionnaire the feeling of happiness dominates. According to the

results of the questionnaire, the second highest ranking emotion is surprise and the third is fear. On the other hand, the recording tool identified fear as the second highest and joy as the third. At lower levels, the emotions of surprise, disgust, and fear are based on the online tool. The responses of the respondents in the questionnaire showed that the last 3 positions ranked the emotions of fear, sadness, and disgust.

Generally, we can observe that the frequency of emotion detection differs. This may happen as the recording tool recorded users while they were playing the game. Their emotions based on facial expression may be intensified during the game, possibly affected by some external factor. In the questionnaires in both games, it appears that positive emotions, such as happiness and surprise, dominate. This may be due to the fact that both their games stayed as a positive experience in memory.

In the second part of the research, we conducted the analysis of the data obtained only from the questionnaire. There were a total of 11 variables, including the demographic characteristics of our sample. To conduct the specific analysis, a correlation analysis between the variables was carried out, a multiple linear regression, and a simple linear regression. The correlation analysis showed that the relationships between the dependent variable (consumer experience) and the independent variables, ease of use, gender, age, and educational level are statistically insignificant. This means that these independent variables do not have a correlation with the dependent variable. On the contrary, the specific dependent variable presents a correlation with the following variables: enjoyment, absorption, activation, creative thinking. These variables have a positive correlation with the dependent variable in this case, with a different degree of correlation each. Additionally, we conducted an analysis of the association between the variable purchase intention and the variables consumer experience and brand awareness. The results of the sample showed that there is an association only between the variable purchase intention and the variable brand awareness. There is no statistically significant association between the variables purchase intention and consumer experience. Finally, a correlation analysis was conducted between the variable of brand awareness and consumer experience, where no statistically significant correlation was observed. Then we carried out Multiple Linear Regression between the dependent variable Consumer Experience and the independent variables that showed a

relationship of interdependence. Statistically significant positive relationship exists between the dependent variable Consumer Experience and the independent variable Enjoyment. This means that when the level of enjoyment increases, the variable consumer experience is positively affected. All the other independent variables that we examined with the dependent variable consumer experience do not show statistically significant any influence. Finally, we examined the relationship of interdependence between the dependent variable purchase intention and the independent variable brand awareness. The results showed that there is a statistically significant dependence. This means that as awareness increases, it is more likely for the user to purchase.

### ***5.2 Future Work***

For the research we conducted, we used Facereader as a face-tracking tool and created two games, a puzzle and a memory game. It would be interesting in a future study to use a different face-tracking tool to record similarities and differences in the way of recording. Also, we could use alternative types of games to see how the gameful experience is shaped. Finally, it would be useful for the next research to be conducted on a larger sample.

## **Bibliography**

- Abou-Shouk, M., Soliman, M., 2021. The impact of gamification adoption intention on brand awareness and loyalty in tourism: The mediating effect of customer engagement. *Journal of Destination Marketing & Management* 20, 100559. <https://doi.org/10.1016/j.jdmm.2021.100559>
- Anh, P.T.T., Hoai, N.T., 2022. A study of the impact of gamification on customer experience in online shopping environments.
- Baptista, G., Oliveira, T., 2019. Gamification and serious games: A literature meta-analysis and integrative model. *Computers in Human Behavior* 92, 306–315. <https://doi.org/10.1016/j.chb.2018.11.030>
- Bartle, R., 1996. HEARTS, CLUBS, DIAMONDS, SPADES: PLAYERS WHO SUIT MUDS 28.
- Burroughs, J.E., Glen Mick, D., 2004. Exploring Antecedents and Consequences of Consumer Creativity in a Problem-Solving Context. *J Consum Res* 31, 402–411. <https://doi.org/10.1086/422118>
- Deterding, S., Dixon, D., Khaled, R., Nacke, L.E., 2011. Gamification: Toward a Definition 5.
- Djohan, S.A., Handhana, D., 2022. Can Gamification Stimulate Customers to Repurchase in the E-Marketplace? The Mediation Effect of Customer Experience and Engagement 16.
- Eppmann, R., Bekk, M., Klein, K., 2018. Gameful Experience in Gamification: Construction and Validation of a Gameful Experience Scale [GAMEX]. *Journal of Interactive Marketing* 43, 98–115. <https://doi.org/10.1016/j.intmar.2018.03.002>
- Esmailpour, M., Mohseni, Z., 2019. Effect of Customer Experiences on Consumer Purchase Intention.
- Fotini-Rafailia, P., 2021. How Neuromarketing, Artificial Intelligence and Machine Learning can improve Technology Companies and their Marketing Strategy.
- Gottman, J., Levenson, R., Woodin, E., 2001. Facial Expressions During Marital Conflict. *Journal of Family Communication* 1, 37–57. [https://doi.org/10.1207/S15327698JFC0101\\_06](https://doi.org/10.1207/S15327698JFC0101_06)
- Högberg, J., Ramberg, M.O., Gustafsson, A., Wästlund, E., 2019. Creating brand engagement through in-store gamified customer experiences. *Journal of Retailing and Consumer Services* 50, 122–130. <https://doi.org/10.1016/j.jretconser.2019.05.006>
- Hsu, C.-L., Chen, M.-C., 2018. How gamification marketing activities motivate desirable consumer behaviors: Focusing on the role of brand love. *Computers in Human Behavior* 88, 121–133. <https://doi.org/10.1016/j.chb.2018.06.037>
- Hsu, C.-L., Chen, Y.-C., Yang, T.-N., Lin, W.-K., 2017. Do website features matter in an online gamification context? Focusing on the mediating roles of user experience and attitude. *Telematics and Informatics* 34, 196–205. <https://doi.org/10.1016/j.tele.2017.01.009>
- Jami Pour, M., Rafiei, K., Khani, M., Sabirazm, A., 2021. Gamification and customer experience: the mediating role of brand engagement in online grocery retailing. *NBRI* 12, 340–357. <https://doi.org/10.1108/NBRI-07-2020-0041>
- Jang, Y.-T., Hsieh, P.-S., 2021. Understanding consumer behavior in the multimedia context: incorporating gamification in VR-enhanced web system for tourism e-commerce. *Multimed Tools Appl* 80, 29339–29365. <https://doi.org/10.1007/s11042-021-11149-8>



- Jessen, A., Hilken, T., Chylinski, M., Mahr, D., Heller, J., Keeling, D.I., de Ruyter, K., 2020. The playground effect: How augmented reality drives creative customer engagement. *Journal of Business Research* 116, 85–98. <https://doi.org/10.1016/j.jbusres.2020.05.002>
- Kris, O., and Loijens, L., 2021. Facereader Methodology Note. Noldus Information Technology.
- Liu, X., 2015. STATISTICAL ANALYSIS OF ONLINE EYE AND FACE-TRACKING APPLICATIONS IN MARKETING 24.
- López-Belmonte, J., Segura-Robles, A., Fuentes-Cabrera, A., Parra-González, M.E., 2020. Evaluating Activation and Absence of Negative Effect: Gamification and Escape Rooms for Learning. *IJERPH* 17, 2224. <https://doi.org/10.3390/ijerph17072224>
- ManagementMania.com Six Basic Emotions. In: ManagementMania.com. <https://managementmania.com/en/six-basic-emotions>. Accessed 18 Dec 2022
- Makgosa, R., A. Molefhi, B., 2012. Rebranding an Institution of Higher Education in Botswana. *Business and Economic Research* 2. <https://doi.org/10.5296/ber.v2i2.1926>
- Morschheuser, B., Henzi, C., Alt, R., 2015. Increasing Intranet Usage through Gamification -- Insights from an Experiment in the Banking Industry, in: 2015 48th Hawaii International Conference on System Sciences. Presented at the 2015 48th Hawaii International Conference on System Sciences (HICSS), IEEE, HI, USA, pp. 635–642. <https://doi.org/10.1109/HICSS.2015.83>
- Overgaard, Kaitlin Doherty, "Student's Explicit and Implicit Attitudes Regarding Breastfeeding in Public : Analyzed Through FaceReader™ Technology" (2019). Theses, Dissertations and Culminating Projects. 272. <https://digitalcommons.montclair.edu/etd/272>
- Palmatier, R.W., Kumar, V., Harmeling, C.M. (Eds.), 2018. Customer Engagement Marketing. Springer International Publishing, Cham. <https://doi.org/10.1007/978-3-319-61985-9>
- Pichierri, M., Peluso, A.M., Pino, G., Guido, G., 2021. Health claims' text clarity, perceived healthiness of extra-virgin olive oil, and arousal: An experiment using FaceReader. *Trends in Food Science & Technology* 116, 1186–1194. <https://doi.org/10.1016/j.tifs.2021.05.032>
- Poncin, I., Garnier, M., Ben Mimoun, M.S., Leclercq, T., 2017. Smart technologies and shopping experience: Are gamification interfaces effective? The case of the Smartstore. *Technological Forecasting and Social Change* 124, 320–331. <https://doi.org/10.1016/j.techfore.2017.01.025>
- Rialti, R., Filieri, R., Zollo, L., Bazi, S., Ciappei, C., 2022. Assessing the relationship between gamified advertising and in-app purchases: a consumers' benefits-based perspective. *International Journal of Advertising* 41, 868–891. <https://doi.org/10.1080/02650487.2022.2025735>
- Robson, K., Plangger, K., Kietzmann, J.H., McCarthy, I., Pitt, L., 2016. Game on: Engaging customers and employees through gamification. *Business Horizons* 59, 29–36. <https://doi.org/10.1016/j.bushor.2015.08.002>
- Robson, K., Plangger, K., Kietzmann, J.H., McCarthy, I., Pitt, L., 2015. Is it all a game? Understanding the principles of gamification. *Business Horizons* 58, 411–420. <https://doi.org/10.1016/j.bushor.2015.03.006>

- Rodrigues, L.F., Oliveira, A., Costa, C.J., 2016. Does ease-of-use contributes to the perception of enjoyment? A case of gamification in e-banking. *Computers in Human Behavior* 61, 114–126. <https://doi.org/10.1016/j.chb.2016.03.015>
- Rodrigues, L.F., Oliveira, A., Rodrigues, H., 2019. Main gamification concepts: A systematic mapping study. *Heliyon* 5, e01993. <https://doi.org/10.1016/j.heliyon.2019.e01993>
- Shang, S.S.C., Lin, K.Y., 2013. An Understanding of the Impact of Gamification on Purchase Intentions.
- Sheng, M.L., Teo, T.S.H., 2012. Product attributes and brand equity in the mobile domain: The mediating role of customer experience. *International Journal of Information Management* 32, 139–146. <https://doi.org/10.1016/j.ijinfomgt.2011.11.017>
- Terzis, V., Moridis, C.N., Economides, A.A., 2010. Measuring instant emotions during a self-assessment test: the use of FaceReader 4.
- University of Minnesota, Liu, D., Santhanam, R., University of Oklahoma, Webster, J., Queen's University, 2017. Toward Meaningful Engagement: A Framework for Design and Research of Gamified Information Systems. *MISQ* 41, 1011–1034. <https://doi.org/10.25300/MISQ/2017/41.4.01>
- Visinescu, L.L., Sidorova, A., Jones, M.C., Prybutok, V.R., 2015. The influence of website dimensionality on customer experiences, perceptions and behavioral intentions: An exploration of 2D vs. 3D web design. *Information & Management* 52, 1–17. <https://doi.org/10.1016/j.im.2014.10.005>
- Xi, N., Hamari, J., 2020. Does gamification affect brand engagement and equity? A study in online brand communities. *Journal of Business Research* 109, 449–460. <https://doi.org/10.1016/j.jbusres.2019.11.058>
- Xu, F., Buhalis, D., Weber, J., 2017. Serious games and the gamification of tourism. *Tourism Management* 60, 244–256. <https://doi.org/10.1016/j.tourman.2016.11.020>
- Xu, Y., Chen, Z., Peng, M.Y.-P., Anser, M.K., 2020. Enhancing Consumer Online Purchase Intention Through Gamification in China: Perspective of Cognitive Evaluation Theory. *Front. Psychol.* 11, 581200. <https://doi.org/10.3389/fpsyg.2020.581200>
- Yang, Z.-Y., He, L.-Y., 2011. Goal, customer experience and purchase intention in a retail context in China: An empirical study.

## Appendix

### A1 -1 Guide A

**Follow the steps below, answer the questions and enjoy the game!**

**Note:** Each Participant should take part in two games:

- Puzzle
- Memory Game

You have time limit to each game. You can play each game only once.

#### Steps

##### Puzzle Game

1. Login into <https://www.easypromosapp.com/> and keep this window of the browser open.

**email:** ipapadakis@ihu.edu.gr

**password:** 123!@#qweASD

2. Please, **open** the link <https://bit.ly/3iLu9Ft> and you will find the message below.

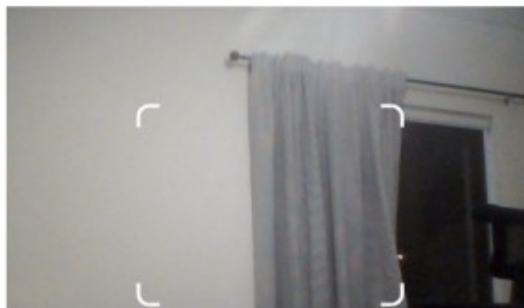
**Dear participant,**

In the next step your camera will **make a recording of your face** while you are watching the screen. The goal is to analyze anonymous facial behaviour patterns.

Your recording will be deleted once the study is completed. Your recording will be processed by the company that initiated the project and the company analyzing the video data, and **will not be shared with third parties**. You are completely free to participate or withdraw your participation at any moment.

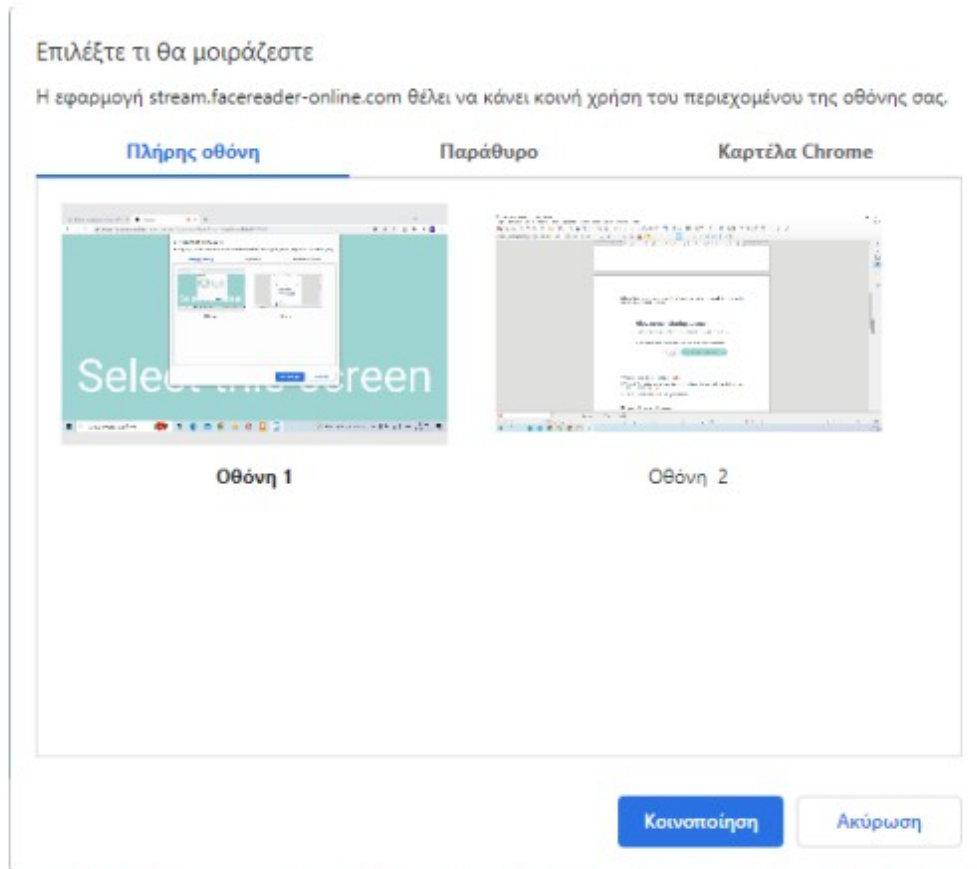
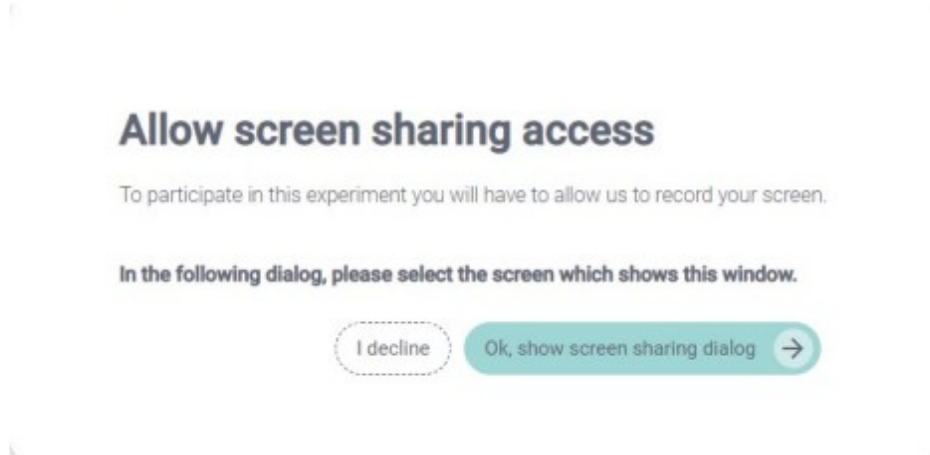
→

3. Press, **“I agree, let’s continue”** and then place your head in the white square.



We could not detect your face. Please try to adjust your lighting.

4. Press “Ok, show screen sharing dialog” as the screenshot below and then **click** on the **Screen that you want to be shared**.

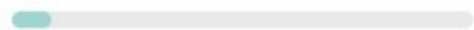


5. Please, enter your **email address** and press **next**. You have time limit on this step.

## Email Address

What is your email address?

Please enter your answer



Next →

6. After you enter your email address you will see the messages of the next 2 screenshots. Press **"Start"** button.

One moment before we start the next task...



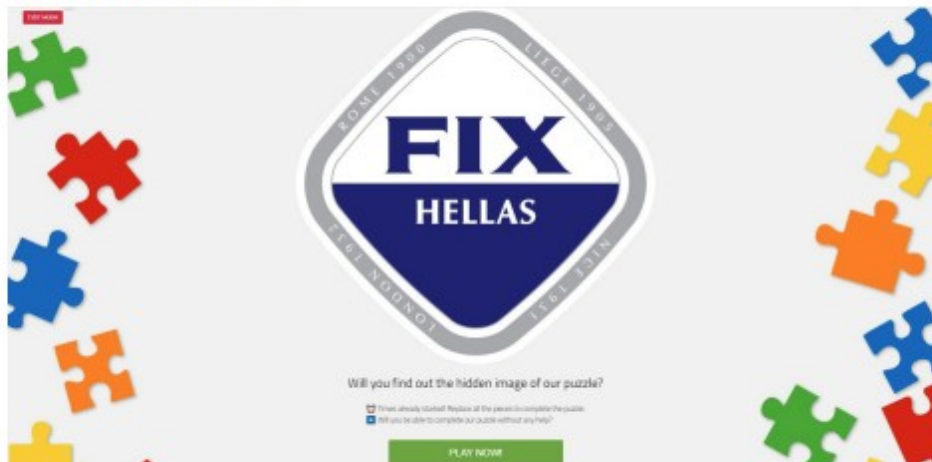
## Find your Fix

Good Luck!

Max duration: 01:10

Start →

7. Press “Play Now” button.



8. Press “Start Game”.



9. After you finish the game you will find a “Finish” button on the up right corner.

10. Close the window and answer the first Questionnaire.

<https://forms.gle/QFNJD3iVNun5Pie38>

**After you finish the questionnaire please go on with the second game.**

### **Memory Game**

1. Click on this link <https://bit.ly/3VU1gVC> and follow the steps like the above 3-6.

After you will finish the game, click on the link below to answer the second questionnaire.

<https://forms.gle/6H8WLFNQqfAeymhZA>



**Follow the steps below, answer the questions and enjoy the game!**

**Note:** Each Participant should take part in two games:

- Puzzle
- Memory Game

You have time limit to each game. You can play each game only once.

### **Steps**

1. Login into <https://www.easypromosapp.com/> and keep this window of the browser open.

**email:** [ipapadakis@ihu.edu.gr](mailto:ipapadakis@ihu.edu.gr)

**password:** 123!@#qweASD

### **Puzzle Game**

2. Please, **open** the link <https://a.cstmapp.com/p/944571> and play the **Puzzle Game**.

### **Memory Game**

3. Please, **open** the link <https://a.cstmapp.com/p/944569> and play the **Memory Game**.

After you will finish the games, click on the link below to answer the questionnaire.

<https://bit.ly/3V44ISg>

## A1-3 Questionnaire (Puzzle Game)

### Customer Experience in Gamified Campaigns (Puzzle Game)

The present questionnaire is about the analysis of customer experience regarding the gamified campaigns in the context of my dissertation of the International Hellenic University. There are 2 different questionnaires each one of which will take 3-5 minutes. You submit your answers anonymously, however an email address is required for cross validation. Thank you in advance for your time.

[Συνδεθείτε στο Google](#), για να αποθηκεύσετε την πρόοδό σου. [Μάθετε περισσότερα](#)

\* Απαιτείται

1. The puzzle game made me feel happy. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

2. The puzzle game made me feel scared. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

3. The puzzle game made me feel sad. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

4. The puzzle game made me feel angry. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

5. The puzzle game disgusted me. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

6. The puzzle game surprised me. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree



## A1-4 Questionnaire (Memory Game & Generic Questions)

### Customer Experience in Gamified Campaigns (Memory Game)

The present questionnaire is about the analysis of customer experience regarding the gamified campaigns in the context of my dissertation of the International Hellenic University. There are 2 different questionnaires each one of which will take 3-5 minutes. You submit your answers anonymously, however an email address is required for cross validation. Thank you in advance for your time.

2/2 Questionnaire

[Συνδεθείτε στο Google](#), για να αποθηκεύσετε την πρόοδό σου. [Μάθετε περισσότερα](#)

\* Απαιτείται

7. The memory game made me feel happy. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

8. The memory game made me feel scared. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

9. The memory game made me feel sad. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

10. The memory game made me feel angry. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

11. The memory game disgusted me. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

12. The memory game surprised me. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

13. I enjoyed playing the games very much. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

14. After playing the games, I felt like coming back to the "real world" after a journey. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

15. While playing the games I felt activated. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

16. My interaction with this game is clear and understandable \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

17. I can quickly recall the logos of these 2 brands. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. I will consider these companies the first choice from which to buy these products. \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

19. While playing the games I felt creative \*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Please rate your experience based on these two games? \*

	1	2	3	4	5	
Strongly Unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Satisfied

20. Gender \*

- 1=Male
- 2=Female
- 3=Not Answered

21. Age \*

- 1. <18
- 2. 18-24
- 3. 25-36
- 4. 37-45
- 5. 46-56
- 6. >=57

22. Education Level \*

- 1. Primary School
- 2. High School
- 3. Bachelor's Degree
- 4. Master's Degree
- 5. PhD

A1-5 Excel Data

A	B	C	D	E	F	G
Timestamp	7. Happy.	8. Scared.	9. Sad.	10. Angry.	11. Disgusted.	12. Surprised
12/8/2022 23:1	4	1	1	1	1	3
12/9/2022 20:5	3	4	1	2	1	3
12/10/2022 1:4	5	1	1	1	1	4
12/11/2022 18:	5	1	1	2	1	4
12/11/2022 18:	3	1	1	1	1	4
12/11/2022 20:	3	1	1	1	1	4
12/12/2022 22:	3	1	1	1	1	1
12/12/2022 23:	4	1	1	1	1	2
12/13/2022 18:	5	1	1	1	1	3
12/13/2022 20:	5	1	1	1	1	5
12/13/2022 21:	3	1	1	1	1	1
12/14/2022 16:	4	1	1	1	1	2
12/16/2022 16:	5	1	1	1	1	3
12/16/2022 21:	3	1	1	1	1	2
12/16/2022 22:	4	1	1	1	1	1
Average Value	4	1	1	1	1	3

Timestamp	1. Happy.	2. Scared.	3. Sad.	4. Angry.	5. Disgusted.	6. Surprised
12/8/2022 23:03:27	3	1	1	1	1	3
12/9/2022 20:54:31	3	4	1	3	1	3
12/10/2022 1:33:55	5	1	1	1	1	4
12/11/2022 18:12:00	4	1	2	4	1	3
12/11/2022 18:47:56	4	1	1	1	1	4
12/11/2022 20:03:33	4	2	1	1	1	4
12/12/2022 22:26:41	3	1	1	1	1	5
12/12/2022 23:05:39	4	1	1	1	1	2
12/13/2022 18:04:59	4	2	1	1	1	4
12/13/2022 20:52:52	4	1	1	1	1	5
12/13/2022 21:44:42	3	1	1	1	1	1
12/14/2022 16:11:16	3	1	1	3	1	1
12/16/2022 16:21:38	5	1	3	1	1	5
12/16/2022 21:21:00	2	1	1	1	2	3
12/16/2022 21:56:44	4	1	1	1	1	4
Average Value	3.67	1.33	1.20	1.47	1.07	3.40

### A1-6 Data View (PSPP)

Υπόθεση	Enj	Abs	Act	Ease_of_Use	Br_Awar	Pur_Int	Cre_Thi	con_Exp	Gen	Age	Edu_Lev
1	4	3	4	4	5	3	4	4	2	3	3
2	3	3	4	2	5	2	4	4	1	3	3
3	5	5	5	5	5	3	5	5	1	4	3
4	5	4	4	4	5	2	4	5	1	3	3
5	5	2	4	4	5	2	3	5	1	3	3
6	3	1	2	4	4	2	1	3	1	3	4
7	3	3	5	4	3	1	3	4	2	3	3
8	5	2	4	5	3	2	2	5	1	3	4
9	4	3	3	5	5	3	3	4	2	3	3
10	5	5	5	5	4	4	5	4	2	3	3
11	3	1	4	5	3	1	2	4	2	3	3
12	4	1	2	4	5	4	1	4	1	3	3
13	5	1	5	5	5	5	3	5	1	4	4
14	3	2	3	4	5	2	2	3	1	3	3
15	3	3	3	5	3	5	3	4	1	3	3
16	4	3	4	4	4	3	4	4	1	3	3
17	5	3	4	5	5	3	4	5	2	3	4
18	5	4	5	5	5	3	4	4	1	3	3
19	4	5	5	5	4	4	4	4	2	3	3
20	4	3	4	2	3	2	4	4	2	4	3
21	4	4	4	3	5	3	5	5	1	4	4
22	5	5	5	4	4	5	5	5	1	3	3
23	2	1	2	3	5	2	2	2	2	3	2
24	5	3	3	5	5	4	4	5	2	3	4

Υπόθεση	Enj	Abs	Act	Ease_of_Use	Br_Awar	Pur_Int	Cre_Thi	con_Exp	Gen	Age	Edu_Lev
25	5	4	5	4	5	5	4	5	2	2	5
26	5	4	5	5	5	3	4	5	1	3	3
27	4	3	5	5	4	2	3	4	2	3	4
28	4	2	3	4	5	3	3	4	2	5	2
29	4	3	5	5	2	2	4	4	2	3	4
30	4	4	3	4	5	4	5	4	1	6	2
31	4	3	4	4	4	3	4	4	1	4	3
32	4	1	4	5	5	3	4	4	1	3	3
33	4	4	5	5	5	3	5	5	1	4	3
34	4	5	5	5	5	4	4	5	1	4	3
35	5	4	5	5	3	1	5	4	1	4	3
36	5	2	3	5	5	3	1	3	1	3	3
37	5	4	4	5	5	3	2	4	1	3	3
38	5	4	5	5	4	4	5	4	1	3	4
39	3	3	4	5	4	2	2	3	1	3	4
40	5	4	5	5	5	4	5	5	1	3	3
41	4	3	4	5	5	4	4	4	1	4	4
42	4	3	5	4	3	3	5	4	2	5	3
43	5	2	5	5	4	3	5	4	2	3	4
44	5	1	1	5	5	3	3	5	2	4	3
45	5	5	5	5	5	3	4	5	2	4	4
46	4	3	4	4	4	3	2	4	2	3	4
47	4	2	3	4	5	3	3	3	1	3	4
Υπόθεση	Enj	Abs	Act	Ease_of_Use	Br_Awar	Pur_Int	Cre_Thi	con_Exp	Gen	Age	Edu_Lev
48	5	3	5	5	5	2	3	4	1	2	3
49	3	2	4	5	5	4	2	4	1	4	2
50	5	4	5	5	5	3	4	5	2	3	3

## A1-7 Variable View (PSPP)

Μεταβλητή	Όνομα	Τύπος	Εύρος	Δεκαδικά	Ετικέτα	Ταμπελες Τιμών	Ελλειπούσες Τιμές	Στήλες	Ευθυγρα/ση	Μέτρηση	Ρόλος
1	Enj	Αριθμητικά	5	0	Enjoyment	{1, Strongly Disagre	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
2	Abs	Αριθμητικά	5	0	Absorption	{1, Strongly Disagre	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
3	Act	Αριθμητικά	5	0	Activation	{1, Strongly Disagre	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
4	Ease_of_Us	Αριθμητικά	5	0	Ease of Use	{1, Strongly Disagre	Κανένα	10	Δεξιά	Κλίμακα	Εισαγωγή
5	Br_Awar	Αριθμητικά	5	0	Brand Aware	{1, Strongly Disagre	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
6	Pur_Int	Αριθμητικά	5	0	Purchase Int	{1, Strongly Disagre	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
7	Cre_Thi	Αριθμητικά	5	0	Creative Thir	{1, Strongly Disagre	Κανένα	13	Δεξιά	Κλίμακα	Εισαγωγή
8	con_Exp	Αριθμητικά	5	0	Consumer E	{1, Strongly Unsatis	Κανένα	13	Δεξιά	Κλίμακα	Εισαγωγή
9	Gen	Αριθμητικά	2	0	Gender	{1, Male}...	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
10	Age	Αριθμητικά	6	0	Age	{1, <18}...	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή
11	Edu_Lev	Αριθμητικά	8	0	Educational	{1, Primary School}	Κανένα	8	Δεξιά	Κλίμακα	Εισαγωγή

A1-8 Correlation Analysis

**Συσχετίσεις**

		Enjoyment	Consumer Experience
Enjoyment	Pearson Συσχέτιση	1,000	,644
	Στ.Σημ. (2-κατ/νσης)		,000
	N	50	50
Consumer Experience	Pearson Συσχέτιση	,644	1,000
	Στ.Σημ. (2-κατ/νσης)	,000	
	N	50	50

CORRELATION

/VARIABLES = con\_Exp Abs  
/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Consumer Experience	Absorption
Consumer Experience	Pearson Συσχέτιση	1,000	,424
	Στ.Σημ. (2-κατ/νσης)		,002
	N	50	50
Absorption	Pearson Συσχέτιση	,424	1,000
	Στ.Σημ. (2-κατ/νσης)	,002	
	N	50	50

CORRELATION

/VARIABLES = con\_Exp Act  
/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Consumer Experience	Activation
Consumer Experience	Pearson Συσχέτιση	1,000	,411
	Στ.Σημ. (2-κατ/νσης)		,003
	N	50	50
Activation	Pearson Συσχέτιση	,411	1,000
	Στ.Σημ. (2-κατ/νσης)	,003	
	N	50	50

**Συσχετίσεις**

		Consumer Experience	Ease of Use
Consumer Experience	Pearson Συσχέτιση Στ.Σημ. (2-κατ/νσης) N	1,000 50	,237 ,097 50
Ease of Use	Pearson Συσχέτιση Στ.Σημ. (2-κατ/νσης) N	,237 ,097 50	1,000 50

CORRELATION

/VARIABLES = con\_Exp Cre\_Thi  
/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Consumer Experience	Creative Thinking
Consumer Experience	Pearson Συσχέτιση Στ.Σημ. (2-κατ/νσης) N	1,000 50	,488 ,000 50
Creative Thinking	Pearson Συσχέτιση Στ.Σημ. (2-κατ/νσης) N	,488 ,000 50	1,000 50

CORRELATION

/VARIABLES = con\_Exp Gen  
/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Consumer Experience	Gender
Consumer Experience	Pearson Συσχέτιση Στ.Σημ. (2-κατ/νσης) N	1,000 50	,000 1,000 50
Gender	Pearson Συσχέτιση Στ.Σημ. (2-κατ/νσης) N	,000 1,000 50	1,000 50

CORRELATION

/VARIABLES = con\_Exp Age  
/PRINT = TWOTAIL SIG.



**Συσχετίσεις**

		Consumer Experience	Age
Consumer Experience	Pearson Συσχέτιση	1,000	,106
	Στ.Σημ. (2-κατ/νσης)		,465
	N	50	50
Age	Pearson Συσχέτιση	,106	1,000
	Στ.Σημ. (2-κατ/νσης)	,465	
	N	50	50

CORRELATION

/VARIABLES = con\_Exp Edu\_Lev

/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Consumer Experience	Educational Level
Consumer Experience	Pearson Συσχέτιση	1,000	,203
	Στ.Σημ. (2-κατ/νσης)		,158
	N	50	50
Educational Level	Pearson Συσχέτιση	,203	1,000
	Στ.Σημ. (2-κατ/νσης)	,158	
	N	50	50

CORRELATION

/VARIABLES = con\_Exp Pur\_Int

/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Consumer Experience	Purchase Intention
Consumer Experience	Pearson Συσχέτιση	1,000	,318
	Στ.Σημ. (2-κατ/νσης)		,025
	N	50	50
Purchase Intention	Pearson Συσχέτιση	,318	1,000
	Στ.Σημ. (2-κατ/νσης)	,025	
	N	50	50

CORRELATION

/VARIABLES = Pur\_Int Br\_Awar

/PRINT = TWOTAIL SIG.

A1-9 Reggression Analysis

**Συσχετίσεις**

		Purchase Intention	Brand Awareness
Purchase Intention	Pearson Συσχέτιση	1,000	,323
	Στ.Σημ. (2-κατ/νσης)		,022
	N	50	50
Brand Awareness	Pearson Συσχέτιση	,323	1,000
	Στ.Σημ. (2-κατ/νσης)	,022	
	N	50	50

CORRELATION

/VARIABLES = Br\_Awar con\_Exp  
/PRINT = TWOTAIL SIG.

**Συσχετίσεις**

		Brand Awareness	Consumer Experience
Brand Awareness	Pearson Συσχέτιση	1,000	,165
	Στ.Σημ. (2-κατ/νσης)		,252
	N	50	50
Consumer Experience	Pearson Συσχέτιση	,165	1,000
	Στ.Σημ. (2-κατ/νσης)	,252	
	N	50	50

## REGRESSION

/VARIABLES= Enj Cre\_Thi Abs Act

/DEPENDENT= con\_Exp

/METHOD=ENTER

/STATISTICS=COEFF R ANOVA.

**Σύνοψη Μοντέλου (Consumer Experience)**

R	R Τετράγωνο	Προσ. R Τετράγωνο	Τυπικό Σφάλμα Εκτίμησης
,69	,48	,43	,53

**ANOVA (Consumer Experience)**

	Άθρ. Τετραγώνων	BE	MO Τετραγώνου	F	Στ.Σημ.
Παλινδρόμηση	11,54	4	2,89	10,42	,000
Σφάλμα	12,46	45	,28		
Σύνολο	24,00	49			

**Συντελεστές (Consumer Experience)**

	Αστάθμιτοι Συντελεστές		Σταθμισμένοι Συντελεστές	t	Στ.Σημ.
	B	Τυπ. Σφάλμα	β		
(Σταθερά)	1,58	,44	,00	3,55	,001
Enjoyment	,45	,11	,52	4,28	,000
Creative Thinking	,13	,09	,22	1,43	,159
Absorption	,02	,09	,04	,26	,796
Activation	,04	,10	,06	,43	,670

## REGRESSION

/VARIABLES= Br\_Awar

/DEPENDENT= Pur\_Int

/METHOD=ENTER

/STATISTICS=COEFF R ANOVA.

**Σύνοψη Μοντέλου (Purchase Intention)**

R	R Τετράγωνο	Προσ. R Τετράγωνο	Τυπικό Σφάλμα Εκτίμησης
,32	,10	,09	,97

**ANOVA (Purchase Intention)**

	Άθρ. Τετραγώνων	BE	MO Τετραγώνου	F	Στ.Σημ.
Παλινδρόμηση	5,23	1	5,23	5,61	,022
Σφάλμα	44,77	48	,93		
Σύνολο	50,00	49			

**Συντελεστές (Purchase Intention)**

	Αστάθμιτοι Συντελεστές		Σταθμισμένοι Συντελεστές	t	Στ.Σημ.
	B	Τυπ. Σφάλμα	β		
(Σταθερά)	1,21	,77	,00	1,58	,120
Brand Awareness	,40	,17	,32	2,37	,022