Project no: 022936
Project acronym: Beneris
Project title: Benefit-risk assessment for food: an iterative value-of-information approach

Instrument: STP-Specific Targeted Project

D43:

Consumer reactions

Due date of deliverable:	**June 1, 2009**
Actual submission date:	**Nov 15, 2009**
Dissemination level:	**PU**
Start date of project:	**April, 1st 2006**
Duration:	**3,5 years**

Organisation name of the lead contractor for this deliverable: FSAI

Consumer reactions (D43)

Background

The dissemination plan for benefit-risk assessment of food (Beneris WP 5) aims to spread information about methods and tools for making better assessments about benefits and risks that relate to food consumption and the outcome of such assessments to stakeholders, including consumers. Specifically the Technical Annex for Beneris (WP 5) indicated that the FSAI would communicate the outcome of the benefit-risk assessment of contaminants in fish to a test population of Irish consumers, and their reactions to the information tested. This would involve development of information that is readily understandable to the average consumer, both Web-based and printed. The intent was to develop Web-based information on the FSAI Website in addition to the Beneris Website and links between the two created.

Due to several reasons described below, the study on consumer reactions deviates from the original plan. The original plan is also described below. However, we did perform an online consumer questionnaire about our fish case study (Benefit-risk assessment of methyl mercury and omega-3 fatty acids in fish). These results are described first.

The case study results were made publicly available on the Opasnet website (http://en.opasnet.org/w/MeHg-Omega3). The case study contained a main message box with the following information:

Main message:
Question: What are the effects of methyl mercury and omega-3 fatty acids on development of intelligence quotient (IQ) in children? The source of exposure is Finnish fish consumption. Answer: • The consumption of oily fish can be increased without a fear of detrimental effects of methyl mercury in the children. In contrast, the consumption of predator fish, especially pike, should be avoided during pregnancy. • The case seems to be fairly well established, as the total value of additional information is fairly low.

In addition, the main page of the case study contained the resesarch questions, the most important result graphs, and links to pages about detailed information of the model and its assumptions.

We asked the respondents to browse through the case study pages and read content. Then, we asked them to answer an online questionnaire (http://en.opasnet.org/w/End_user_evaluation). Some parts of the questionnaire were about Opasnet and open assessment and not about the case study. Those parts are reported elsewhere (D46). The respondents were encouraged to answer to only a part of the questionnaire if they felt that they didn't know enough about the other topics.

By the time of writing this report, we had received 21 responses, of which 17 answered to the case study questions. Most of the responses did unfortunately not come from people who would identify themselves as consumers, as there were assessors, scientists, and administrators as well. Because of this and a fairly small number of responses, these results are preliminary and should not be seen as specific to consumers. The online questionnaire is still active and collects information from new respondents. New summaries can be done later when more information comes in.

Results

The questions asked about the level of agreement to statements (1=strongly disagree, 2=disagree, 3=I don't know, 4= somewhat agree, 5=strongly agree). The results are presented as means ± standard deviations (SD).

Question	Level of agreement (mean ± SD)
1. The content of the case study is informative.	4.2 ± 0.8
2. The content of the case study is relevant for making policy decisions about fish recommendations.	3.6 ± 0.9
3. The content of the case study seems reliable and scientifically justified.	3.6 ± 1.1
4. All information that is important to understand or accept the conclusions is available.	3.7 ± 1.1
5. Based on the information available, I find the conclusions acceptable.	4.2 ± 0.9
6. An assessment that is chopped into several web pages is an efficient way for finding the key message.	3.6 ± 1.4

In addition, we had three open field questions. The comments given are shown below. However, the comments that relate to the questionnaire and not the case study are omitted.

What information is missing?

- In purpose or scope the two analysis questions should be already specified to get a better idea of the focus of the assessment.
- I do not see the three scenario’s in the analyses/ results section? How were they compared?
- While the analysis for each variable is presented, it is not clear what the "core" conclusion is based on. I would require much more of the reasoning to be presented, or alternatively a detailed "Discussion" where each point had been debated in an open assessment. At this point in time it is just a presentation of parameters (variables) and results, and I am still unclear about how the key outcome of IQ change is being assessed.

Please explain your reasoning for any questions above (refer to the question numbers).

- Question 1. The page on concentration of omega-3 fatty acids in fish is a little bit messy (it is difficult to recognize which acids are included in data 1 and in data.
- Question 1. Informative yes, but only on the fairly specific sub-issues examined.
- Question 2. To the lay person, many key questions remain unanswered, the main one probably being: "is it safe to eat fish", considering that fish accumulate also many other harmful compounds, the effects of which were not analysed in the case.
- Question 2. The case study page does not explicitly say which variables' data are actually used (e.g. fish consumption of pregnant women).
- Question 2. There are more risks and benefits associated with eating fish then just IQ of newborns. Thus policy decisisions on fish recommendation need to be done with information on these other aspects as well.
- Question 3. Information on page concerning ERF of omega-3 fatty acids on IQ is confusing - the discussion says that Cohen's paper should not be cited (other references should be found), but still the results of this study are used in the assessment.
- Question 3. For the Opasnet user, the reliability appears questionable in light of the fact that only a handful of researchers seem to have been involved in the case, however familiar with the subject matter the participants might be.
- Questions 3&4. More effort needs to be put on listing references.
- Question 4. What information is missing? For example: What other harmful compounds accumulate in fish? What kind of health effects might these compounds have, and how do the compounds
- Question 5. Finding the conclusion acceptable/non-acceptable depends, of course, also on the prior knowledge about the issue, the more you know, the more critical you become, but maybe that then drives you also to attend to the assessment
- Question 5. Evaluation of this takes much more time than 5-10 minutes.
- Question 6. It's true as long as the links between the variable and related assessments are clear.
- Question 6. Be careful not to be too succinct, since the linkages between the assessment parts start to be missing, with consequences for understanding the logic of the assessment.
- Question 6. I don't understand point 6. Of course it is useful to put some information on other pages as long as there is an index or table of contents.
- Question 6. Perhaps showing the entire process at first is easier, and then the user can go to specific pages for more details. Or use a graphical scheme that is clickabable.

General or other comments about the case study?

- I miss information regarding dose-response for the effect modelled and the uncertainty around the estimates. In my opinion, there is no new information to be derived regarding the outcome of the case study.
- It could be used to develop a tutorial to promote the site and the open assessment concept to new users not familiar with the wiki approach.
- It is a generalisation of Cohen et al. In the Qalibra project something similar is done, published as a poster at the bangkok ICN 2009 conference.

- Chopping the information into small pieces (pages, attributes, subattributes) does give structure to the content, but on the other hand, it is not necessarily very easy to read. Some kind of visualization, e.g. tree/diagram, of the assessment structure could make it easier to browse assessment pages. On the other hand, variables can be related to several assessments, so tying them into several at once can become tricky.
- In my opinion, the main question should have been formulated differently: i.e. "what is the overall net health effect of eating fish, as compared to a diet lacking fish"? Only limiting the analysis to a few known agents and effects severely limits the usefulness of the results - while of course much more work would be needed to address the bigger question proposed here.

Discussion

In general, the respondents fairly well agreed that the case study was informative. What was less agreed upon was whether all necessary information was available. Some respondents did not reach the level of detail they wanted to see. Dose-responses are important parts of models, often driving the results. This was mentioned as an example of too superficial information.

It seemed that the respondents agreed much more on the statements about the case study than the statements about open assessment or Opasnet. These results are described in more detail in Deliverable D46 (End user evaluation).

In conclusion, it seems that it is plausible to distribute food safety assessment information in the same way as was used with the case study. However, special effort must be put to clear and comprehensive display of information used in the assessment. In addition, disseminating information to consumers is a particularly challenging task, and it requires specific considerations; some of them are discussed in Delivarable 46 (End user evaluation).

Proposed study

FSAI began to prepare for this deliverable in year 2 of the Beneris project (2007). In consultation with Dr Jim Flynn, psychologist of the Jim Flynn, of the NLP Group, Ireland, FSAI considered carrying out a focus group study with consumers on how best to communicate the risks of contaminants in fish and the perceptions of risk versus benefit held by consumers. The outline proposal for such a study and details on the underlying theoretical background to testing consumer reaction is provided in the Appendix to this report. The cost of this study was estimated to be €50,000 - 60,000.

Delayed implementation of proposed study

Following the Mid-Term Review Meeting on 7-9 November 2007, FSAI and Dr Flynn discussed the execution of the proposed study in 2008, to meet the target deliverable date of Month 38. Recognising that the benefit-risk assessment (BRA) of contaminants in fish was not yet available (preliminary assessment due in month 18), we concluded that it was premature to try to communicate the outcome at that stage. The intent was also to test the reaction of Irish consumers to the underlying methodology being developed in Beneris, specifically the tool of Open Risk Assessment (ORA). Again, we considered that it was premature to test the reaction of consumers to this new approach to risk assessment at that stage, given the complexity of the concepts and the fact that the model was still under development.

It was also evident from the presentations made by Qualibra at the Mid-Term Review Meeting that some of the dissemination strategies that were identified in the Beneris project, notably a consumer focus study had already been undertaken within this latter project, and we considered that it could be a waste of European taxpayer's money to duplicate these. It was decided not to carry out the study at that stage. We did however bring Dr Flynn's proposal to the attention of the project coordinator at that stage (letter dated 13th November, 2007), given that he was the expert in what was being developed and might find the approach of use in a study with Finnish consumers.

2009 Review of the need for a consumer reaction study

In Year 4 of the Beneris project, following the review of the 3rd year report, FSAI and Dr Flynn reviewed the feasibility of carrying out a consumer reaction study, against the information available at that stage to the FSAI on the outcome of the benefit-risk assessment of contaminants in fish and on the ORA methodology.

We concluded that, in order to get the most valid and reliable results from any consumer research, it was essential to be able to communicate a clear message. The research question will be in turn become clearer with the benefit of development of a clear message to be tested. Given that the key outcome of the BRA of fish was not yet finalised, we considered that there could be a risk that the credibility of the Food Safety Authority of Ireland could be damaged, were we to attempt to test a message which the Authority could not yet stand over. We concluded therefore that it was inappropriate to test the reaction of consumers to the outputs of the Beneris project, even in Year 4 of the project

We did however conclude that when the BRA of fish or some other suitable BRA message becomes available, and when the ORA methodology becomes more robust and more fully

developed, there is value to be gained from this very important aspect of the Beneris project, focussing on the key issues of.

1. How do individuals understand food safety warnings and communications?

2. What are the common psychological motivations at work when people stop eating food for safety reasons?

3. What are the specific motivations to stop, limit or continue the consumption of fish and seafood (or other food group)?

The ZMET technique, as outlined in the NLP Group's original proposal in 2007 (Appendix) would provide a unique insight to these questions.

We identified, however, that it would be essential to identify the specific target audience for the research process. Rather than our original intention of communicating BRA to consumers, it may be that the more appropriate message to communicate is that of the value of ORA methodology for risk managers and others in decision –making positions, using the same methodology and to test their reactions to, and understanding, of the project.

Final position on Deliverable D43

At the time of completion of the Beneris project on September 30th, the proposed study has not been completed, although the feasibility and value of the consumer reaction project has been explored in depth.

APPENDIX

To: Dr. Iona Pratt

From: Jim Flynn, The NLP Group and Elizabeth Carger, Mary Beth Jowers, Olson Zaltman Associates

Date: November 5, 2007

Subject: Proposal regarding Beneris Workpackage 5

Readers who are not familiar with the ZMET process or its scientific underpinnings may wish to consult the Addendum, which contains such information.

BACKGROUND AND OBJECTIVES

The Food Safety Authority of Ireland (FSAI) is participating in a multi-phase project with the EU focused on developing systematic, effective ways to communicate food safety warnings. Workpackage 5 of the Beneris project is a case study of risk-reward communications. As noted in the workpackage overview:

> The outcome of the benefit-risk assessment of contaminants in fish will be communicated to a test population of Irish consumers, and their reactions to the information tested. This will involve development of information that is readily understandable to the average consumer, both Web-based and printed. Web-based information will be developed on the FSAI Website in addition to the Beneris Website and links between the two created. In phase 2 of this aspect, this work will be extended to Denmark, by collaboration with the Food Safety Authority of Denmark, and to Finland

Based on discussions with Jim Flynn, who is consulting with the FSAI on this project, we understand that the FSAI wants to conduct a "case study" of how to best communicate the risks of fish contaminants. The NLP Group/ OZA's exploratory research will provide insight into how people consider the risks associated with eating certain foods, which the FSAI will then use to develop communications to test.

Because Beneris seeks to develop general best practices for food safety communications, not solely fish-related ones, we do not recommend conducting our research solely on fish or seafood. Rather, there are several broader questions we seek to answer:

First, how do individuals understand food safety warnings and communications? There exists a considerable body of academic literature on how the mind processes risk communications. For this study, we would seek to understand at an emotional level what consumers think about food safety warnings.

Second, why do people decide to stop (or decrease) consumption of a food product because of safety reasons? That is, what are the common psychological motivators at work when people stop eating a food for safety reasons? It is crucial to understand the motivators in order for FSAI to be able to successfully trigger or avoid them.

Third, what are the specific motivations to stop, limit, or continue the consumption of fish and seafood in light of health warnings? What specific thoughts, feelings and deep ideas are necessary to create an effective food warning communication for this particular foodstuff?

This study is designed to provide deep insight into how consumers think about food safety warnings in general so that those insights may be applied to other phases of the Beneris project. Additionally, we will utilize fish- and seafood-related insights from other research to provide the specificity needed to develop the warnings for testing.

Although we are proposing an exploratory study at this point we can, in the future, test messages with the public to see if they evoke the desired thoughts, feelings and frames as identified in the exploratory research. If this is of interest, we will send an additional proposal outlining our approach to evaluating the effectiveness of communications.

Additionally, all proposals are “works in progress” to be adjusted after further discussion with our clients. Because of the complexity of this issue, we look forward to speaking with representatives of the FSAI so we can tailor the research design to their exact needs.

PROJECT DESIGN

The Food Safety Authority of Ireland (FSAI) in conjunction with the European Union (EU) needs to develop a deeper understanding of how European consumers grapple with the issues of health benefits and risks posed to them by foods they consume on a regular basis, most specifically fish. It will use this understanding to improve messaging and promote greater consumption of healthy foods. The NLP Group/OZA recommends using the ZMET process to gain an in-depth understanding of the thoughts and feelings people have in regards the risk and rewards of eating various types of food.

Designing a ZMET project involves two key decisions: (1) whose minds do we need to understand relative to the core problem, and (2) what "ZMET question" will activate the particular part of peoples' minds we seek to understand.

Research Participants. It is critical that we interview consumers who personally have reduced the consumption of a particular type of food due to food safety concerns. These consumers have already consciously and unconsciously dealt with a risk versus reward food decision, and can therefore provide great insight into the decision making process.

To address this issue we will interview a mix of 12-16 participants who have reduced the consumption of a particular type of food, seafood, beef, or conventionally-grown/ GMO vegetables. This will allow us to understand the triggers that motivate consumers to change their behavior (reduce consumption) with regard to a particular category of food because of contaminants (e.g. mercury), biological threats (e.g. BSE), or man-made chemicals (e.g. pesticides). By analyzing how and why consumers have stopped eating these various foods we will gain a more complete model for how the potential risks and rewards of food products are reconciled in general. With this knowledge, FSAI/EU can adequately develop effective communications that help keep consumers safe while maintaining confidence in quality food products.

Location. All interviews will be conducted in Ireland at a location to be determined with FSAI/EU and Jim Flynn. If desired, we also have the ability to conduct interviews in Denmark and/or Finland.

Research Process. The ZMET process begins by participants receiving a letter about a week prior to their interview asking them to collect 6-8 pictures about the research topic. Participants then bring their images to a one-on-one ZMET interview, which lasts approximately 2 hours. The images are metaphors for personally relevant ideas the participant wishes to express. During the interview, trained interviewers explore—in depth—the meanings attached to each picture. Interviewers use non-directive, non-biasing probing techniques to elicit metaphors and thus uncover additional, deeper meanings beyond those originally conceived by the participant. By carefully analyzing the metaphors that participants use in the process of describing their pictures, The NLP Group/OZA is able to identify the deep emotional reactions and meanings that drive their choices and behaviors.

The ZMET Question. The ZMET "question" must be carefully constructed to activate the appropriate meanings and emotions among participants.

Identifying the focal issue and developing the wording of the ZMET question would occur following discussions with FSAI/EU. For the purposes of discussion, we offer two suggestions below:

Question One

> *"We are interested in your thoughts and feelings about foods you choose to eat on a regular basis. What do you think about the health benefits or possible negative health risks related to vegetables, meats, and seafood you eat?*
>
> **Please *select 6 to 8 pictures that express your thoughts and feelings about foods you choose to eat on a regular basis.***
>
> *These pictures may come from any source such as a magazine, newspaper, album, etc. Your pictures should express an important thought or emotional feeling you have about your routine eating decisions.*
>
> *Please **do not** bring in ads for or pictures of food any kind. Rather, each picture should represent and important thought—or an important emotional feeling—that you have about your routine eating decisions.*
>
> *For example, in an unrelated study about the use of notebook computers, one person used a picture of someone leaving jail to represent the freedom of being able to work almost anywhere. Another person used an image of someone lifting weights to describe the pressure she feels to work nights and weekends now that she has a notebook computer. Your pictures need only be meaningful to you and not to anyone else.*
>
> *Please do not discuss your pictures with anyone prior to the interview."*

After further discussion with FSAI/EU we may choose to develop three separate questions to specifically address the type of food (seafood, beef or vegetables) that are most likely to be of greatest concern to the average consumer. By doing so, each participant would be further primed to recall thoughts and feelings about specific experiences that led to reduced consumption of a particular type of food.

Question Two

> *"We are interested in the thoughts and feelings you have about eating healthy foods and the possibility they contain unhealthy or possibly harmful elements to them. When thinking about what you eat from day-to-day how does this affect what foods you choose to eat or not?*
>
> ***Please select 6 to 8 pictures that express your thoughts and feelings about eating healthy foods and the possibility they contain unhealthy or possibly harmful elements to them.***
>
> *These pictures may come from any source such as a magazine, newspaper, album, etc. Your pictures should express an important thought or emotional feeling you have about eating healthy foods and the possibility they contain unhealthy or possibly harmful elements to them.*

*Please **do not** bring in ads for or pictures of food any kind. Rather, each picture should represent and important thought—or an important emotional feeling—that you have about eating healthy foods and the possibility they contain unhealthy or possibly harmful elements to them.*

For example, in an unrelated study about the use of notebook computers, one person used a picture of someone leaving jail to represent the freedom of being able to work almost anywhere. Another person used an image of someone lifting weights to describe the pressure she feels to work nights and weekends now that she has a notebook computer. Your pictures need only be meaningful to you and not to anyone else.

Please do not discuss your pictures with anyone prior to the interview."

This research question has the added benefit of guaranteeing participants will address the issue of contaminants, risks of certain foods, and other possible detriments. However, it does so by expressly introducing the issue through the research question. If participants do not naturally consider these risks, we will be unable to determine this because the question is structured to generate insights into risk.

Research Process. Participants bring their images to a one-on-one ZMET interview, which lasts 2 - 2 ½ hours. The images are metaphors for personally relevant ideas or meanings the participant wishes to express as well as for more hidden or unconscious thoughts. During the interview highly trained interviewers explore—in depth—what each picture means to participants. Interviewers use non-directive probing techniques to follow up on ideas, elicit additional metaphors, and thus uncover even deeper meanings. By carefully analyzing the metaphors that consumers use in the process of describing their pictures, the NLP Group/OZA is able to identify the deep emotional reactions and meanings that structure participants' mental model for the topic.

Using BIM (Bord Iascaigh Mhara) Insights. The concurrent study conducted with the Irish Sea Fisheries Board (BIM) on the risks and benefits of fish consumption would help to add dimension to the positive 'reward' aspect of the decision to eat fish. Specifically, the benefits of eating seafood, the attributes with which they are associated, and the positive framing that will be revealed in the BIM study will help FSAI/EU develop communications for seafood in their subsequent round of research.

It should be noted that these additional insights will only be available if the BIM study is conducted, and with BIM's express permission. If the insights are not available, we will add an additional step to the interview process to investigate seafood. This will provide some insight regarding fish and seafood decision making, but to less depth.

DELIVERABLES

For this ZMET project, The NLP Group/OZA will provide the following deliverables.

- Identify the ideas expressed by participants' about balancing the risks with the rewards of eating particular types of food. This will involve identifying commonly used words and vivid images ("surface" metaphors) and the core, largely unconscious orientations (deep metaphors and themes) that provide the underlying structure for participants' thinking about food risks. This will provide a rich context for thinking about how to develop communications that resonate with people at deep, emotionally rich levels. For this analysis, we will emphasize the common factors in play, rather than the specific motivators for fish, beef and vegetables.

- Identify what are the key motivators for consuming, or ceasing to consume, fish by looking at both the BIM and FSAI data. These insights highlight what are most emotionally and psychologically rich territories for FSAI to communicate in fish-related warnings.

- If desired, create mind maps that depict participants' thoughts and feelings about the topic. A mind map identifies the key ideas and related emotional benefits expressed by participants, and most importantly, identifies the relationships between those key ideas. A mind map provides in-depth understanding of how any group of people views or experiences a topic, which can then serve as a guide for managers' strategic thinking.

- Provide clear recommendations on how to communicate the benefits of eating safe food products without alarming consumers.

- We will provide ten copies of the report on CD (which will include all of the aforementioned information in a Power Point format). The report includes a browser that allows for easy access to summaries of each participant's data. Additionally, we will provide six printed copies of the report.

PRESENTATION

We will present the results and begin to develop the strategic implications of those results at a two-part presentation. We encourage FSAI/EU to invite representatives of other organizations that will be working with the data to attend the sessions. The sessions are typically held at the client's offices or another location of mutual convenience.

- **Session One: Insight Immersion.** This 4-6 hour session is spent introducing ZMET, reviewing the main findings of the study, and discussing the mind map (if produced) and key deep metaphors. The goal of this session is to provide more than just a flat presentation of data. We will present the findings, while the team questions, challenges, and discusses the insights from these findings. This session works best as a small group, roundtable discussion, as this allows for dynamic group discussion of the results.

- **Session Two: Workable Wondering.** At a second session, on the following day, The NLP Group/OZA will continue to lead the team through strategic exercises to further develop the strategic implications of the ZMET insights. The structure of this second session can be customized to meet the team's needs. Past clients have used this session in various ways including: having The NLP Group/OZA lead or participate in ideation sessions, presenting to higher management or reviewing the findings with advertising agencies.

These two sessions are included in the project costs. We are open to having additional presentations and consulting sessions, at additional cost, as we have found that it is important for clients to have time to carefully reflect about the data. Very often, it turns out that the data have implications that extend beyond the specific issue being addressed and clients find that they would like to have more guidance in using the data.

TIMING

Below is a possible schedule for the project. If the BIM study is not conducted, or conducted later than this study, we the timeline will be shortened by one week.

Prior to recruiting	Finalize initial ZMET Question, and recruiting criteria
Week 1	Recruit of participants; interview protocol finalized
Week 2	Interviews conducted
Week 3	Interviews transcribed; analysis and interpretation begins
Week 4 - 7	Analysis and interpretations continue
Week 8-9	Review BIM insights and integrate with Beneris data to produce recommendations
Week 10	Present results

ABOUT OLSON ZALTMAN ASSOCIATES

Olson Zaltman Associates (OZA) is a marketing consulting firm that helps its clients develop deep insights about the mind of the market and translate these insights into effective strategy. We use state of the art research methods and interdisciplinary insights about the mind of the market. We typically uncover insights that are missed by other methods and provide actionable strategic guidance by using the latest knowledge about the workings of the mind.

We welcome and encourage clients to be involved early in the research process, as well as in the stages where we focus on the strategic implications of key insights. For example, we welcome client involvement in the analysis to the extent possible. For new clients, we encourage having a one or two day tutorial about how we analyze the data. We find this greatly facilitates subsequent use by clients.

ZMET is a patented research tool developed by Professor Gerald Zaltman of the Harvard Business School in the early 1990s and has been used for the past 10 years by Olson Zaltman Associates. OZA has offices in Boston, State College, and Pittsburgh. We have conducted more than 350 ZMET studies in 31 countries and have strategic partners throughout the world who are licensed in the technique. The ZMET interviewing technique incorporates the latest scientific understanding of how the mind works, based on diverse perspectives from cognitive and clinical psychology, cognitive neuroscience, anthropology, sociology, and beyond. Using insights from ZMET, OZA is able to identify people's mental models. These mental models consist of the interrelated unconscious and conscious thoughts and feelings that guide how people think, feel and ultimately behave.

ZMET probes beneath the surface to reveal "what people don't know they know" – the underlying motivations that influence a person's decision to buy a product or form an opinion. Because approximately 95% of all thought occurs in the unconscious, most of these important, but hidden factors are missed by traditional research methods. Our clients have found that ZMET uncovers information about people that proves to be crucial to generating growth. Additional information about ZMET is available on our website: www.olsonzaltman.com, or in Gerald Zaltman's book "How Customers Think."

ADDENDUM

FOUNDATIONAL PRINCIPLES OF ZMET

The ZMET process is an interdisciplinary approach that draws on techniques adapted from cognitive neuroscience, psychotherapy, psychology, and sociology. Interviewers take participants through a series of exercises designed to reveal the fundamental feelings and beliefs that drive their actions. ZMET is grounded in several scientific principles:

- **Thoughts (and meanings) are neural activations, often in the form of images — not words.** Humans are image processing machines. Were you asked to think about Julia Roberts, you would not first think about the color of her hair, followed by the height of her cheekbones, followed by the color of her eyes, followed by the shape of her mouth, etc. and then construct an image based on those physical descriptions. Rather, you would immediately recall, in your mind's eye, a visual image of Julia Roberts. In fact, if you were confronted with someone who had never seen Julia Roberts before and you tried to describe in words precisely what she looked like, you probably would have a very difficult time doing so. Thoughts do not consist of words. Rather, words are the often imperfect messengers that we send forth to convey our thoughts and feelings. Therefore, it is critical to move beyond "mere words" when attempting to understand, at a deep level, what motivates consumer behavior.

- **Most thought, emotion, and learning occurs unconsciously, without awareness.** Cognitive neuroscientists estimate that 95% of thought and emotion occurs at the unconscious level. It is this 95%, however, that largely governs our behavior, feelings, reactions, and preferences.

  Recall what it was like when you first learned how to drive a vehicle. Your first time behind the wheel, you probably were extremely anxious and also extremely alert. Both hands were firmly gripping the steering wheel and eyes were locked straight ahead. You were keenly focused on the environment outside your vehicle and tended to react very quickly (and sometimes overreact) to any changes in that environment, like a pedestrian darting unexpectedly into the crosswalk. You also consciously considered almost every action, such as gauging very carefully the distance between you and another vehicle when you had to make a pass.

  Now compare that to how it feels to drive a vehicle today. If you are like most experienced drivers, you sometimes take your eyes off the road to glance down at the radio, take the lid off your cup of coffee, or to chat with a passenger. Sometimes you drive with one hand (or no hands) on the wheel. Long periods of time can pass where you don't remember what you did. You don't have to remind yourself to check your rearview mirror. Driving is easy, even though you are making literally dozens of driving "decisions" every minute. In fact, you are not really making conscious decisions; rather you are driving "automatically."

While we are driving, we indeed are thinking about what we are doing, even though it may not feel that way. That is because most thinking occurs below our level of conscious awareness. In fact, nearly all human thought is like this. Why we buy things, how we react to situations, and how we choose to interact with various people and environments is rooted in our subconscious. Such thoughts are not readily available to us; they are unconscious. Our conscious explanations for our behaviors often are rationalizations for reasons we are really unable to explain and do not know.

- **Metaphors are critical to understanding meaning, emotion, and behavior.** We use the term "metaphor" broadly, to encompass similes, analogies, allegories, proverbs, and the like. From a ZMET perspective, metaphoric thinking is a basic mental process. Novelists and poets may be particularly adept at the use of metaphor, but all human beings use metaphor to understand the world around them. Metaphor allows us to use our knowledge about well-understood domains to make sense of less-understood issues and topics.

Consider the famous Robert Frost poem, "The Road Not Taken" which concludes with the words,

Two roads diverged in a wood, and I—
I took the one less traveled by,
and that has made all the difference

Why are we able to so easily interpret Frost's meaning (expressed as a metaphor)? Because all of us (at least in the English language) use the conceptual metaphor of **LIFE IS A JOURNEY**, as evidenced by common phrases like,

"He is ***without direction*** in his life,"
"I'm not going to let anyone ***get in my way***,"
"That guy is ***on the road*** to success."

Metaphor making is a fundamental aspect of the human mind; indeed, linguists estimate that English speakers use an average of six metaphors per minute of everyday speech. Metaphors direct our attention, influence our perceptions, enable us to make sense of what we encounter, and powerfully affect our decisions and actions. Metaphors can also reveal deeper emotions and structures that are not identified in more literal language.

- **All knowledge and meaning are acquired through our sensory experiences and bodily sensations.** Every human in every culture and society uses metaphor, but the specific surface level metaphors commonly used can vary from one culture to another. Deep metaphors are <u>universal</u> mental concepts that organize and structure peoples' surface level thoughts and feelings. Deep metaphors, therefore, can help us understand peoples' orientations to various domains of life.

Consider the deep metaphor of BALANCE. All of us, regardless of ethnicity, culture, or language, understand the concept of balance because we have experienced it through our various senses. We learn about balance very early in life, as we struggle to sit up, then crawl, and then walk. We also learn how difficult it can be to maintain our balance, and we suffer the consequences of imbalance when we fall on hard surfaces and feel pain.

Thus the shared concept of balance, rooted in our common sensory and motor experiences, is universal. That "idea" of balance can then serve as a metaphor to help us understand various aspects of our world. The deep metaphor of balance will manifest itself in many ordinary expressions, or "surface metaphors." For example,

> "From the first time I saw him, I was *head over heels*."
> "The *scales of justice* tipped in his favor."
> "Martha Stewart suffered *a hard fall* from grace."
> "Without my coffee I feel really *on edge* this morning."

Although the verbal surface expressions of Balance may vary from one culture to another, even from one person to another, the deep concept of Balance is common. Knowing that Balance structures peoples' thinking is a deep insight that can be leveraged in developing strategic marketing actions.

STEPS IN THE ZMET PROCESS

The ZMET interview employs several steps to surface and further define consumers' key thoughts and feelings. Each step in the ZMET process provides a different opportunity for identifying and understanding metaphors, thereby gaining a deep understanding about consumers. The use of multiple steps also increases the likelihood of uncovering an important idea that might be missed by more narrowly focused techniques. At the same time, each step provides validation of ideas from other steps, a process known as convergent validity. Thus, redundancy adds confidence about the validity and importance of the ideas being expressed. The central steps of the interview process are described below.

Storytelling. During this step, participants describe how each picture they brought to the interview expresses their thoughts and feelings about the topic. Because much of our knowledge and memory takes the form of stories, stories are excellent sources of metaphors and important sources of insights about participants. In the process of telling a story about the pictures, with probing by trained ZMET interviewers, rich insights emerge. Special probing techniques are used to explore why key ideas are relevant to the participant.

Missing Pictures. We also ask participants if there were important ideas they wanted to express but for which they could not find relevant images. When this happens, the interviewer explores the kind of image that might represent those thoughts and feelings.

Expand the Frame. We use a sequence of probes to explore selected visual images more deeply. First, participants are asked to widen the frame of one or more selected pictures and describe what else might enter the picture that reinforces the original idea. They also might be asked to imagine themselves in the picture, and to discuss what might be taking place and what they are thinking and feeling. They may be asked to invite someone or something into the picture that will help them with a paradox or dilemma, and describe who or what it would be. Other follow-up questions help reveal the significance of this person or thing. This step will be customized to address the specific business issues of concern.

Sensory Metaphors. Participants also are asked to express their ideas using various sensory images. For instance, participants might be asked, for example, what is (and what is not) the color, smell, touch, and sound that represents a brand, product or experience. Each answer is explored to uncover further dimensions of the person's thinking.

Vignette. People engage different segments of the brain when they think about time sequence and motion than they do when thinking about still pictures. For this reason, we involve motion, time, and further storytelling by asking participants to create a movie or one act play that expresses important ideas about the topic. The characters that are to appear in the movie are determined beforehand and specified to the participant. Like the expand the frame and sensory metaphor steps, the characters in the vignette can be customized to address the specific business issues of concern. Participants are asked to describe the setting; who, if anyone, was

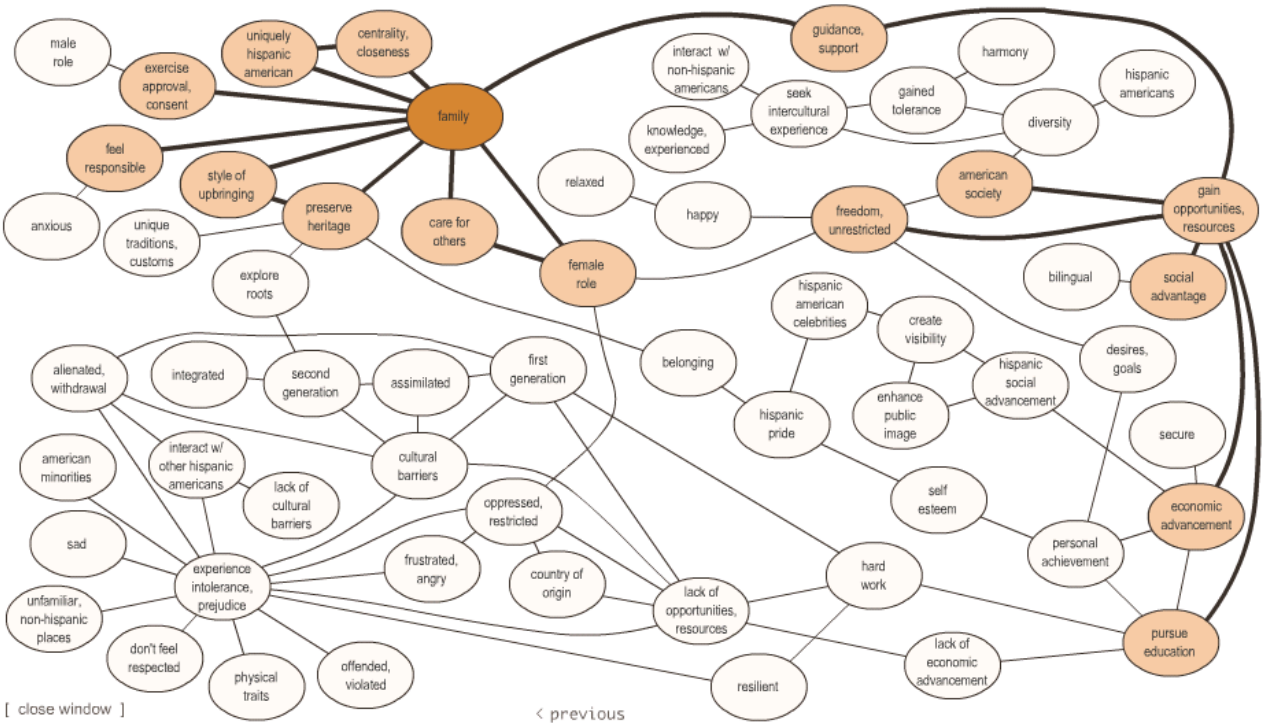
present; what else was happening; and so on. This step provides additional perspective and understanding of the participant's thoughts and feelings.

Digital Imaging. Finally, at the end of the interview, each participant creates, with the skilled assistance of a graphic artist, a summary collage in the form of a digital image. Digital images are based on a subset of the pictures the participant initially brought to the interview (typically the most meaningful 5-7 pictures). While the digital image summarizes many ideas expressed earlier in the interview, new ideas frequently emerge from this creative process as participants modify their pictures in size, color, shape, etc. to more fully convey their thoughts and feelings. When the image is finished, the participant gives a verbal description, which serves as an interpretative tour through the summary image.

INTRODUCTION TO MIND MAPS

The mind map is a diagram showing the mental model as it exists in a population or market. That is, it is a model showing how the different thoughts and feelings people have about a given topic are interconnected. It is also a key way of telling how populations differ in how they frame a particular topic.

The following is an example of a mind map about being a second-generation immigrant:



Mind maps are created through a multi-stage process that ensures each significant idea mentioned during the course of the study is captured. First, the analytical team reads a significant portion of the interviews and creates an exhaustive list of each idea, concept, thought, feeling, and attribute mentioned. This list is collapsed into a somewhat shorter list of each mutually exclusive concept, called a construct (i.e. *calm* and *peaceful* would be collapsed into one construct called *relaxed*).

With the construct list, the analytical team then revisits each transcript and produces one map per participant showing how the concepts linked together for that individual. Thus, for a study of, for example, 70 participants, the analysis would produce 70 individual maps.

Using proprietary software, the team aggregates all of the maps into one overall map. The software allows them to see at what level different concepts and links appear in the population. This aggregated map allows the team to build the model showing the consensus view of the populations interviewed—that is, all the constructs and links held in common by that group.

As the map often can seem complex, the analytical team walks the client through it during the immersion session, explaining the significance and meaning of key links and constructs. During the second day of immersion, the client and research teams often do strategy exercises to help the client gain familiarity with how to use the maps.

Using the mind map, managers can see how individual thoughts and feelings relate to and influence one another. Understanding the mental terrain of the market is of primary importance, because it is this mental terrain that will determine how consumers receive new communications, products, and services. The map becomes a “strategic playing field” for managers to try out strategic ideas.