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FINAL THESIS REPORT

STAKEHOLDER STIMULATION MANUAL
Case: ActiveInspire

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ABSTRACT

Stimulating the human senses in business is a extensive topic that seems to be of a significance interest, especially with organizations offering intangible services. For a Management Consulting company all the materials they give to their clients is part of their service hence their effectiveness and efficiency play a crucial role how much does the consulting firm offer value to their clients.

The thesis is completed for the case company ActiveInspire, an internationally operating Management Consulting firm. They focus on gathering intelligence within the consumer market through the use of open-ended questions. The Tacit Knowledge gathered is then transformed into explicit knowledge through artificial intelligence processing to undertake various Change Management challenges.

The study focuses on how a Management Consulting company can stimulate change for their various stakeholders, with easily implementable audiovisual tools and techniques. Within this broad topic, sub-research questions were set specifically to study how large amounts of quantative tacit data can be gathered into a more explicit form and how can explain their globally unique process to the stakeholders. In the case company, stakeholders include besides paying customers the group of people they want to target with the questions. Given instruction base on both theoretical studies and empiric material found within the case company.

The thesis begins by introducing the case company's services, followed by theory within the related field. The thesis will close with the manual set to create for the case company.

Since most of the found ideas concerning ActiveInspire are confidential, the public version of the thesis will only include theoretical ideas about stakeholder stimulation.

Key words: management consulting, tacit knowledge, sense stimulation, data visualization, audiovisual tools, effective presentation

CONTENT

Introduction

The purpose of this chapter is to explain the objective and reasoning for undertaking this research and manual development project. It will explain the history and reasons behind this topic. It will also discuss what are the problematics narrowing this research, the research goals, and its questions. In order for a reader to gain value from this work, there are few terms to make a starting point for the research questions. This chapter will close with a summary of the research structures, methods, and the reliability factors of this work.

1.1 Background of the Study

Following my first year studying at TAMK University of Applied Science, I spent two and a half years working in the field of consulting. During this time, I discovered a harmony between my keen interest in the area of business and the place where I can benefit from my natural competitive advantages. This led me to pursue the TAMK Consulting Academy for my specialization module. While working full time, I was able to perform as a consultant, lecturer, and a coach. During this time I also participated in over 100 days of consultation and met up with several professionals in this field. My interest in consulting grew in parallel with the increase in knowledge accumulated during this period. However, at the same time, I also discovered ethical problems within the field of consulting. From my observation, I often witness that many consultation companies and entrepreneurs sold services that the client did not need, used sales styles that were unmoral to me or delivered services that were very subjective. I felt that often, that the consultant came and told what the client should think, even in times when it is not in their best interest. In Summer 2008, I fashioned the idea of using the Wisdom of Crowds and Data Mining together in strategy building and Change Management cases through the products of ActiveInspire. Still today, I believe that it is the most innovative idea in this field that I have ever encountered.

After becoming a believer to their unique processing style, I decided to further study the subject. I approached ActiveInspire assertatively and proposed two ideas to examine, which would both benefit the organization and be in my area of expertise. In October 2008, we agreed to meet for the first time. Within a few meetings, we found a mutual interest in to developing the use of different sense stimulants in their business.
My hobby to investigate what stimulates people, my work previously as a Training Manager motivating people and my background of coming from a family of teachers raised many potential ideas. We agreed on the general topic on February 2009.

I have provided a select few employees in the company with the full length of this Thesis Report. However, to accommodate the masses observing this knowledge, I have created a PowerPoint presentation by the request of Sebastian Laine, the supervisor for this piece of work. This is because it was not possible to do the manual without significant amount of references so to make it more easily usable we turned it into a visual presentation. That is why the manual portion of this work is not a classic corporation type manual, with references only at the end without clarification what part is based on what reference.

I am pleased to be able to work with ActiveInspire for several reasons. Besides the fact that their products and the topic of stimulation interest me, I also was able to work in the precise field of my studies. In TAMK I studied International Business and my specialization was in Management Consulting. Therefore making a thesis to an internationally operating Management Consulting company was perfect. Doing a development project where I build expertise and after that give recommendation also follows the pattern of traditional consulting process.

1.2 Purpose of the Study

The workers in ActiveInspire are now extremely busy with their R&D and current customer cases. Sales numbers are increasing constantly and large multinational organizations are

using ActiveInspire as a help in their Change Management. On top of this, the demand of money for future IT related R&D is so great that sales efforts must be made in all times. This all makes it virtually impossible to invest time in work that is important, but not urgent to create turnover. One of these things is a clear visual appearance with sales presentations, documentation, results presenting and etc. There has not been much time to do structure how all this business intelligence gathered with the products can be described easily. This is still extremely important when introducing new innovations to clientele. People learn and understand things in different ways. Some need text, some pictures, some videos, and some need an opportunity to use the product itself. This thesis will work on this challenge by concentrating especially on how this can be executed right away by creating an easy-use manual for them. ActiveInspire's strategy data visualization will also be the future spearhead, which is the reason why we need to devote research and development initiatives promptly. This is explained in more greater detail in chapter 2.4.

Besides only activating people to get the message through, we must activate them faster than ever. One of the benefits of ActiveInspire's products is their fast pace delivery. The commonly referred 100 days where CEO's do necessary changes can be accomplished more effectively if in only 30 days we can scan the state of the organization by using a product like Enterprise Wisdom (described with details in the chapter 2.2.1). But the challenge is also how the new CEO will inform these results gathered with the Enterprise Wisdom onwards efficiently. One purpose of this study is also to boost the forwarding methods of the Enterprise Wisdom results by better display of quantitative information. Like the Booz & Company explained in their annual study of the previous year of CEO success, "in the first 60 days, a new CEO needs to reassure those members of the senior team who will make the cut, and deliver the bad news to those who won't, even if their successors have not yet been identified. Until people know where they stand, it will be hard, if not impossible, to move forward productively" (Karlsson & Neilson 2009). By finding even small improvements to the efficiency besides the current excellent effectiveness, ActiveInspire can improve the customer value significantly. Powerpoint Presentations and other presentations that are sent to the customer are the main product of Management Consulting firms. The success in these will often determine whether one can or cannot close the deal (Virtanen 2009). The presentation must carefully done to build

credibility and image of expertise. The importance of effective presentations to Management Consulting firms is similar to the importance of financial graphs to Investment companies. Hence these companies often spent time to finalize these to perfection (Laine 2009). This is again another reason why this research carries powerful topics to the actual revenue creating actions within ActiveInspire.

1.3 The scope of the research

In the beginning of my communication with ActiveInspire General Manager Jyrki Aalto, the need for visualization tips and guidelines became the main request from their part. The work on this thesis started with the quest to find visualization related help that could be implementable also in ActiveInspire. As a young researcher, after starting to read diverse material around the topic in spring 2009, I got exited about all the possibilities the world could offer. After that realization since there are so many other human senses, we should also definitely try to stimulate them also. The name of the thesis changed from "Visualization Manual" to "Sense Stimulation Manual".

With this wider topic, the background research focused on different tools and tips on how ActiveInspire could stimulate senses like touch, taste, hearing, and smell in addition to the initial idea of utilizing only visual stimulants. After about five months of work and reading diverse materials, I had to finally accept the fact that my study had become way too broad. The topic was too broad even for a Doctoral thesis, and this Bachelor level work is definitely only a fraction of that workload. I returned to my drawing board and realized that only so called audiovisual stimulants were wise to include to this study. There were not just enough reliable fact yet made from the other senses and the dispute what is a human sense made it even more complicated (talked more in chapter 1.5). Besides the lack of good academic sources for the other senses, the implementation phase was not yet realistic with some of the tools. I found that there is technology to stimulate IT users with touch, but they definitely are not an option to ActiveInspire at this stage. Therefore my study will only focus on the stimulants to visual sight and ability to hear.

There were few stimulants that do not directly fall into either of these two categories, but might be very useful so therefore they were added into the 6th senses category. More about this categorization process later on in chapter 3.1. Also some part of, for example auditory stimulants, could not be included into the study because of the lack of academic research. Now when acknowledging the effect of one sense to another, we can assume that some of the words we use effects our other senses as well. Many of the marketing messages we see at least are based on this hypothesis. Still without proper wide studies on lexicons, we should not assume any sense tagging to separate words (Véronis 2001). That is why that angle must also be left out of this study.

1.4 Research Questions

Main research question to this study is **"how a company like ActiveInspire can stimulate their stakeholders by using easily implementable audiovisual tools or techniques."**

Sub questions are:

- *"When communicating with ActiveInspire stakeholders, what should be taken into consideration within the field of stimulation?"*
- *"In ActiveInspire's case, how can we visually display large masses of quantitative information more effectively?"*
- *"What efficient ways there are to teach the ActiveInspire's stakeholders about their services?"*

1.5 The main terms of the study

Senses: There are several definitions to the word sense. The word originates from the Latin word 'sensus', meaning "a faculty of thought, feeling, meaning". Hence one definition is that sense is a faculty by which the body perceives an external stimulus (Merriam – Webster 2009). One common list of human senses was made by Aristotle diving them into five different senses; sight, hearing, touch, smell, taste. Today, it is considered that humans have at least five also more senses. The following list has few of the suggested "new" senses: pain, sense of time, balance, joint motion, acceleration, sense for temperature and a weak sense direction. (Voustianiouk & Kaufmann 2000, 1934-1935)

Sight: Refers to the faculty or power of being able to explain different meanings from various information and surroundings by catching visible light into our eye. It also has other names like visual perception and the sensory system behind it is called visual system (Merriam – Webster 2009).

Hearing: the word is referring to the capability to perceive some sound made either by something or someone. These sounds are detecting different vibrations levels through different organs but very often via ear. This sensory system is called as the auditory system (Merriam – Webster 2009).

Stimulus: There are also several definitions to the word "stimulus" and many of them actually disagree with each other's. To use the most currently acceptable definition made by Sigmund Freud (found in the 1949 book Collected Papers) we can describe the word as "something that arouses or implies to action". The only critic for this is that many studies use this word as a something that activates a certain part of our body and the whole human being like Freud agreed (Gibson 1960, 695).

Information visualization: a practice of using high-resolution graphics and other related ways to display sets of data, especially in large sets. Information visualization is used to

show data**'s** maximum effect. Visualization elements include for example composition, color, typography, arrangement, and use of space both in the positive and negative way. (Jaquith & Wesley 2007, 3)

Pedagogy: People are adapted to receive and transfer knowledge, by teaching. The adaptation process is called "Pedagogy". The objective of pedagogy is to move gained knowledge to other people. This usually means cultural knowledge within that specific community (Csibra & Gergely. 2006, 1; 2006, 11).

Cognition: "the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses". Cognition leads to many crucial skills we human's posses and those skills are also a founding part of this thesis. For example sensation, intuition, perception and notion of different things all base on our cognition (Merriam – Webster 2009).

Stakeholder: "a person with an interest or concern in something". The word is used especially in business when talking about a group of people who are involved with some organizations success (Merriam – Webster 2009). In the case of ActiveInspire, stakeholders are people working in the company, customers using its services and customers target groups who actually make the content into the services. Stakeholder stimulation is needed to teach new employees at the company, remind the old ones about things they already know, teach the process to potential customers, to get customers target groups to give large quantities of good quality (precise, accurate, truthful and wise) content and to demonstrate that mass of content back to the customer (Laine 2009).

Data: "consist of raw facts.."(Busch 2008, 1). In this work we talk about also Data Mining that is about gathering the right raw facts.

Tacit knowledge: "…the opposite of codified knowledge." Codified knowledge exists in some sort of printed or electronic form. Tacit knowledge cannot be codified. It is something that is not usually openly expressed. (Busch 2008, 2-3)

1.6 Structure of the Study

This thesis is divided into four parts.

1. The **Methodology**, describing the case companies products, their processes and the benefits from their use. This knowledge is critical to understand the manual and the view from where such broad topic as stakeholder stimulations is approached.
2. The **Theoretical Background**, which explains the frameworks behind the case of this thesis and how it connects to the theory available. The theory of human senses, stimulation and pedagogy are addressed in order to again understand the manual part better.
3. The **Production Part**, in which a manual is constructed. The manual includes different instructions to different products and process parts as well as general tips and views one must consider when stimulating stakeholders at the case company.
4. **Conclusions** and summary.

1.7 The Method of Research

The main method in this research is a Case Study. A manual has been created to solve prior made problems within that case. In order to do that there was a need to use two other methods to find information to solve this case. Both Case Study research method and the methods used to find material are described with more details in the next two chapters.

1.7.1 Case Study

When using a Case Study method, you always need a problem to solve. It is a deep study on the problem trying to underline the real facts behind this case. Sometimes case studies reflect back to situations trying to learn what happened and why. Case study usually focuses on one or maximum few topics to study with great details. (Negron 2007)

Case studies are nowadays used more widely than ever before especially in the field of business. It has not always been an accepted form of research method, but the last 40 years academics have seen it as a legit method to approach a research problem. Case studies are good in situations where one has to collect information from several fields. In business these might be Operations Management, Marketing, Info Systems and Social Studies. (Tellis 2007)

In this thesis there was a need for the researcher to also demonstrate Participant Observation to make this study possible. This is method is done by living and working in the environment of the case company (Davies 2007). During the thesis writing process I spent few months working for the company gaining a lot of valuable insider information about the current situation of the company and its products. Even though my work at the case company was not to directly related to the research problem, everybody in the organization knew that I would be studying that topic hence I was able to get numerous learning lessons in practise that lead to several breakthroughs within this thesis work.

1.7.2 The research material

Two different kinds of main research methods has been used to find material for this thesis. The following research methods were used.

1. **Exploratory research.** Current solutions have been studied inside ActiveInspire to identify new problems with sense stimulation.
2. **Empirical research.** I will use the manual in real customer cases to improve and study the subject further.

Both methods follow qualitative research method. Also both secondary and primary data gathering was used. Secondary data was mainly from books and primary data was from gathering using old customer information. In the empirical portion, there were some new information from the most recent customer cases. That new information is gathered only from one company and therefore no general assumptions should be made. Still it is enough to solve the case company related research questions.

1.8 Reliability and Validity

Because this study is based on a case company and because the task was to make a manual about guidelines that do not exist in the company even as a Tacit Knowledge, there is a legit question about the reliability factors. Making this manual, it is almost mandatory to be subjective even though ironically the company helps to uncover their client current situation beyond subjective analyses. Still knowing this reliability issue in advance, the people in ActiveInspire and myself, strived to reduce these problems as much as possible. My work period inside the company helped me significantly to see the problems occurring. I was able to work in several customer projects actually seeing the challenges relating to the research questions.

Because my study needed extensive background research to build a solid theory platform for the manual, I participated in an R&D project of the case company between May and July 2009. I was able to see and partly give wisdom already found in the reading to support these new changes. This R&D project proved some ideas reliable also in practical life.

One field that the reader must consider slightly questionable is the wisdom about graphical design. Based on my search for reliable references, I noticed that many graphical design tips were not conducted under an academic institution. The world's most notorious graphical designers seemed to be more "self-made man's" that had found the working styles through trial-and-error and practical work experience. From a large pool of possible sources mainly the ideas from Before & After Magazine, were chosen because they were the few rare evergreen sources giving graphical advice since 1990. This is quite admirable due to the nature of graphical design being a fairly new industry. They also seemed to be a highly prestige source for graphical design professionals. However, since there is no study to support this, the reader should be at their own discretion when observing their tips. Representatives at ActiveInspire considered the magazine to have enough credibility so we can end with the assumption that this is enough to answer all the research questions.

Another topic one must be aware from day one was the validity need when gathering the research materials. My interaction with the partners in the company and with the customer cases helped to find the valid facts. The biggest challenge when making a manual for stakeholder stimulation is that the difference is peoples' perception. Some people see the cup half empty and other half full. As a researcher it is also impossible to fully overcome this challenge. With massive data collection, I was able to find surprisingly many references for the ideas that had been quite widely accepted over the years. Starting this study, I felt that all the material I would refer to would be fairly new and hence not been time-tested. I was glad to realize that several of the sources I refer to were made before year 1990, with some even before year 1970. Therefore we can assume that this study surpasses the validity challenges as well that it is humanly possible in these circumstances.

2 Case Company Presentation

The purpose of this chapter is to briefly tell ActiveInspire's history and evolution. There is a closer look into the two main products. This information is crucial in order to the manual portion of this thesis. They also represented some findings on the market size, demand and competition relating to Enterprise and Audience Wisdom.

2.1 ActiveInspire's history and basic information

Oy ActiveInspire Ltd (later AI) is a consulting company specializes in change management and strategy creation. AI's line of industry is defined as a management, strategy, and knowledge management consultancy business. The current juridical form of the company is established in year 2004, but the very idea of involving people and transforming tacit information inside an organization to explicit to support strategic decision making emerged already in 2001. Five individuals own the company and four of them are working fulltime for the company. In 2008 ActiveInspire's turnover was around 370.000 €. The office is located in Helsinki but the company also has business activities in United Kingdom, Sweden and Italy. ActiveInspire also owns 35 % of a company called HammerKit. HammerKit is a high-tech company and is the backbone of the technological support for AI. HammerKit was an award winner in the "Mindtrek Startup Launchpad" competition in 2008. (Aalto 2009)

In 2001 – 2004 early development phases consisted of solutions on how to keep the momentum in web based dialogue, how to extract tacit information, how to avoid organizational filters, how to create a safe environment for participants to get true opinions, and how to support their creativeness with computer aided innovation techniques. In 2004 all these elements were tested in real life. However, they were scattered methodologies and technically detached from each other. ActiveInspire was founded to develop a complete

offering and the Enterprise Wisdom product development and was supported by Finnish State Technology Fund as one of the leading innovations in Knowledge Intensive Business Services – sector of the Fund that year. The complete product was developed in short time because of an advanced technology platform choice, The Hammerkit modular web technology. During years 2004 – 2007 AI continued as a research and development company, adding innovative features and creating complete process for visualization of tacit information. The developments included a visual use of cognitive maps and advanced arithmetic, associative-semantic analysis, smashing visualizations and first trials of using self-organized maps as real time reporting techniques. Incoming cash flow was mainly invested back into new innovations and for purchasing an ownership in Hammerkit Oy. (Aalto 2009)

2.2 Main products

2.2.1 Enterprise Wisdom

Enterprise Wisdom™ (later EW) is a tool for strategy creation and change management. EW was the first service developed by ActiveInspire. EW allows organizations to tap into the tacit knowledge (Nonaka & Takeuchi 1995) and inherent wisdom of their workforce through the use of proven techniques such as the Delphi method (see for example Gordon 2005 and Kuusi 1999), anonymity, story telling, and group evaluation. The product is based on the belief of using Wisdom of Crowds (Surowiecki 2004) to remove organizational filters (Ansoff 1975, 21-33). The core idea of this product is to:

- Collect huge amounts of information from an organization. With AI information equals to peoples' thoughts and feelings, new ideas, weak signals and tacit information
- Offer this information to the decision makers in an understandable and coherent form.

This is a **five-step process**. The **first step** is that the top management *defines a big question*. This should be a strategic question and something that the top management doesn't yet have an answer to but needs to have one. It should be an open question that is significant, but not too detailed or lead answerers to a certain direction. The purpose is not to get yes/no answers. The goal of this question is rather to get answers that are diverse and contain totally new information. (Virtanen 2009)

The **second step** is to *collect the information* from the crowds by asking them a big question. There can also be few additional questions with text and picture triggers to slightly steer the way of thinking. People react differently to different stimulants. Answering to these questions is done easy, fun, and secure for the crowds. They just login onto a website to write their response to the questions asked. Because answering is totally anonymous people don't need to be afraid of what their boss or other people think about them when they give their hones opinions. Free text format answering allows people to say what ever they think and this allows also new issues to emerge. Regular 1-5 questionnaires don't allow this because they only provide information that is asked. (Virtanen 2009)

The **third step** is to *analyze the information* by reading through the answers and creating the clusters of the most spoken topics. The results are both categorized and visualized and then presented to the top management. All information is analyzed both manually and automatically with artificial intelligence. This intelligence which can read answers is invented by Hammerkit Oy and uses a semantic engine. At this stage, this engine still requires some manual assistance. From all this information you can raise up different themes that many answers link. (Virtanen 2009)

The **fourth step** is to *evaluate and prioritize the findings*. This takes place so that the findings are sent to the same population that answered to the questions earlier. The information is sent by using a new website. The population then prioritizes the findings with the help of a slider that is user friendly. New information is gotten that states what is important to solve the BIG Question and which ones of these are hard or easy to conduct. (Virtanen 2009)

The **fifth and final step** is to *present the results* to the top management. The outcomes of this five-step process are that the whole organization is scanned through with in few weeks; the top management understands what the organization thinks, people have had a chance to speak their minds and feel that they have been heard. This has thus created a platform and motivation for the change actions. (Virtanen 2009)

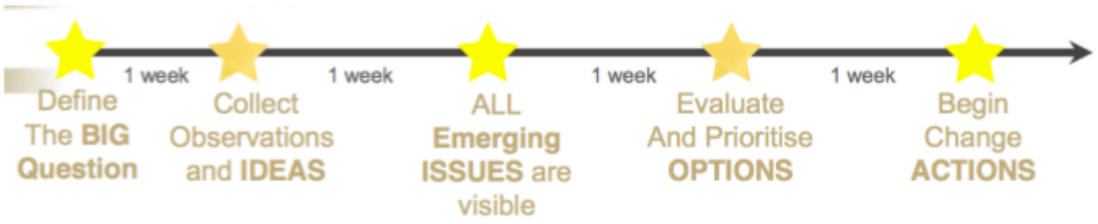


Figure 1. Enterprise Wisdom process

The information brought to the decision making process is something that has always existed. However, previously, there had been no means to exploit the data before the mental and technological web 2.0 transformation. With traditional methods, such as personal interviews, it would be extremely time consuming and expensive to interview thousands of peoples and even more difficult to ask them to evaluate each other's opinions. In addition, candidates may not necessarily convey their true intentions in a face-to-face situation. The grand achievement has been to bring together the accepted ideas of collective wisdom, tacit information, and confidential participation of wider groups with advanced dynamic visualizations in reporting to produce high value knowledge that can be acted upon easily. (Virtanen 2009)

EW also includes numerous tools given to the customer. These tools are called "Super Simple Implementation Tools". With such resources at their disposal, the management team is able to follow the development of project portfolios, sales pipeline, and the atmosphere of the company with a product called the Digger (Virtanen 2009).

2.2.2 Audience Wisdom

The short history of the development of EW can already give one a preview on some of the features that will be exploited in the new branch solution called the Audience Wisdom™ (later AW). The idea of AW was originally developed in November 2007. This idea generated a need for change and made AI to desire a new type of growth figure and to start attracting new partners and employees. The Research and Development mode was changed to a growth strategy in order to make the company's cash flow stronger, thus enabling the investments to AW innovation.

If the product is wanted be taken in to the next level the bottleneck is to analyze the enormous amount of signals coming from the participators. How to give valid and visualized information to the decision makers when there are millions of signals but only minutes or hours time make clear picture out of it?

AW aims to provide broadcasters and media conglomerates with an ability to understand their audience in ways they could now only dream of. This service, which is currently in early stage development, provides a method for media companies to ask their audience to participate more deeply in programming and content creation via SMS, web, and digital interactive television. The results from AW provide media companies with ideas, suggestions, thoughts, and insights from the audience in real-time, including indicators of the feeling of the audience towards the topic in question. Using the latest semantic technology, coupled with multi-channel real-time visualizations, AW brings the minds of the audience to the media industry. The strength of EW is the ease, speed and accuracy with which very complex and qualitative business issues can be interpreted and presented. The strength of AW is that the same applies for processing hundreds of thousand of feedback data and provide results which are available in a couple of minutes.

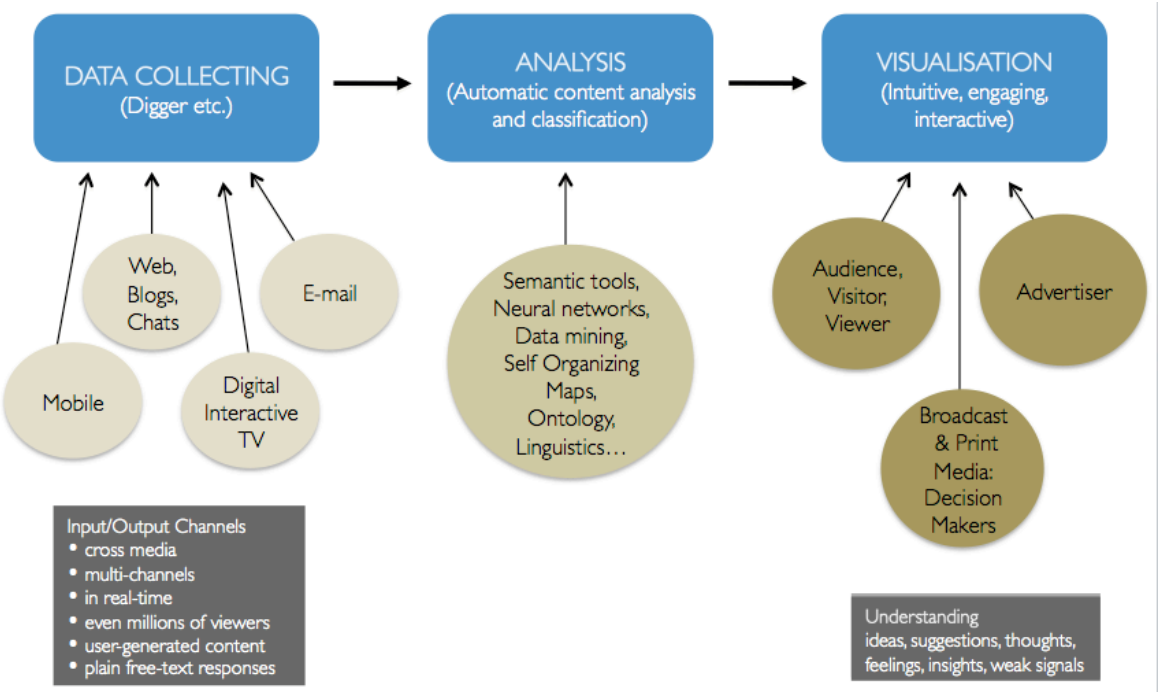


Figure 2. Audience Wisdom process

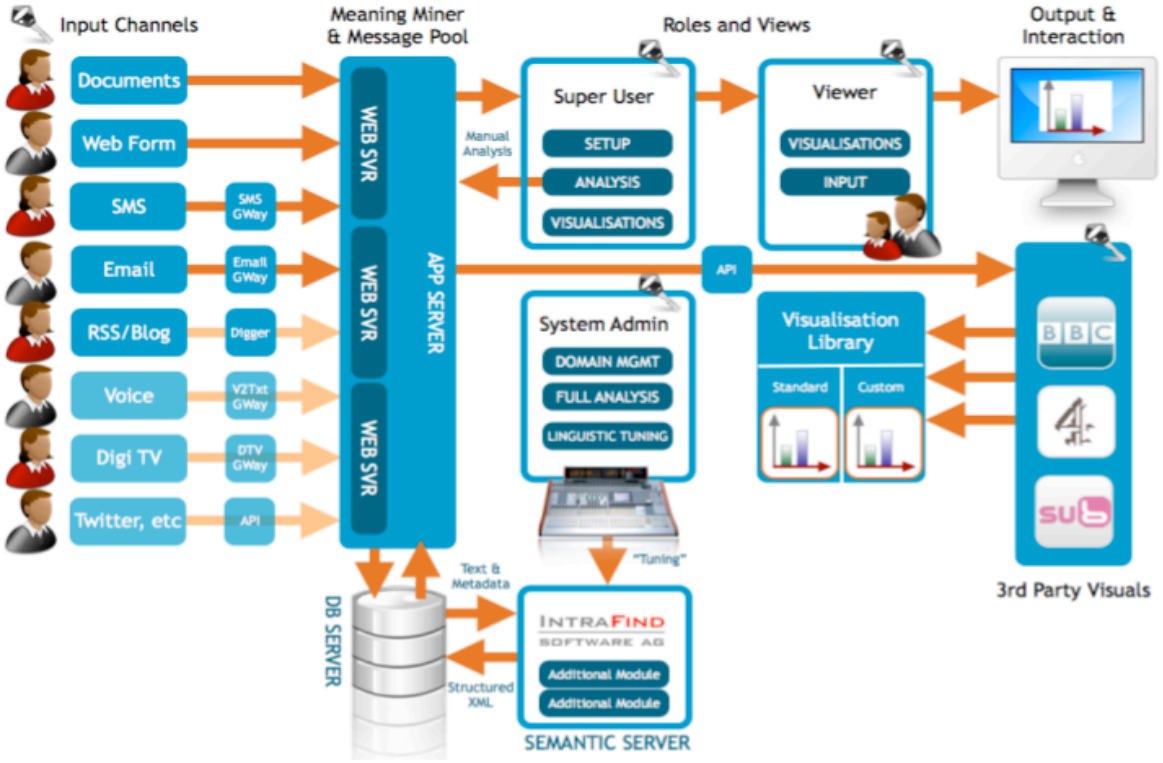


Figure 3. Technical features of Audience Wisdom Product

2.3 Markets

2.3.1 Market size and demand

The market segment for Enterprise Wisdom is basically all the companies possible to using management consulting. The total available market in the EU for management consulting is estimated to be €80bn by 2010. The Serviceable Available Market for Enterprise Wisdom was €11.5Bn in 2007 and is predicted to grow at 6% per annum. (Laine 2009)

Audience Wisdom is targeted at the entertainment and media sector. This sector is estimated to be worth €440Bn in the EU by 2010. The current Serviceable Available Market for Audience Wisdom is estimated at €11.7Bn in the EU. This segment is growing at a CAGR of 5.5% at present. (Laine 2009)

2.3.2 Competition

There is limited direct competition for AI, with one principal competitor called FountainPark, a Finland based company who is offering similar services to Enterprise Wisdom. The competition for Audience Wisdom is more diverse, but tends to be indirect. In this space the competition includes a number of companies that have been designated by IDC as “Eureka 2.0” companies, such as ClearForest (now part of Reuters), Lexalytics, Cymfony, Biz360, Attensity, Attenex, White Vector and Recommind. Most of these companies, however, are focusing on the enterprise market rather than utilizing their technology in the media space. (Laine 2009)

2.4 Strategy

The board and management team of ActiveInspire seeks to create a highly profitable, market-leading company within 3 years, being excellent in approaches for gathering, analyzing, and using tacit knowledge on the global scale. The core skills at AI will be developed according the Picture 3. The core skills at the moment are information gathering and analysis related. The core skills in 2 to 3 years time are information visualization related. This is one reason why studies and manual like this are already in high demand. So picture 4. is one of the main reasons why now this research got a green light. In the future the EW business will create solid relationships with large distributors and partners, many of who may be interested in acquiring the entire business line. Examples that have expressed an interest in this already include KPMG, PwC and Hewitt Associates (Laine 2009).

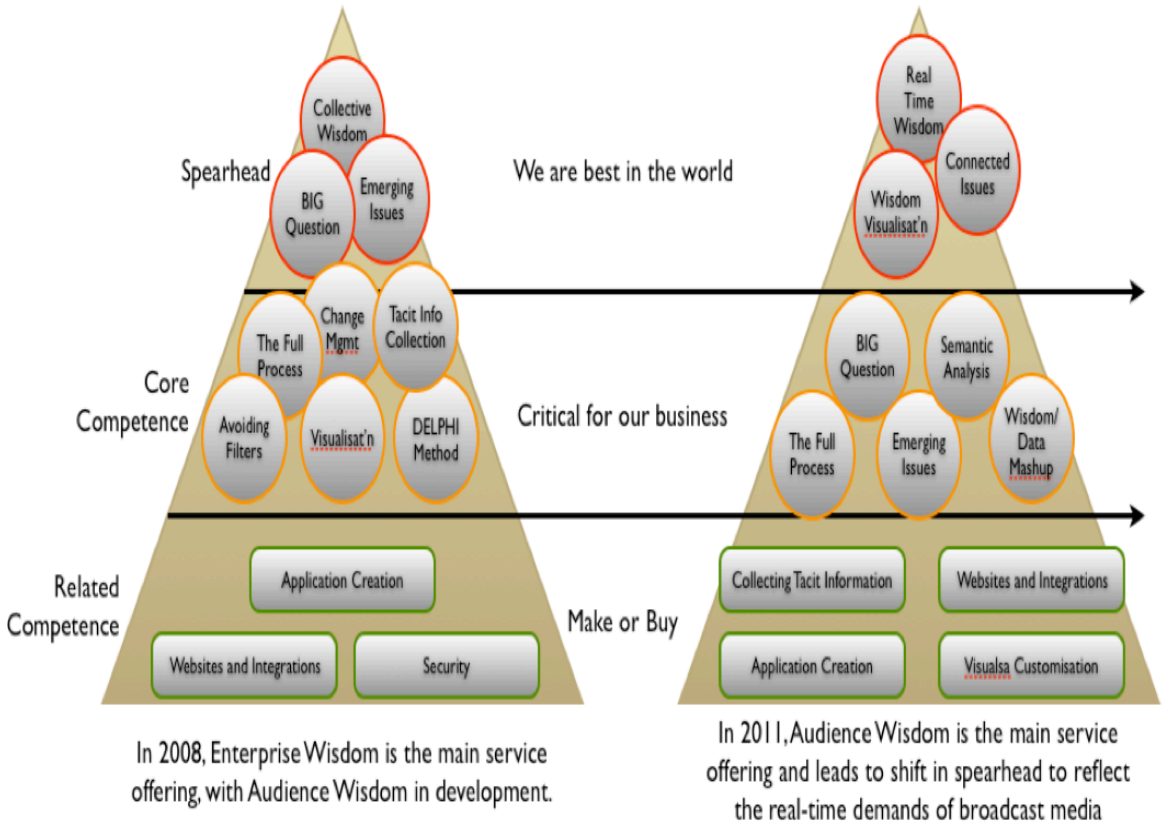


Figure 4. Shift in AI strategy between 2008 and 2011.

AI's own organization model can be described as adhocratia (Mintzberg, 2004). Every key employee works self-directed, managing one customer process from start to finish. This

enables the company to build a strong rapport with the client from the beginning and leading into the future. AI's model also enables consultants to create larger turnovers per year than in classics top-down consultation companies. To be able to grown according to the strategy the need is in improving internal processes and products. In order to grow according to this strategy, the company must improve their internal processes and products. After this company, can hire new employees faster, work with associates, or sell licenses to the products. Whatever the strategy will be process descriptions, R&D work and manuals like this thesis is a crucial part in building the core competence that clients, associates, and collaborators will be willing pay for (Laine 2009).

3 Theoretical Background

The purpose of this chapter is to go through the theory, literature, and the most current articles based on few larger topics relating my research questions. It contains an explanation on the main human senses, followed by the found theory. All the subcategories study communication and the learning process in a slightly different angle. However, the subcategories are also huge areas of study and is not discussed in immense detail in such a short study. The goal is not to explain fully what these areas are, but to raise several theories to help create a powerful and practical manual.

3.1 Human senses

Like mentioned in chapter 1.5, defining the senses is a complicated process. After pursuing several sources, I still could not agree **what is a human sense and what is not**. In other areas of study, the goal is to keep to facts that are most concurrent with the current beliefs. However, because this study is done for a business school, this dispute between what a sense is and what it is not, does not affect my research questions and the parts that were narrowed. Everybody agrees that seeing and hearing are human senses. Other senses that the tips, guidelines, and techniques demonstrated for AI's use can be placed in this study for clarity sake under the so called 6th sense.

The sixth sense is often defined as intuition, with the proof of its existence controversial. One official definition states that "Sensing is concerned with the five senses and what is and has been whereas Intuition is concerned with possibilities and patterns and what might be" (Cameron & Green 2009, 51). This quote reveals a notable difference whatever the definition of Sixth Sense is. In this manual we must also understand to activate also things that will be and possibilities of the future.

The possibility to stimulate the 6th sense is also in dispute from the fact that there are several opinions who disagree that such a thing exists. It is not my job in this thesis to evaluate its existence, but simply to list the stimulants that does not directly go under the five main human senses. These stimulants do exist in some empirical researches, but the problem is how to prove them fully real and working in a laboratory environment. This similar situation was faced with the, nowadays widely approved, **Delphi method**. That is the same method AI's products are also greatly base on. When first introduced by Norman Dalkey to the United States Air Force, some scientist disagreed on the fact that knowledge issues can't be proven scientifically. Dalkey states in his work that even though technologist can always disagree with "does it work" and scientist "can it be confirmed in a laboratory", we can despite few maybe's prove something to in "reasonably good order" (Dalkey 1969). Therefore, I will assume that if significant studies are made upon them they are worth considering and listing to this thesis. It is after that in the eye of the beholder to judge is it implementable into his/her business.

3.2 Sense stimulation

As discussed in the chapter 1.5, stimulus is again a word that is been disagreed widely. Coming back to Sigmund Freud's academically accepted definition of a stimulus being "something that arouses or implies to action", we can start to understand stimulants' importance in consultation business. Consulting is what not, a very arousing focused field where almost always the goal is to build some action after that.

When stimulating human senses, we must remember that one is never only stimulated by a single sense. When aiming to activate for example the ability to hear, one will probably also activate the ability to see. It seems like all areas of our nervous system are connected and that no part of its own is probably ever capable of being stimulated alone without being affected or affecting other parts of our nervous system. Also never a single part of our

nerves are in absolute rest. Our nerve and sense systems are so complex that there are even differences when we stimulate the left or the right side of the body. (Allen & Schwartz. 1940, 1; 1940, 117). But because of the law of diminishing returns, in this thesis it is only important to understand that activating one sense will very likely active another one too.

Before getting people involved with sense stimulation you must according to, Axelrod, Beedon**,** and Jacobs (2004)**,** ask yourself five questions:

1. What kind of involvement is needed?

2. How do I know whom to include?

3. How do I invite people to get involved?

4. How do I keep people involved?

5. How do I finish the job?

This manual is to give hints to help answer these questions. You cannot generate template solutions for each circumstance as every situation is unique. In addition, people are unique and their prior experiences affect the stimulus. Every person places our experiences to frames of reference and these frames affect greatly on how we see and understand things. Usually, a person is very unaware of these frames. (Schmaltz 2003, 8)

Sense stimulation is also a matter of **varying the stimulus**. Besides choosing the right stimuli, you must be able to vary to them. This will keep the audience awake. People's attention span will decrease after fifteen to twenty minutes if the stimulus is not changed. Humor is one tool for this also, but it is a gender, cultural, and religiously sensitive tool. (Exley 2004, 52). I will not discuss humor as a sense stimulation tool in this work in order to focus more on methods that are easy implementable for everyone without going deep into human personality cases.

Humans have a special capability for **Active Perception**. This means that if we don't see, hear, smell, taste or smell something we want to sense, we tend to try even harder. In the

short run, we can activate these senses ourselves. For example, when we cannot don't see something clearly, we squint our eyes or move to a better position. However, in a long term situation, for example when a person loses their vision, he can gradually develop other senses by activating perception. In learning and consulting cases, we can use this as tool for greater stimulus. After motivating the other person to, listen to us, we can go through complex issues forcing the sense to hear get stronger and then give more simple topics (Bajcsy 1988). This is also a form of stimulus varying. Personally I have seen this in use by Anthony Robbins and Esa Saarinen. Esa Saarinen often talks complex theories for a while and then brings very common practical ideas. The power of Active Perception is important when designing and planning stimulants of all kinds.

3.3 Pedagogy

Again defined with more detail in chapter 1.5, pedagogy is adaptation process of humans. Pedagogy is used to **move knowledge from one person to another**. In the consulting business, moving this knowledge is key, making it also a skills one must posses in order to be able to work professionally in that field of business. The purpose of this chapter is to make a quick scratch on the pedagogy part into this study to clarify cases learned while writing this manual.

Teaching is often described by several theorists as a secondary derivative for human adaptation processes like learning a new language, explaining the theory of the mind or helping to understand some culture. (Csibra & Gergely 2006, 2). That culture can of course be the culture of an ice hockey team, the culture of a certain human race or the culture of a business organization. Hence we can assume that in the field of Management Consulting, where often organization culture is studied, we must be able to teach that knowledge forward.

When stimulating people to learn (meaning to teach people), you must understand that people learn in different ways. One famous deviation of styles is from Honey and Mumford (1982) who suggest that there are **four types of learners; activist, reflector, theorist and pragmatist.** The activist ”learns by doing” and need to be activated stronger than others to maintain a high level of enthusiasm. However, it is important not to label people, but instead to understand different people’s styles to approach the same issue. Awareness of this fact while working with them is in my mind more important than constantly processing that knowledge by thinking “what category does this person belong to and how can I activate him/her in the best way possible”. Especially in non-personal teaching tools such as websites, one should ensure that all learning methods are equally represented.

As mentioned, to give activation all kinds of learners you’re teaching must be very diverse. Major tasks in all types are the following.

Activist: encourage experimentation

Reflector: ensure that you question yourself and the ideas presented

Theorist: make sure all parts are carefully researched

Pragmatist: tell everything using examples and cases. Give also tools, techniques and applications for challenges presented

(Cameron & Green 2009, 18)

Still referring to the previous two chapters in teaching, it is important to ensure all students are valued the same. In business, the students can be in different divisions, countries or departments. By giving more focus towards a certain student group, you will not only exchange the benefits of the **“A team”**, but you will lower the learning pace of the **“B team”**. All comments, questions and activation methods should be, in theory, made in such way that it addresses everyone and that everyone will participate (Wink 2000, 89-91).

Continuing the idea of people learning in different ways, there are also theories about different kind of thinking inside that learning ”type”. These thinking ”types” are always

unique combinations, but when making any material you should be able to stimulate thinking in the highest level possible for the receiver. Exley & Dennick (2004, 59) claim that the main types of thinking include:

1. Analysing

2. Synthesizing

3. Logical reasoning

4. Hypothetic-deductive reasoning

5. Evaluating evidence or data

6. Appraising and judging

7. Critical evaluation

8. Applying knowledge to contexts

9. Seeing new relationships

10. Creative speculation

11. Lateral thinking

12. Designing

13. Problem solving

It would be interesting to research further in this area, but it is beyond the scope of this study. Still again only acknowledging that there are different types of **"thinking levels"** can be useful when aiming for stakeholder stimulation.

Peter Senge et al introduced **"The Wheel of Learning"** (1994, 60), which is also a key component of this manual. In this concept, people learn in a circular routine that should be taken into account when stimulating people, and their senses.

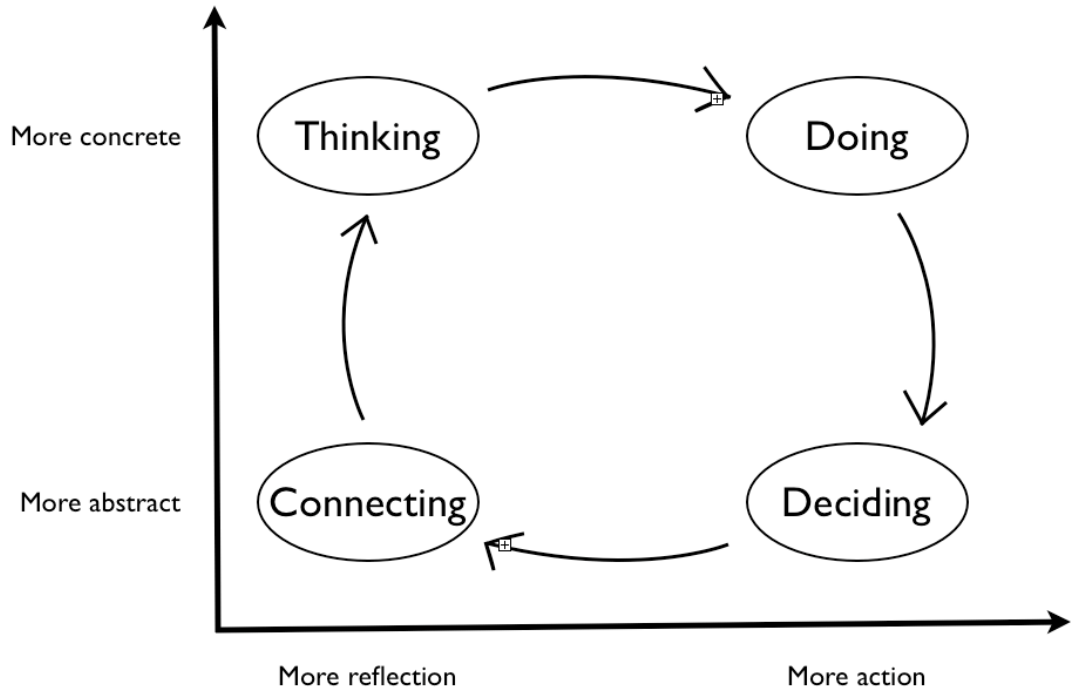


Figure 5. Theory of the Wheel of Learning

In the Wheel of Learning there is always a certain pattern our brains follow. So to a certain action there is a certain follow-up action. Where people start in this wheel or how long one spends on each part is unique. However, the outline of the wheel is always the same. For example, when a person receives new information, he or she may connect the new knowledge to facts they previously learned. This results in more concrete thinking in relating the knowledge to his or her reality. Then the person will start to do a specific action and follow-up after by deciding what it meant to him or her. After, the wheel repeats.

In the case of AI, the pedagogical theory of prior learning's should also be considered. To be efficient in teaching situations, you must also **activate prior learning**. Prior knowledge is actually the single most important factor for influencing learning. In presenting and teaching cases, you must first connect the new case to old knowledge and then start to give new info. (Exley & Dennick 2004)

3.4 Cognitive Load

Humans have two kinds of memories in their cognitive minds: a working memory and a long-term memory. Initially, working memory was called short-term memory due its ability to work short-term events. That memory also has separate channels for visual and auditory perception. Short-term memory is often linked with our conscious mind hence it very limited capacity and its way to only handle issues with limited duration. One large problem that often occurs with working memory is that when it faces new material that has high element interactivity, it may run out of capacity to process. It is inadequate. For example, in a data presentation, the person receiving this data/information fails understand this complex material. In order for the person to understand the complex content the data, the presenter must use a structured tool or mechanism. As a result, the data receiver can link the use of so called long-term memory into the receiving situation. (Sweller 2002, 1502).

Both of the working memory and the long-term memory have evolved to process varying information. As previously mentioned, the limit on how the amount of information process will vary, and is based on the capacity of the working memory. But by being aware of certain cognitive structures and combinations, we can make instructions how to enhance the capacity to understand varying information. This is called the Cognitive Load Theory. (Sweller 2002, 1501).

4 Stimulation Manual

The purpose of this chapter is to move into the more specific tips of stakeholder stimulation. The chapter will start out by constructing three generic stimulation chapters before moving onto the case company. This is because the case company wanted to declare this work **confidential**. In the public version there is only generic guidelines and all the specific guidelines designed for the case company are places in the confidential part.

4.1 Stimulating visual sight

Visual Stimulation should be taken in to consideration with great motivation. When applying Information Visualization and stimulating visual sight **with the right colors, layout and pictures we can change the learning speed** (Jaquith & Wesley 2007, 3). Today, with the presence of the Internet, the constant demand for speed, and with information growing exponentially, different approaches are needed to cater to the contemporary audience. Knowing these facts, Miikka Leinonen created a free web book **The Strategy of Giving** and has become a massive success story. This books deals with large issues within business, and claims that you can read it within one hour and master it in two (Leinonen, 2008). Without inputting my personal bias on the validity of this claim, the philosophy does align with what people want and expect. Therefore we can assume that every business owner should acknowledge this fact.

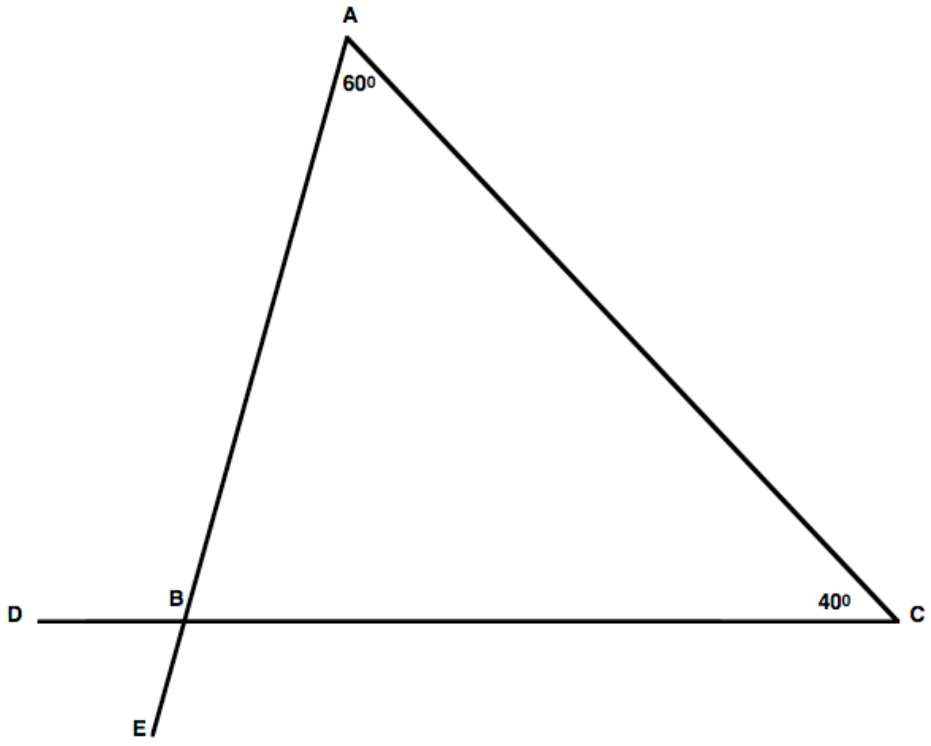
Most common tools for visualization are:

- Flipchart pages and instant posters
- Black- and whiteboard notes
- Overhead projection slides
- Computer aided presentations (such as PowerPoint and Keynote)

- Slides
- Posters
- Video Clips

(Exley & Dennick 2004)

With any material that we try to stimulate the visual sight, we should remember **"The split-attention effect"**. This means that our memory's work load should not be over loaded by giving two separate elements. Those usually are a diagram or a picture linked with text. (Sweller 2002)



In the above figure, find a value for Angle DBE.
Solution:
Angle ABC = 180^0 – Angle BAC – Angle BCA (Internal angles of a triangle add to 180^0
= $180^0 - 60^0 - 40^0$
= 80^0
Angle DBE = Angle ABC (Vertically opposite angles are equal)
= 80^0

Figure 6. Example of how not to present material because of the split-attention effect

If one needs to add both a picture or a graph with text, one should add them together by incorporating the text into the graphs right places (Sweller 2002).

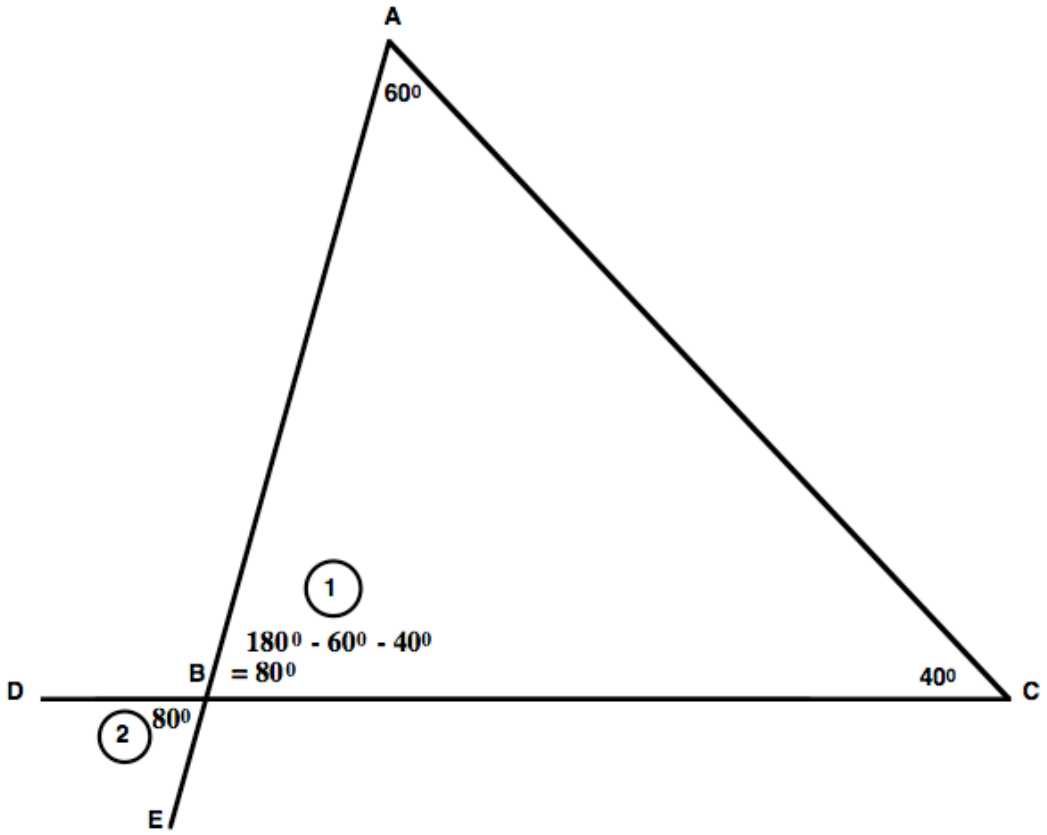


Figure 7. Example of how you can avoid the split-attention effect

4.2 Stimulating the ability to hear

The most implementable way to approach this is just continue from the chapter 4.1. Very likely one would not try to stimulate the auditory system alone so we can observe ways to add stimulants into the list of tools demonstrated above.

For the following visualization tools, you can incorporate auditory stimulants inside them:

- Computer aided presentations (such as Powerpoint and Keynote)
- Video Clips

Otherwise you will need to use a separate tool such as a boom-box or other similar music player. Personally I have often seen combinations of iPod Nano music players and portable audio speakers used in a presentation situation. In addition, many meeting rooms that have a video projector have a computer from where you can play auditory stimulants. More advanced spaces have even integrated audio systems.

One major benefit with using auditory tools is the possibility to solve the problem of split-attention effect, demonstrated in the previous chapter. It can be fixed also by adding auditory stimulants. By using this, we are taking advantage of a so called **"modality effect".** The difference of split-attention effect and modality effect is that the split-attention effect relies on the fact that visual search is being reduced when there are physical strains to the same part of our brain. In contrast modality effect is based on the fact that if we get stimulants to different parts of our brain system we actually learn faster. In the split-attention effect, visual search means only the visual channel and not other channels. There is substantial evidence that when you active both the auditory and the visual modalities, the capacity of the working memory grows. Therefore we can active for example, the visual component by using a mechanical tool such as an overhead projector or a slideshow and activating the auditory modality by speech. This should enhance the learning. (Sweller 2002, 1503-1506)

4.3 Stimulating by Graphical Design

Many designs are combinations of several sense stimulants and therefore, I combined them all under one heading. In general it is part of the visualization process, but there was so much good implementable material for the case company it needed an own topic. When using tools like **Excel** to make graphs one should consider the tips of the two following chapters based on the 2004 lesson materials used in a Massachusetts Institute of Technology's course on Graphical design (Miller 2004).

1. **Reduction of elements.** You should remove all elements from the graph that are not crucial for the topic. In order to accomplish this, you must first decide what the primary objective of the graph is. Subsequently, one then evaluates each element to determine if they help to accomplish this goal. If it does not help, simply remove it. In order to see if the design holds together without it, a good "acid" test is to remove a component even if it contributes to the overall objective.

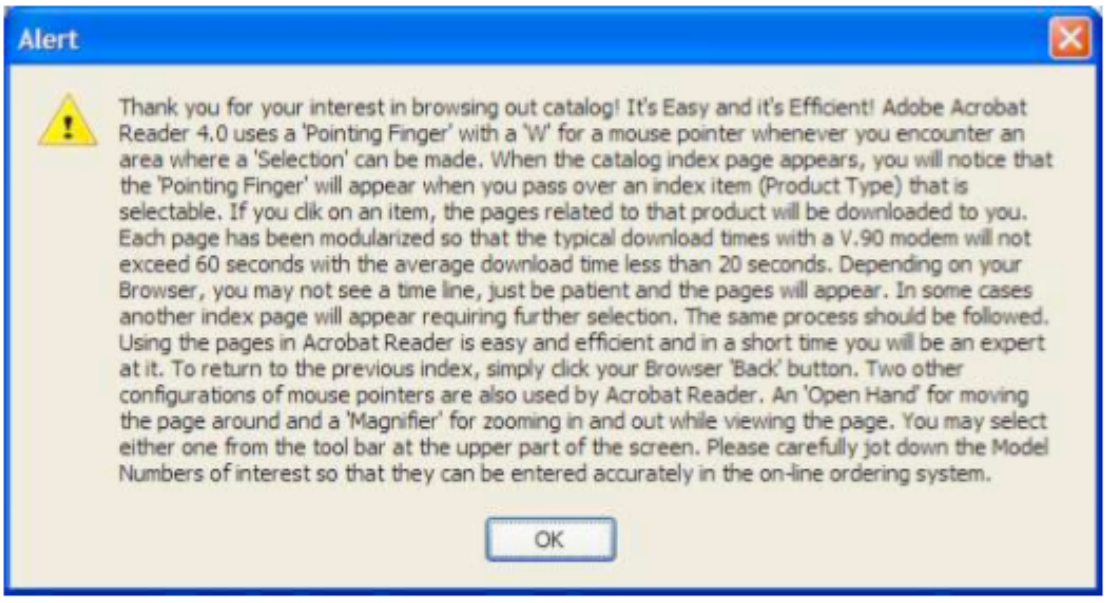


Figure 8. Miller's real life example of poor graphical design

A good example of reduction is the use of icons. Instead of taking a photo of a pair of scissors and shrinking it into the graph, we can just use a 32x32 pixel icon that only holds the necessities (two loops for the handles and the blades). As long as the functionality remains, you can keep removing more than usually people would assume. Another example can be seen with Google, who removed almost everything from their search engine's interface compared to the competitors who still keeps the functionality component.

2. **Regulate the remaining elements.** Remove unnecessary differences by using the same or similar fonts, line weights, colors, dimensions and layout. If you do not do this, the irregular parts might take greater emphasise in the observers' mind that of the original meaning. In contrast, by doing the irregularities, the parts you want to emphasize will stand out better.

3. **Combine elements.** Some graphical elements can serve with several functions. One should always strive for this when applicable. Windows (and Mac) desktop interfaces have several combined function elements. One example is the scroll bar thumb. It has three roles: you can drag you anywhere in the document, it shows your current position compared to the entire document and displays the fraction how much your current view is from the whole document by the size of the thumb.

4. **Contrast used wisely.** We already addressed the importance of regulating styles, but after doing that start to think could we use contrasts with visual dimensions (size, color etc) to emphasize some part more than another one. The key message is to remove unimportant differences and then make wise differences to important parts.

In order to understand the use of contrasts, one should understand where visual dimensions are made from. One way to perceive the possible dimensions is to use Jacques Bertin's **theory of visual variables**. Bertin's theory shows seven different

variables and proves how these are perceived by different processing systems in our brain. The following image compresses the different variables.

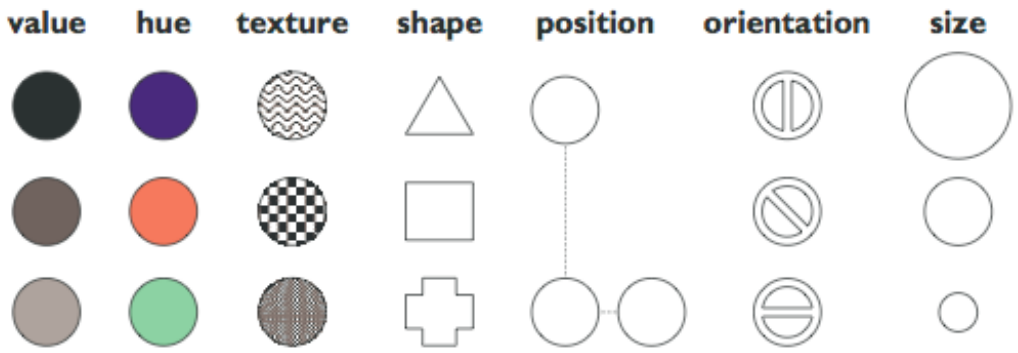


Figure 9. Jacques Bertin's seven visual variables

These variables are very self-explanatory, with the exception of the difference between value and hue. Value has one base color and the variety is based on the brightness of that color. Hue uses pure colors and the variety is done by simply using different clear colors.

These visual variables are especially useful for communication and separating data. Miller uses in his lecture material, a strong emphasis to the election process when choosing which of Bertin's visual variable one should use for which situation. He categorizes variables by using scale and length metrics. This knowledge seems true, but complicated to implement into a consulting business. Miller also admits that there are some aspects of cultural effects when using the variables. Hence I will only recommend applying the variables with trial-and-error type use.

5. **Consider the hierarchy of text elements.** Text elements include **title, chapter, section, body text, and footnote**. The proper use of hierarchy within the text elements will make it more readable. Good use of contrast also applies to this part,

but it does not mean that you should maximize the use of every contrast making font. Balance is required and a strong variety in text shapes is not the best way to accomplish the objective wanted.

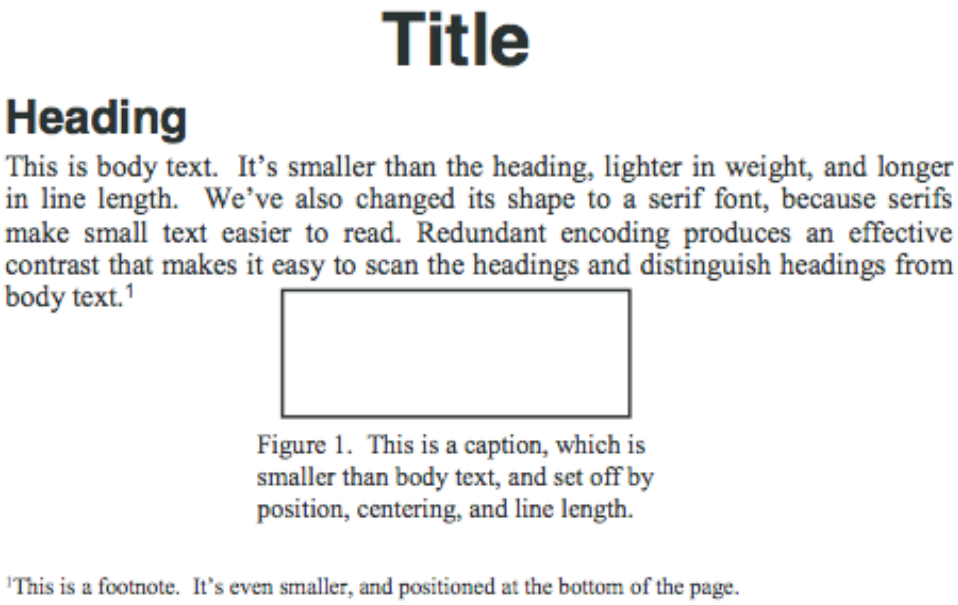


Figure 10. Miller's representation of text elements and their proper hierarchy

In addition to Bertin's visual variables, there are also another main principle for us to understand to properly stimulate graphical design. That principle is made by the Gestalt school of Psychology in the 1920's and addresses the concept of white space. The official name for this is the **Gestalt Principle of Proximity**. The principle divides the use of space into six methods:

1. **Proximity.** When you place objects close to each other, the observer is more likely to link their meaning with one another. In Picture 11, individuals will likely see four vertical columns than four horizontal ones because of proximity.
2. **Similarity.** Anything that has similar attributes will more likely be linked with each other, also by their relation. In Picture 11, people will more likely see four rows of circles because of similar use of color.

3. **Continuity.** Our brains expect a shape to continue when possible. In picture 11 people will more likely see two lines crossing even though in theory there could be two 90 degree angles meeting or four individual lines meeting at the center.
4. **Closure.** Our brains also likes to perceive all objects closed even in times when they actually are not closed. In picture 11**,** people will more likely see a triangle in the middle even though there is no complete edges.
5. **Area.** Smaller elements are perceived by our brains to be in front of the bigger element when they overlap. In picture 11, people will more likely see a small square in front of the big one than a big square with a small in it.
6. **Symmetry.** Our brain likes to perceive any explanation that has a greater symmetry built in it. In the picture 11 people will more likely see two overlapping objects than three individual polygonal objects.

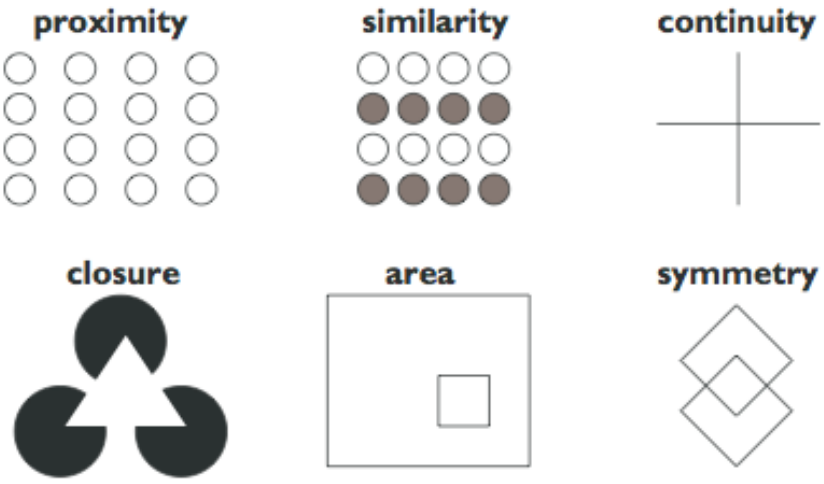


Figure 11. Example of every Gestalt Principle of Proximity in practise

5 Conclusions

For a strategic shift in the case company ActiveInspire, a need for better visualization and stimulation tools was born in 2008. Due to constant rush with other R&D projects and day-to-day sales activities, clear guidelines and tips on this topic has not yet been developed. This research was set on studying how the case company could better stimulate their stakeholders and to create guidelines on what is important. The angle was to find and create cost effective and easily implementable solutions within audio visual stimulants. Understanding sense stimulants for a Management Consulting company, one must understand various models from the world of communication, pedagogy and human perception.

By acknowledging the basic sense stimulants such as the various methodologies of learning, one can now look at thinking in different points of view. Our minds are proven to have certain processes that it follows. Understanding this will be a step forward to any person working in the field of Management Consulting. How you stimulate senses in business with websites, marketing materials, PowerPoints, and when displaying large amounts of data is an important focus. Using key concepts like varying stimulus, using different visual variables, and keeping stimulants simple seems to have an effect on the learning speed and effect of the stimulant.

The approach to the research was very practical. Exploratory and empirical research material was gathered only from the case company in addition to the secondary data from books and other related studies. This study had one main research question and three sub questions. The detailed answers to these questions were incorporated into the manual part based on the found theory. Many models, theories, and concrete examples that the case company could use were discovered. Almost on the same extent, methods that should not be used were also found based on the references studied. How effective these findings are has yet to be proven in practice and cannot yet be measured. Based on my Participation

Observation while working in the case company, I found that they are easily implementable and should be further take a step forward. Some ideas, especially in the visualization of quantitative data, seemed to be a bit too large for this study and were not answered thoroughly. Looking back, the scope of the study should have been even narrower. This study was first researched out of three or four on this topic to the case company, hence the end results seemed to be reached by giving ideas for future topics.

Most of the concrete guidelines were declared confidential and are not listen in the public version of the thesis.

After this work, my view on sense stimulation is the same as Mintzberg, Ahlstrand & Lamplel's findings in their broad study on different schools strategy in Strategy Safari (1998, 373). They wrote that "**We need to ask better questions and generate fewer hypothesis…We shall never find it, never really see it all. But we can certainly see it better"**, referring to finding the whole beast of strategy formation. I think I will never fully grasp how people's senses are stimulated or how that wisdom could put on paper to create a manual. But truly, we can try to see it better by asking better questions.

The biggest challenge I feel is the need to not only innovate, but innovate faster new sense stimulation tools and methods to help quantitative data display in the ever growing technological jungle. When there is clearly a need for constant brain work in this area, what is the cost/benefit ratio? I feel that the next research questions are *"how to stimulate cost efficiently?"* and *"what the financial benefits are of building products that stimulate customers better?"* Today, there is a consistent focus in increasing Cost Management (Booz & Company 2009) and is easy to remove resources from R&D to build more and better sense stimulants.

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