Greece 2.0
Basic Research Financing Action
(Horizontal support of all Sciences)
Sub-action II
Funding Projects in Leading-Edge Sectors
PART B2.1

PART B 2.1 RESEARCH PROPOSAL

(max. 16 pages including cover page and references)

Development of novel neuromarketing data-driven breast cancer screening promotion messages
NeuCaS

- **Principal Investigator**: Georgios Tsourvakas
- Thematic Area: **ThA5.Social Sciences, Arts and Humanities, Management & Economics of Innovation**
- Topic of scientific, technological and social/financial interest: **5.2 Communication, mass media and social influence**
- Project Duration (in months): **24**
- Total Budget (€): **139.960€**
- Host Institution: **National and Kapodistrian University of Athens**

1 EXCELLENCE, STATE-OF-THE-ART AND OBJECTIVES

Indicative fields should include:
- *Relevance with the Thematic Area*

The project falls under Thematic Area 5. Social Sciences, Arts & Humanities Management & Economics of Innovation, and the topic 5.2 Communication, mass media and social influence. Advertising in organisations is a type of communication that persuades and encourages people to take a particular action (Dyer, 2008).. Communication is important because it verses people on the different things that the business has to offer. Advertisements also shows the advantages, features, and values of a certain product or service. Another key relationship between communication and advertising is message development (Sheehan, 2013). Every organisation must have a marketing objective and it must establish the message that it will give to the target audience. The marketing objective of this project is to identify how various messages encourage women to book for breast cancer screening. Social media, newspapers, magazines, TV, billboards are all types of media that will be used to gather relevant messages and analyse their content.

- *Proposal objectives and necessity/challenges*
Objectives

1. To advance the health belief model and emotive visual persuasion.
2. To conduct systematic theory-based formative audience research and explore how marketing stimuli can encourage women to book breast cancer screening in Greece.
3. To categorise the most persuasive elements of current visuals and assess the persuasiveness, emotionality, authority, and credibility of the graphics and slogans.
4. To discover whether there is resistance to having breast cancer screenings by examining current advertising messages.
5. To design six art-driven and data-driven cancer screening advertisements (including printable leaflet-friendly digital versions).

6.   To help health services promote breast cancer screening in Greece.

Challenges

Considering the neuromarketing approach of the project, we identify the following challenges:
- The moment and the situation of the marketing stimuli received by an individual can also result in the different processing of the stimuli (Fugate, 2007).
- The concept of emotions and their association with certain brain areas is a debatable concept (Senior and Lee, 2008).
- A key limitation is the difficulty of designing new experiments, the high cost and time factor.

- *State-of-the-art & Innovation*

The physiological data contribute towards the state-of-the-art of the project, as they are unique and can't be found elsewhere. The persuasiveness, emotionality, authority, and credibility of the graphics and slogans of cancer screening messages has been researched before, but with the use of self-report methodologies only and with no specific reference to breast cancer. The tools of neuromarketing identify stimuli and cues revealing participant behaviour not detected by careful visual observation (Venkatraman et al, 2012).

- *Scientific and/or social impact*

According to data from the National Health Service Breast Screening Programme (NHSBSP, 2021), Some women choose not to attend for breast screening. The main reasons for non-attendance are that women feel they are too busy, they are deterred by the pain or discomfort of having a mammogram, they choose not to go because they feel fit and healthy and do not think they are at risk of developing breast cancer, or they are afraid of being diagnosed with breast cancer (NHSBSP, 2021). Regardless of the reason for not attending a breast cancer appointment, this project aims at improving the advertising messages of breast cancer research, thus persuading women with the use of different promotion cues. Hence, the societal impact of the project is significant as the research team will design a marketing business model that is most effective of this type of messages and share the model and the optimised visuals with charitable partners, NGOs, the local council authorities, and the Greek National Health System. Ultimately, the project will leave the communities with more powerful, proven, and tested messages. Eventually, the decrease of avoidable mortality is another societal impact of the study as the project aims at encouraging women to book their breast cancer screenings. Raising awareness through the new manipulated advertisements that will be designed for this project, the outreach activities, and the dissemination of research data, is another important societal impact of the project. It is important to highlight that the social impact of the project exceeds the duration of the project.

In a similar vein, the economic impact of the research project is important as hundreds of thousands of euros are spent every year on breast cancer screening advertising messages of all sorts (i.e. from charities, the Greek National Health System, local councils, etc.). The research team will share optimised visuals with all stakeholders and consult in ways to *spend marketing budget more wisely* to achieve the desired targets. The marketing business model and the advertising guidelines that will be designed at the end of the project will be shared with all relevant parties and will be available on the project's dedicated website. Thus, the efficiency of marketing spending will be increased, avoidable costs will decrease, and new marketing standards will be set. The economic impact of the project goes far beyond the immediate scope and duration of the project.

Regarding the scientific point of view, the project will add to the existing knowledge on the effectiveness of cancer related advertisements. The persuasiveness, emotionality, authority, and credibility of the graphics and slogans of cancer screening messages has only been researched with self-report methodologies. For example, a very recent study by Monu et al. (2022) used the focus group methodology to examine the persuasiveness of lung cancer screening health messages. Hence, with the neuromarketing methodology, academia and researchers will gain additional knowledge on how people view breast cancer screening messages and *how they feel when looking at different spots* of the said messages. Yet, the qualitative data analysis will also provide up-to-date information about attitude towards breast cancer screening from a marketing point of view. The

contribution to specific scientific advances across and within disciplines is important as the study will pave the way to more immersive studies (e.g. virtual realities), and extension of the study taking it to new directions. The new knowledge can be used in other disciplines too, for example to test images around mental health issues, policing initiatives, etc.

2 METHODOLOGY AND IMPLEMENTATION

2.1   Research Methodology

Considering that social sciences largely rely on surveys and interviews as the main research methodologies to gain a deeper understanding into people's behaviour (Georgakarakou et al., 2020), this research project aims to follow a hybrid research methodology which also includes physiological experiments. Reflecting on the current increase of experiments in contemporary marketing, the study suggests a combination of four methodologies to improve research validity and results' reliability: a) an eye tracking (ET) experiment, b) a Facial Expression Analysis (FEA) experiment, c) interviews (semi-structured interviews and repertory grid interviews), and d) content analysis. It is true that from a managerial perspective, organisations barely count on focus groups, interviews, and surveys when they are about to make big decisions (e.g. a costly marketing activity); rather they test market their products/services to be able to tally results. Therefore, a combination of usability testing and conventional methodologies is advantageous.
In particular, the research project involves the following five studies:

Study 1: **Semi-structured interviews** (either face to face or via Zoom/Skype) with around twenty women of the lowest income range (i.e., least likely to undergo regular cancer screenings), residents in Greece and recruited on social media (e.g., Facebook, Twitter, Instagram) who admit to having encountered cancer-screening advertisements. More specifically, the interviewees will be aged 40+ (greatest risk for the most common breast cancer according to the Greek Ministry of Health). The interviews will focus on exploring their (1) attitudes toward cancer screenings in general, (2) attitudes to breast cancer screenings, (3) experiences of and attitudes toward cancer screening promotion messages, (4) and cultural (popular and national) identity values associated with the adverts. Thus**,** Study 1 will explore what elements women view as the most and least authoritative, credible, emotive, and persuasive. Responses will be captured by the automatic transcription software Otter and analysed using the thematic analysis method (Terry et al., 2017). The interviews will also include projective questions to explore the women's perspectives on how cancer screening adverts can be improved to maximise their impact. Dr. Yfantidou and Miss Skandali will create the semi-structured questionnaires, with the guidance of the PI, and they will conduct the interviews and facilitate the discussion.

Study 2: **Repertory grid interviews** (face to face) in which the same participants from Study 1 will be given a sample of around fifteen breast cancer-screening adverts (posters, magazine ads, online ads) collected by the research team and will be asked to compare them with one another and specify the differences between them. The repertory grid is a technique for identifying the ways that a person construes, or interprets, his or her experience; it is a technique used in many marketing topics, such as website persuasion (Slattery et al., 2014), as well as in other disciplines (psychology, psychiatry, business management, etc). Participants' constructs will be elicited by presenting three images at a time and asking how alike two of them (but different from the third) are in terms of affecting their attitudes, emotions, and future intentions related to breast cancer screening. For example, if participants refer to anxiety, the recorded construct spectrum will range from 'invoking no anxiety' to 'invoking a lot of anxiety'. We will then further explore the reasoning behind each of the suggested differences through the process of *laddering,* which involves additional probing questions. This process will also aid the exploration of meanings behind the elicited constructs. Drawing on the steps outlined by Tan and Hunter (2002), the final qualitative stage will include **content analysis** of breast cancer screening visual scape - a frequency count of the number of times particular image constructs are mentioned. This count will be followed by grid transformation whereby correlation matrices can be obtained for image constructs by counting

the number of times those elements are paired with constructs. Dr. Yfantidou will create the semi-structured questionnaires, with the guidance of the PI. Dr. Yfantidou will conduct the interviews and Miss Skandali will perform the content analysis of breast cancer screening adverts. The content analysis coding scheme will be agreed upon by the team, with the guidance of Prof. Tsourvakas. Miss Skandali will write the content analysis report and Dr. Yfantidou will write the repertory grid interviews report.

Study 3: Drawing on the data from Studies 1 and 2, the project team will engage in **survey-based slogan creation and evaluation**. Three cancer screening promotion slogans (two related to breast cancer and one general slogan- the independent variables). To this end, the team will first pilot several slogans based on evidence of routes to social influence (Cialdini, 2009) and social identity (Hogg, 2016). The persuasion may pertain to reciprocity (e.g., let's protect each other); social proof (e.g., more and more of us choose to get screened); scarcity (e.g., because if you don't, it might be too late); likeness (e.g., because if you don't, you could hurt someone close to you); authority (e.g., because cancer screening science saves lives); commitment and consistency (e.g., because you know how important it is to be one step ahead). Social identity themes, on the other hand, will tap into specific community or religious identity values. Providing demographic and socio-economic data, around a hundred women aged 40+ will be recruited via social media (e.g., Facebook, Twitter) and will then be asked to rate both the existing cancer screening promoting slogans and the new ones (informed by Studies 1 and 2). Thus, the team will identify those with the highest and lowest ratings in terms of authoritativeness, credibility, emotionality, and persuasiveness (dependent variables). Participants will also complete our new, short willingness to get cancer screening scale, which will be partially built on the willingness to get vaccinated scale (Shapiro et al., 2016). The research team will create the three slogans, based on the participants' input from the previous studies. Dr. Yfantidou and Miss Skandali will design the survey and distribute it through social media. The survey data will be analysed with SPSS and Prof. Tsourvakas will overlook the analysis and sign off the final analysis report.

Study 4: **Design of new breast cancer screening advertisements** based on the findings of studies 1 and 2. A marketing agency will be contracted to design six online and offline adverts, with few differences to the real adverts that were shown to participants in study 2. For example, there will be some differences in text (wording, font size, font type etc.), or visuals (e.g. one promoting fear, one promoting care etc.), or colours based on the findings of the previous three studies. The purpose of study 4 is to design new manipulated adverts that are more appealing, persuasive, and emotional to women, considering their collective opinion. Dr. Yfantidou and Miss Skandali will set up meetings with the advertising agency to present the findings from the previous studies and guide the graphic designer in the design of the new adverts. Draft adverts will be designed every week until we decide on the six final ones. The PI, Prof. Tsourvakas, will participate in the one hour briefing every week and will advise on the advert drafts. The PI will sign off the six adverts.

Study 5: **ET and FEA lab experiments**. The team will use advanced sensor technology to measure exactly where participants' eyes are focused on the new manipulated adverts. A different group of around thirty women of the same age range, will be invited to the Integrated Marketing Communications Lab of the Department of Business Administration of the National and Kapodistrian University of Athens. The advantage of using ET (Picture 1) and FEA (Picture 2) lies upon the validity of the data (Solomon, 2018). The participants will be asked to view each advert for 5 seconds, as this is the average fixation time to an advert (Rayner and Castelhano, 2008). The participants' reaction and attitude towards the advert will be measured with a Tobii Nano eye tracker, and an iMotions FEA software. The team has already acquired a Tobii eye tracker through a previous funded project. The iMotions FEA software will need to be purchased as part of this project. According to past experience, it is estimated that there will be one or two experiments per day as this is a timely activity. The goal is to recruit around 30 women, over the age of 40, for the experiment. A sample size of 30 people is deemed adequate for a neuromarketing research project according to scholars (Georgakarakou et al., 2020; Muñoz-Leiva et al., 2019; García-Madariaga et al., 2019). The main experiment will only last around forty-five minutes, but the preparation is a well-timed activity. The participants will be asked to watch a small movie (for around 15 minutes) and there will be some adverts shown during the movie. Some of those adverts will be the manipulated adverts. This experiment set up reflects the real-life environment of watching TV or being in front of a screen. The analysis of the ET and FEA data will be based on the Areas Of Interest

(AOI) method that is associated with persuasion (Boerman & Müller, 2022): 1) Time to first fixation on Image (TFF); Fixation Frequency (FF); 2) Fixation Duration (FD) and 3) Pupil Dilation. An analysis of variance (ANOVA) with repeated measures will be carried out according to Image Type as a within-subject factor and the attention metrices and Pupil Dilation. The images that take least time to first fixation, have the largest fixation frequency, have longest fixation duration and greatest pupil dilation indicate their likely persuasiveness (Giraldo-Romero et al., 2021). Dr. Yfantidou will be responsible for setting up the lab experiment as she is highly experienced in delivering neuromarketing experiments. Miss Skandali's experience in neuromarketing literature and small projects, as part of her PhD candidacy, is valuable for the experiment. Lastly, Dr. Georgakarakou, who has worked in two more neuromarketing projects, will analyse the ET and FEA data with SPSS to identify correlations between the Areas Of Interest (AOI). Prof. Tsourvakas, the PI, will overlook the experiments and edit/sign off the final report.

Picture 1: Eye Tracking experiment output for a clothing brand advert

Picture 2: Facial Expression Recognition

Study 6: **Interviews with the participants of study 5** about the new advertisements. The interviews are considered an important part of the project as ET and FEA can only explain _what_ is happening in people's minds, while interviews will answer to _why_ the said activity is happening. The interviews will take place a few minutes after each ET and FEA experiment so that information is fresh in participants' minds. The heatmaps and gazepaths (produced by ET and FEA in a matter of minutes) will be shown to the participants and they will be asked questions such as why they looked/did not look at a specific spot, why they felt in a specific way when looking at this particular spot. The reasoning is to benchmark the interview findings with the findings from studies 1 and 2 and identify whether the design of those new adverts is deemed persuasive, emotional, and successful. NVivo will be used for qualitative data analysis. NVivo is widely used in Marketing research as it can analyse data with advanced management, query, and visualization tools and the researcher can ask for the software to identify themes and draw clear conclusions. Dr. Yfantidou and Miss Skandali will conduct the interviews and write up the transcripts. Dr. Georgakarakou will analyse the results and highlight associated patterns. Prof. Tsourvakas will overlook the interviews and sign off the final report. The research team will seek advice from ALMA ZOIS for the interpretation of the findings.

2.2 Work Plan (Work Packages, Gantt Chart, Deliverables and Milestones Table, Table of Risks and Contingency Plan}

2.2.1 Brief outline of the overall work plan

The overall work plan is designed in a clear manner to avoid complexity.

First, the team will conduct **semi-structured interviews** with twenty women, to understand their attitude toward cancer screenings in general, their attitude to breast cancer screenings, and their experiences of and attitudes toward cancer screening promotion messages.

Then, the team will conduct **repertory grid interview** with the same sample from study 1. The women will be given a sample of around fifteen breast cancer-screening advertisements and will be asked to compare them

with one another and specify the differences between them. At the same time, the **content analysis** method will be used to explore the visual scape of breast cancer screening advertisements and find the frequency count of the number of times particular image constructs are mentioned.

Next, the team will create three **survey-based slogans** and ask around a hundred women to rate them. The goal is to identify those with the highest and lowest ratings in terms of authoritativeness, credibility, emotionality, and persuasiveness. Along with the survey-based slogans, the women will be asked to complete a short 'willingness to get breast cancer screening tests' survey.

Then, a marketing agency will be contracted to **design six new, manipulated, breast cancer screening advertisements**. The final stage of the project is the **ET and FEA lab experiment**. Advanced sensor technology will be used to measure exactly where participants' eyes are focused on the new manipulated adverts and identify some of the seven main emotions (happiness, surprise, contempt, sadness, fear, disgust, and anger) that are related to facial muscle movements. Also, each participant will be asked to have a short **interview** right after the experiment. This way the team will gain an understanding as to why the participant looked at a specific marketing spot in the advert and why they felt in a specific way in that moment.

When all the studies are finished the team will produce a marketing business model and advertising guidelines based on the cumulative research findings.

2.2.2   *Description of each Work Package (WPs)*

WP Number: 1	WP Title: Literature review and Semi-structured interviews	
Starting Month: 1	Ending Month: 4	Person Months (PMs): 6.48

Objectives: 1) To highlight the most up-to-date literature around breast cancer advertisements, neuromarketing, health marketing and cancer screening promotion.
2) To understand women's attitude towards cancer screening in general, attitude towards breast cancer screenings, and attitude towards cancer screening promotion messages.

Description of Work: WP1 includes scanning the literature around health marketing, cancer screening persuasion, breast cancer advertisements, and neuromarketing. It also includes the semi-structured interviews that will take place in the first four months of the project. Twenty women of the lowest income range, who are residents in Greece, will be recruited via social media. According to the sample frame, those women must be at least 40 years old and must have seen cancer-screening advertisements in the past. The goal of the interviews is to explore what elements women view as the most and least authoritative, credible, emotive, and persuasive. Responses will be captured by the automatic transcription software Otter and analysed using the thematic analysis method (Terry et al., 2017). The interviews will also include projective questions to explore the women's perspectives on how cancer screening adverts can be improved to maximise their impact.

Tasks: The PostDoc researcher, Dr. Yfantidou and PhD candidate, Miss Skandali will be responsible for the literature review. Dr. Yfantidou will also create the semi-structured questionnaire, with the guidance of the PI, and both Dr Yfantidou and Miss Skandali will conduct the interviews and write the WP1 report. Prof. Tsourvakas will edit and sign off the report.
Deliverables: 1) Literature review report. **2**) Semi-structured interview report.
Milestones: Interview report

WP Number: 2	WP Title: Repertory grid interviews and content analysis of breast cancer screening advertisements	
Starting Month: 5	Ending Month: 8	Person Months (PMs): 4.86

Objectives: 1) To examine women's views when comparing breast cancer screening advertisements.
2) To identify the frequency of specific elements' appearance in breast cancer screening advertisements.

Description of Work: WP2 is about conducting the repertory grid interviews and the content analysis of real breast cancer screening advertisements. For the repertory grid interviews the same participants from WP1 will be recruited and they will be given a sample of around fifteen breast cancer-screening advertisements to compare them with one another and specify the differences between them. Participants' constructs will be

elicited by presenting three images at a time and asking how alike two of them (but different from the third) are in terms of affecting their attitudes, emotions, and future intentions related to breast cancer screening. The team will then further explore the reasoning behind each of the suggested differences through the process of *laddering,* which involves additional probing questions. WP2 also includes the **content analysis** of breast cancer screening visual scape - a frequency count of the number of times particular image constructs are mentioned. This count will be followed by grid transformation whereby correlation matrices can be obtained for image constructs by counting the number of times that elements are paired with constructs.

Tasks: The PostDoc researcher, Dr. Yfantidou will create the semi-structured questionnaires, with the guidance of the PI. Dr. Yfantidou will conduct the interviews and Miss Skandali will perform the content analysis of breast cancer screening adverts. The content analysis coding scheme will be agreed upon by the team, with the guidance of Prof. Tsourvakas. Miss. Skandali will write the content analysis report and Dr. Yfantidou will write the repertory grid interviews report. The PI will edit and sign off the deliverables.

Deliverables: 1) Repertory grid interview report. **2)** Content analysis report.
Milestones: Repertory grid interview report and content analysis report.

WP Number: 3	WP Title: Survey-based slogan creation and evaluation	
Starting Month: 9	Ending Month: 11	Person Months (PMs): 4.86

Objectives: To design six adverts with anti-violence messages

Description of Work: WP3 include the creation and evaluation of a survey-based slogan. In specific, the research team will create three cancer screening promotion slogans (two related to breast cancer and one general slogan- the independent variables) and ask women to rate them. Around a hundred women aged 40+ will be recruited via social media and will be asked to rate both the existing cancer screening promoting slogans and the new ones (informed by Studies 1 and 2). The team's personal social media accounts will be used to recruit participants, and the invitation to the study will be shared by the university's social media accounts. The aim of WP3 is to identify the slogans with the highest and lowest ratings in terms of authoritativeness, credibility, emotionality, and persuasiveness (dependent variables). Participants will also complete the willingness to get cancer screening scale, which will be partially built on the willingness to get vaccinated scale (Shapiro et al., 2016).

Tasks: The PostDoc researcher, Dr. Yfantidou will create the willingness to get cancer screening scale. The research team will create the three slogans, based on the participants' input from previous WPs. Dr. Yfantidou and Miss Skandali will design the slogan survey and distribute it through social media. The survey data will be analysed with SPSS and Prof. Tsourvakas will overlook the analysis and sign off the final analysis report.
Deliverables: SPSS report about the slogan appeal
Milestones: SPSS report about the slogan appeal

WP Number: 4	WP Title: Design of new breast cancer screening advertisements	
Starting Month: 12	Ending Month: 13	Person Months (PMs): 3.24

Objectives: To design six breast cancer screening adverts.

Description of Work: WP4 is about the design of new, manipulated breast cancer screening advertisements based on the findings of the previous WPs. The marketing agency MMS Advertising, based in Athens and Thessaloniki, will be contracted to design six online and offline adverts. The agency has worked with members of the team in other neuromarketing projects in the past and is experienced in creating adverts for academic purposes within strict timeframes. The new adverts will have some differences with the real advertisements, for example differences in text, or visuals, or colours. This way we will be able to compare them and check which elements are more persuasive. The purpose of WP4 is to design adverts that are more appealing, persuasive, and emotional to women.

Tasks: Dr. Yfantidou and Miss Skandali will have regular meetings with MMS Advertising, the marketing agency that will design the new advertisements. They will present the findings from the previous studies and guide the graphic designer in the design of the new adverts. Draft adverts will be designed every week until

we decide on the six final ones. The PI, Prof. Tsourvakas, will participate in the one hour briefing every week and will advise on the advert drafts. The PI will sign off the six adverts.

Deliverables: Six breast cancer screening advertisements in a digital format.

Milestones: The design of new breast cancer screening advertisements.

WP Number: 5	WP Title: ET and FEA lab experiments	
Starting Month: 14	Ending Month: 19	Person Months (PMs): 13.92

Objectives: To understand women's thoughts and reactions to the various stimuli of the six breast cancer screening advertisements.

Description of Work: WP5 includes the ET and FEA lab experiment as well as the data analysis and the interviews. The team will use advanced sensor technology to measure exactly where participants' eyes are focused on the new manipulated adverts. The sample for WP5 will be different to avoid bias. So, a different group of around thirty women of the same age range, will be invited to the Integrated Marketing Communications Lab. The participants' reaction and attitude towards the advert will be measured with a Tobii Nano eye tracker, and an iMotions FEA software. The analysis of the ET and FEA data will be based on the Areas Of Interest (AOI) method that is associated with persuasion (Boerman & Müller, 2022). WP5 also includes interviewing the participants right after they have viewed the advertisements on the computer. The interviews will answer to *why* the women looked at specific spots and why they felt the way they did in that exact moment. Literature supports that the best way to understand why people reacted the way they did is by asking while showing their personalized data (Georgakarakou et al., 2020). The reasoning is to explore whether the design of those new adverts is deemed persuasive, emotional, and successful. NVivo will be used for qualitative data analysis.

Tasks: Dr. Yfantidou will be responsible for setting up the lab experiment as she is highly experienced in delivering neuromarketing experiments. Miss Skandali, who has had training in eye-tracking projects by Prof. Tsourvakas, will assist in inputting the data into the software and guiding the participants while at the lab. As regards the data analysis, Dr. Georgakarakou, who has worked in two more neuromarketing projects, will analyse the ET and FEA data with SPSS to identify correlations between the Areas Of Interest (AOI). Regarding the interviews, Dr. Yfantidou Miss Skandali will conduct the interviews and write up the transcripts. Dr. Georgakarakou will analyse the results and highlight associated patterns. Prof. Tsourvakas, the PI, will overlook the experiments and edit/sign off the final report. The research team will seek advice from ALMA ZOIS for the interpretation of the findings.

Deliverables: ET and FEA experiment report.

Milestones: Completion of the experiment.

WP Number: 6	WP Title: Dissemination and Communication Management	
Starting Month: 20	Ending Month: 21	Person Months (PMs): 3.54

Objectives: To disseminate the findings of the project and promote the new marketing business model.

Description of Work: WP6 is about the dissemination and exploitation plan, including communication activities, such as the design of a dedicated project website; organisation of public meetings with guests from the local council and breast cancer charities; and dissemination of the new marketing business model to marketing agencies and cancer charities to assist in designing better marketing campaigns. Intermediate reports will be drafted after each activity and the final report will be written at the end of the project.

Tasks: Dr. Yfantidou and Miss Skandali will work with MMS Advertising agency for the design of the website. They will also organise a public meeting, at the National and Kapodistrian University of Athens, and representatives from charities, the local council and marketing agencies will be invited. The new marketing business model will be presented, along with the new manipulated adverts and an overview of the whole project. A final report will be written and disseminated to the relevant stakeholders separately (i.e. charities based in Athens or elsewhere, the Greek Ministry of Health, breast cancer and breast healthcare charities, etc). The PI will participate in the public meetings, he will sign off the dedicated website as well as the intermediate reports and the final report.

Deliverables: Dissemination and Communication Report		
Milestones: Dissemination and Communication		
WP Number: 7	**WP Title: International Conferences**	
Starting Month: 22	**Ending Month: 23**	**Person Months (PMs): 2.74**
Objectives: To present two announcements at two international conferences. **Description of Work:** Although WP7 is about the participation in the International Conference of Research in Advertising (ICORIA) and the International Conference for Contemporary Marketing Issues (ICCMI), it has been decided to allow two months for this WP as it involves the writing of two different conference announcements with intermediary and cumulative findings. The findings of the project will be presented to academics and researchers. The first presentation, aiming at ICCMI, will include the findings from WP1, WP2 and WP3. The second presentation, aiming at ICORIA, will include the design of the new advertisements, the findings from the lab experiment and the interviews and the new marketing business model. **Tasks:** Dr. Yfantidou and Miss Skandali, with the guidance and overview of Prof. Tsourvakas, will write up the two presentations and the articles for the conference proceedings. **Deliverables:** Participation in two international marketing conferences. **Milestones:** Dissemination and Communication		
WP Number: 8	**WP Title: Academic article**	
Starting Month: 23	**Ending Month: 24**	**Person Months (PMs): 2.62**
Objectives: To publish an academic article at a reputable marketing journal in an Open Access mode. **Description of Work:** WP8 includes the writing of an academic article in an Open Access mode. It is important that the findings of this project are easily available to everyone, without the caveat of subscription, for an important social matter like this. The team will create a marketing business model based on the physiological and self-report data and researchers will have open access to the marketing model. Most preferably, the aim is for the article to be published by the Journal of Advertising. **Tasks:** Dr. Yfantidou and Miss Skandali, with the guidance and overview of Prof. Tsourvakas will write the article and submit it to a reputable marketing journal. **Deliverables:** Publish an Open Access article at a prestigious marketing journal. **Milestones:** Dissemination and Communication		
WP Number: 9	**WP Title: Project Management**	
Starting Month: 1	**Ending Month: 24**	**Person Months (PMs): 1.34**
Objectives: To ensure that the project is delivered on time, the task allocation is correct, the deliverables are edited, the budget is allocated correctly, and the administration work is performed in a timely manner. **Description of Work:** WP9 includes the management of the whole project from day one until the end. This will include the admin work for various matters (e.g. file requests, make payments etc.) and the coordination of the team in task and budget allocation. **Tasks:** The PI will be responsible for WP9. **Deliverables:** Project completion report. **Milestones:** Project completion.		

2.2.3   Deliverables

Indicative deliverables: technical reports, research results, databases, new studies, interactive tools, e-learning tools, dissemination reports [peer-reviewed journals, publications in conference proceedings, books/chapters in books, lectures/conferences/workshops presentations), posters, patents etc.]

Deliverable Number	Deliverable Name	Related WP	Type[1]	Dissemination Level[2]	Due Date (in months)[3]
1	Literature review report	WP1	R	CO	4
2	Semi-structured interview report	WP1	R	CO	4
3	Content analysis report	WP2	R	CO	8
4	Repertory grid interview report	WP2	R	CO	8
5	SPSS report about the slogan appeal	WP3	R	CO	11
6	Six breast cancer screening advertisements in a digital format	WP4	Other	CO	13
7	ET and FEA experiment report	WP5	R	CO	19
8	Dissemination and Communication Report	WP6	R	PU	21
9	Participation in two international marketing conferences	WP7	DEC	PU	23
10	Publish an Open Access article at a prestigious marketing journal	WP8	DEC	PU	24
11	Project completion report	WP9	R	PU	24

2.2.4   Milestones

Milestone Number	Milestone Name	Related WP	Due Date (in months)	Means of Verification
1	Semi-structured interview report	WP1	4	The semi-structured interview report will be signed off by the PI. The project's scientific committee will also read the report.
2	Repertory grid interview report and content analysis report	WP2	8	The repertory grid interview report and the content analysis report will be signed off by the PI. The scientific committee will also read the report.
3	SPSS report about the slogan appeal	WP3	11	The SPSS report will be signed off by the PI and the data set will be available for verification.
4	The design of new breast cancer screening advertisements	WP4	13	The marketing agency will deliver the six advertisements in a digital format.
5	Completion of the experiment	WP5	19	The PI will be kept informed about the progress of the ET and FEA experiment and he will sign off the relevant report when data analysis is finished.
6	Dissemination and Communication	WP6, WP7, WP8	24	The PI, along with the project's scientific committee will discuss about the

---

[1] Please add one of the following types:
R = Report (document, including interim and final report)
DEM = Demonstrator (prototype, plan, etc.)
DEC = Publications, patents, etc.
Other
[2] Please add one of the following types:
PU = PUBLIC (public available)
CO = CONFIDENTIAL (available only to the research team and H.F.R.I.)
[3] *Please add the respective Project's delivery month.*

7	**Project completion**	**WP9**	**24**	organization of the project's public meeting and minutes will be written. The conference announcements and the publication of an OA academic article will be both signed off by the PI.
				The project completion report will be created by the PI and evaluated by the scientific committee. The marketing business model will be included.

2.2.5   Risks and Contingency Plan

Description of risk (indicate level of likelihood: Low/Medium/High)	WPs involved	Proposed risk –Mitigation measures
Low – Inability to reach as many advertising agencies, breast cancer networks and charities, and local councils as possible to participate in the public meeting	**6**	**Contact all stakeholders in as many ways as possible (email, telephone, personal visits)**
Low – Inability to find appropriate sample size for the survey slogan appeal via social media	**4**	**Contract a market research office that holds data from prospective research participants and can disseminate the survey at a cost.**
Low – Inability to find appropriate sample size for the lab experiment	**5**	**Cooperate with a marketing agency that holds appropriate participant pools at a cost**

2.2.6   Timeline/timetable of the different work packages and their components (Gantt Chart).

Task ID	Task Description	Task Duration	Start date	End date
WP1	Literature review and Semi-structured interviews	4	1	4
WP2	Repertory grid interviews and content analysis of breast cancer screening advertisements	3	5	8
WP3	Survey-based slogan creation and evaluation	3	9	11
WP4	Design of new breast cancer screening advertisements	1	12	13
WP5	ET and FEA lab experiments	6	14	19
WP6	Dissemination and Communication Management	2	20	21
WP7	International conference	2	22	23
WP8	Academic article	1	24	24
WP9	Project Management	24	1	24
Milestones ◊				

2.3   Research Team

Prof. Tsourvakas is the PI of this project, and he is Professor at the Department of Business Administration at National and Kapodistrian University of Athens. He has five years' experience in funded neuromarketing projects, with the use of ET, FEA and EEG, and has been encouraging early career researchers continually over the last years of his career. Thus, he will guide the rest of the team and allocate tasks within the team. He will also be responsible for taking care of the admin work, and filing the timesheets, expenses, and other regular forms. He will be providing advice during the biweekly team meetings, and he will be signing off the reports for each WP.

Dr. Yfantidou will be contracted by the National and Kapodistrian University of Athens as Post-Doctoral Researcher in a full-time basis for 24months. The PI had been Dr. Yfantidou's PhD supervisor five years ago and have collaborated in several neuromarketing projects in the past. She will be responsible for conducting the literature review and semi-structured interviews (WP1). She will design the repertory grid interviews and assist in the content analysis of the breast cancer screening advertisements (WP2). Dr. Yfantidou will create

the willingness to get cancer screening scale and will assist in the design of the three cancer screening slogans (WP3) and the data analysis. She will also guide the marketing agency in the design of the new manipulated adverts (WP4). She will set up and perform the lab experiment as well as the interviews (WP5). Lastly, Dr. Yfantidou will have an active role in organising the public meeting and getting in touch with breast cancer charities (WP6), writing the conference announcements (WP7) and the academic article (WP8). Her neuromarketing experience in funded projects at Aristotle University of Thessaloniki, coupled with qualitative analysis skills will be valuable throughout the whole project.

Dr. Georgakarakou will be contracted by the National and Kapodistrian University of Athens as Post-Doctoral Researcher in a part-time basis for 12 calendar months (6PMs). Dr. Georgakarakou is an expert in quantitative data analysis and has a five-year experience in analysing eye tracking data for various funded projects at Aristotle University of Thessaloniki. The PI had been Dr. Georgakarakou's PhD supervisor and they have collaborated in two neuromarketing projects in the past. She will analyse the data that will be produced by the ET and FEA (WP5) and will assist in performing the interviews and analysing the data in NVivo (WP5).

Miss Skandali will be contracted by the National and Kapodistrian University of Athens as MSc graduate (PhD candidate with the supervision of Prof. Tsourvakas), in a part-time basis for 24 calendar months (10.5PMs). She will be responsible for conducting the literature review and assist in conducting the semi-structured interviews (WP1). She will conduct the content analysis of the breast cancer screening advertisements (WP2) with the guidance of the PI and Dr. Yfantidou. Miss Skandali will assist in the design of the three cancer screening slogans (WP3). She will assist in guiding the marketing agency for the design of the new manipulated adverts (WP4) and she will assist in performing the lab experiment as well as the interviews (WP5). Lastly, Miss Skandali will participate in the organisation of the public meeting and will get in touch with breast cancer charities (WP6); the writing of the conference announcements (WP7); and the writing of the journal article (WP8). Her experience in neuromarketing, as part of her PhD, coupled with qualitative analysis skills will be valuable throughout the whole project.

3 BUDGET

3.1 Host Institution budget and justification

Please complete/modify the following table(s) to include all costs of the proposed project for the Host Institution and for each Collaborating Organization – H.F.R.I. Beneficiary (if applicable). In addition, justify the proposed costs per category.

Cost Category	Restrictions
DIRECT COSTS	
Personnel costs[1] (PI and Research Team members)	**103.253€**
Consumables	-
Dissemination and Travel	**7.920€**
Equipment (Depreciation value)	**6.900€**
Other costs	-
Subcontracting costs	**6.400€**
INDIRECT COSTS	**15.487€**
Total HI Budget	**139.960€**

[1]*For personnel costs please refer to the terms described in Table 4 of the call*

Budget justification

Personnel costs

The PI will work in total 3,1 Personal Months (PMs) on this project. This is estimated in 388€ per calendar month and the total cost for 24 calendar months is 9.312€

Dr. Yfantidou will work as Post Doc Researcher on a full-time basis for 24 PMs. The cost is 2.480€ per month, thus 59.520€

Dr. Georgakarakou will work as Post Doc Researcher on a part-time basis for 12 calendar months. This is equivalent to 0,50 PMs per calendar month, thus 6 PMs. This means that the cost is 14.880€ (6 months X 2.480€).

Miss Skandali will work as MSc graduate (PhD candidate) on a part-time basis for 24 calendar months, thus 10,5 PMs. The cost for MSc graduates is 1.860€ per PM, hence the total cost for 10,5 PMs is 19.530€.

The total cost for the PI and the three team members is 103.253€

Dissemination and Travel

The cost for dissemination and travel is expected to be 7.920€ in total. This includes attending two international conferences (registration for three people is expected to be 2.400€ for both conferences). Travel and accommodation costs to the conference country/city is expected to be around 4.500€ for two or three people for two conferences. A total of 6.900€ will be spent in conference attendance. The remaining 1.020€ is the catering cost for the public meeting.

Subcontracting costs

The team will contract MMS Advertising, a marketing agency in Thessaloniki and Athens with experience in designing advertisements for research purposes. The agency has worked with the PI and some of the team members in previous neuromarketing projects. The quote we have received for the design of various breast cancer screening advertisements, six of which will be the final chosen ones, is 6.400€.

Equipment

iMotions Module – CORE (Foundation Research Software) 2.900€
iMotions Customer Success Program (Onboarding, training, consultancy, loyalty program,) 1.100€
iMotions Module – Affectiva (Facial Expression Analysis research software) 2.900€
Total equipment cost: 6.900€

Indirect Costs

Indirect cost is the cost for the Special Account for Research Funds of the International Hellenic University. This is 15% of the 103.253€ (which is the personnel cost), thus 15.487€

References

Boerman, S. C., & Müller, C. M. (2022). Understanding which cues people use to identify influencer marketing on Instagram: an eye tracking study and experiment. *International Journal of Advertising*, *41*(1), 6-29.

Cialdini, R. B. (2009). Influence: Science and practice. New York: William Morrow.

Dyer, G. (2008). *Advertising as communication*. Routledge.

García-Madariaga, J., López, M. F. B., Burgos, I. M., & Virto, N. R. (2019). Do isolated packaging variables influence consumers' attention and preferences?. *Physiology & behavior*, *200*, 96-103

Georgakarakou, C., Riskos, K., Tsourvakas, G., & Yfantidou, I. (2020). What features of green products packaging are more eye catching? An eye-tracking exploratory study about organic agricultural products. *International Journal of Technology Marketing*, *14*(2)

Hogg, M. A. (2016). Social identity theory. In *Understanding peace and conflict through social identity theory* (pp. 3-17). Springer, Cham.

Monu, J. I., Achar, C., Wood, D. E., Flum, D. R., Agrawal, N., & Farjah, F. (2022). Psychological Traits and the Persuasiveness of Lung Cancer Screening Health Messages. *The Annals of Thoracic Surgery*, *113*(4), 1341-1347.

Muñoz-Leiva, F., Hernández-Méndez, J., & Gómez-Carmona, D. (2019). Measuring advertising effectiveness in Travel 2.0 websites through eye-tracking technology. *Physiology & behavior*, *200*, 83-95.

National Health Service Breast Screening Programme (2021), available at https://www.gov.uk/topic/population-screening-programmes/breast accessed in October 2022.

Schneider, T., & Woolgar, S. (2012). Technologies of ironic revelation: enacting consumers in neuromarkets. *Consumption Markets & Culture*, *15*(2), 169-189.

Sheehan, K. B. (2013). *Controversies in contemporary advertising*. Sage Publications.

Shapiro, G. K., Holding, A., Perez, S., Amsel, R., & Rosberger, Z. (2016). Validation of the vaccine conspiracy beliefs scale. *Papillomavirus research*, *2*, 167-172.

Solomon, P. R. (2018). Neuromarketing-applications, challenges and promises. *Biomedical Journal of Scientific & Technical Research*, *12*(2), 9136-9146.

Slattery, P., Finnegan, P., Vidgen, R., & Land, L. (2014). Persuasion in prosocial domains: explaining the persuasive affordances of volunteering websites.

Tan, F. B., & Hunter, M. G. (2002). The repertory grid technique: A method for the study of cognition in information systems. *MIS quarterly*, 39-57

Venkatraman, V., Clithero, J. A., Fitzsimons, G. J., & Huettel, S. A. (2012). New scanner data for brand marketers: How neuroscience can help better understand differences in brand preferences. *Journal of consumer psychology*, *22*(1), 143-153