AWARENESS SESSION AT seas

Company's profile

In the late 1920s, at the Norwegian Institute of Technology (NTH), the first Norwegian electrodynamic loudspeaker drivers were designed. Ever since, Norwegian engineers have been leading the technology race in driver design. From its founding in 1950 as a spin-off of the Norwegian radio manufacturers Radionette and Tandberg, SEAS has been dedicated to creating loudspeakers with superior sound reproduction.

The company, whose name means Scandinavian Electro Acoustic Systems, has remained in the forefront of European driver manufacturers for 50 years.

During this time, SEAS has evolved its product line - from a wide selection of standard drivers for radio and TV sets to the highly innovative, customer influenced Hi-Fi drivers offered today.

A company owned by its employees, SEAS takes pride in the drivers it has tailored to meet specific customer demands and in the major role it plays in creating the "sound experience" of the contemporary Hi-Fi market. We are committed to offering products of the highest standard and the support services needed to meet the changing demands of the global marketplace.

Research and Development

All over the world, dedicated designers and manufacturers of high quality loudspeakers work hard to improve the realism and accuracy of the sound reproduced by their products. At SEAS, this same desire guides all our development efforts to create even better loudspeaker drivers. We co-operate with customers from around the world and continually exchange ideas about the ways to obtain significant improvement at reasonable cost.

A selected group of SEAS employees collaborate in this process - ensuring that new products meet both the demands of the marketplace and the requirements of the various company departments that are involved in production, quality control, logistics and customer service.

Team members are inspired and encouraged to contribute with all the energy, creativity and enthusiasm they possess.

SEAS knows that further potential of the electrodynamic driver remains to be achieved, even though its design has been fundamentally the same for almost 80 years. We are committed to leading the exploration of that potential.

SEAS future

The managers of the company say ”Our goal for the future is to maintain SEAS' position as one of Europe's leading suppliers of loudspeaker drivers while offering secure and meaningful employment for our fellow workers. We will achieve this through ongoing education of our employees in all loudspeaker related subjects.

We will continue to strengthen relationships with our customers by improving logistics and increasing open communication Our goal is to become the natural choice for loudspeaker manufacturers who wish to collaborate in developing their concepts and improving their products.

Every effort will be focused on hitting the final target: the perfect reproduction of sound.

With all their knowledge and ideas, our employees represent the "soul" of SEAS. As owners of the company now and in the future, our original corporate objective from more than 50 years ago is assured and will continue to guide us and help us meet new challenges in the years to come”.

Place and date of the sessions

Moss, Norway 16th March 2005

Application field

Marketing strategy, Product Development,

Creative Phases involved

Predisposition, Idea Generation, Evaluation

Description of the participants

The composition of the group attending this session was made of 7 employees and 2 external consultants. The following functions were represented:

- “R&D management”: one participant, responsible for coordinating the product development tasks at the SEAS laboratories;
- “Production Management”: three participants from two production units.

- "Purchasing department": one responsible for supplier relations.
- "Marketing and technical sales management": one participant, responsible for international sales.
- "Operation and logistics"; one participant, operation manager.
- Business development: two participants, consultants

Agenda of the awareness session

Starts on	Ends on	Item
MONDAY		
09.00	09.15	Introduction and CREATE project presentation
09.15	09.45	About creativity and creative techniques
09.45	10.15	Presentation Provocation & Movement
10.15	10.30	Coffee break
10.30	11.30	Exercise: Provocation & Movement
11.00	11.30	Lunch
12.00	12.30	Presentation: Morphological analysis
12.30	13.00	Exercise: Morphological analysis
13.00	13.15	Open discussion
13.15	13.45	Presentation: " Six Thinking Hats"
13.45	14.30	Exercise: " Six Thinking Hats"
14.30	15.00	Presentation: " Creativity template"
15.00	15.30	Exercise: " Creativity template"
15.30	16.00	Final discussion and conclusions

Description of the session

PREDISPOSITION PHASE

The first two presentations ("Introduction and *CREATE* project presentation" "About creativity and creative techniques") had the purpose of raising the awareness of the participants about the importance and usefulness of creativity and of predisposing them to the use of creative techniques for the following phases. The presentations were meant to clarify "how do we define Creativity", and "how to address creative thinking in a structured way". Another important issue raised during the predisposition phase was "how can our company introduce creative techniques as a part of the tools we normally use in our daily work". "Very much can be said and presented about creativity, but how we leverage the potential of these techniques in an easy and very concrete way?"

This introductory phase was very important to set focus on a kind of "return on investment", that motivated both the managers and the other participants.

IDEA GENERATION PHASE (1)

The awareness session then continued according to the agenda presenting the techniques, carrying out the exercises, opening for questions and comments about the methods and the use of the techniques. It was also very important to let the audience get a feeling of the potential benefits they

could have using the techniques. The explicit goal was to show the techniques and to understand if and how that could be used within the company.

The following chapters give an overview of what was produced during the exercises. Please note that an awareness session is **not** a training session, so the focus was on presenting the techniques and the way they work, rather then on enhancing the competences of the participants.

Provocation and movement

1- Provocation and movement was the very first technique that was presented. The reason for this choice is that this technique is easy to present and understand; it normally interests most people and is considered quite amusing. In other words, it is a good "starter".

2- After the presentation the participants were asked to choose a focus area and a focus purpose. Defining the focus for the work sessions is actually the first step in every creativity exercise.

The focus area at SEAS was: "Technical solutions for a specific loudspeaker model".
The purpose was: To obtain a better fit between our loudspeaker and the wooden box that contains it. (The external box is a given by the customer who produces High Fidelity Stereos). The line of this box forces SEAS to adapt the loudspeaker changing several technical details in it. But SEAS has to find out how).

3- Then the group was asked to state what they considered as given and acknowledge truth and facts for the issue they were focusing on.

4- Then the provocations were made and the movement techniques were used to generate ideas. The group selected only one provocation, because of the lack of time. For the selected provocation, people were set free to choose any of the Movement methods (according to their natural inclinations). This step and the following discussion were carried out openly with all people participating, but the facilitators were needed to remind the participants about the Movement methods.

This is what was produced:

- ***Given truth and given facts***
  - The form and size of the soft parts of the loudspeaker are given.
  - The loudspeaker must fit its container (the wooden box)
  - The form and size of the container are controlled by the customer.
  - The performance of the new solution must be at least as good as the solution we have today.
  - We must have a customer.
  - Vi must have a frame with screws that keep the parts together

- ***Provocations (POs)***
  - We take over the control of the container (size and form)
  - The customer must have us.
  - We do not need frame and screws
  - The loudspeakers are so bad looking that they have to be hidden
  - The outside frame is inside
  - The loudspeaker is very oblong
  - The loudspeaker is turned upside down
  - The holding nut is a the center of the membrane

- The loudspeaker does more than "pushing air"

- ***Selected Provocations***
  - We do not need frame and screws!

- ***Movement (several methods for movement)***
  - We need a new way of keeping together the components of the loudspeaker
  - We should look at different solutions based on adhesive materials
  - Packaging the product becomes a new challenge
  - The esthetical factor should be given more attention.
  - The materials used influence the total weight of the product
  - Different solutions could fit different user needs, and consequently different market segments.
  - The loudspeaker is unchained and free to move in the container.

- ***Connecting ideas to focus***

Focus: To obtain a better fit between our loudspeaker and the wooden box that contains it.

- The space between loudspeaker and container could be used better.
- We could use lighter materials
- We should search for flexible plastic materials that cover the same function.
- We could focus on the components that are independent from the container.
- We could focus on the bass functions.

- ***Comments***

Follow the method step by step in the beginning. Possibility to improvise when one is more experienced.

EVALUATION PHASE (1)

Six Thinking hats

Focus: Purchase routines and relationships with suppliers.
Goal: One of our suppliers has abandoned the business. The component delivered by this supplier is almost unique. In our store, we have components to run normal production for only six months ahead. We must find what to do, to we cope with this challenge.

- ***Order of hats chosen for this specific exercise***

1. Blue
2. White
3. Black
4. Green
5. Red
6. Blue

The group has chosen to use the black hat just after the white hat (used to set up the facts). The black hat in this case has not been used to explore the negative side of alternatives. It has been

used to analyze the risks and to discuss about the emerging challenges. The decisions will be made based mostly on "gut feeling", using the red hat. We do not have the time to use yellow and the black hat to consider the positive and the negative aspects of each alternative.

- ***Blue***
  - We state the problem, and define the scope of the meeting.
  - We decide the order of hats to be used.
  - The facilitator will help the group going from one hat to the other.

- ***White***
  - What kind of material are we considering?
  - Why is this material unique? What are its technical specifications?
  - How long can we continue with a normal production rate?
  - We have got some new materials, but no one has the required characteristics.
  - We have carried out 24 different lab-tests. The results indicate that the problem is the coating, not the textile.
  - Quality tests give only 50% of the desired quality.
  - The customer is abroad, and is a very important one for us (80% of our export portfolio)
  - This is not the first time this problem arises.

- ***Black***
  - We risk losing our most important customer.
  - Another risk factor is related to the production issues.
  - The tape costs 300 to 400.000 NOK
  - Reputation and image are also risk factors to be considered.
  - This might cause uncertainty among our customers

- ***Green***
  - Find another supplier who has the competences to make the same material.
  - Possibility to buy the same material from others even though we might be forced to buy too much.
  - Consider to take over the specific competences from the supplier who abandoned the business.
  - Abandon this material.
  - Develop another material.
  - Tailor made material from other supplier.
  - Contact new suppliers all over the world.
  - Buy material components from different suppliers and put the components together in house.
  - Present the new material as an innovation from our company

- ***Red***
  - Bad gut feeling about the tailor made material.
  - God gut feeling about trying different new suppliers based on our supplier network.

- It sounds reasonable to list possible suppliers and ask them directly.

- ***Blue (summary and actions)***
  - We go for searching another supplier in our network.
  - We make an action plan and appoint a task responsible for each task.
  - This is the list of the suppliers to contact first:
    - A in Belgium
    - B in Germany
    - C in Norway
  - We contact a coating specialist.

- ***Redefine progress within the 6 thinking hats***

This kind of discussion should always start with blue hat. The session could have been divided in two sessions. The first one dedicated to find all the facts and carry out a risk analysis (blue, white, black, blue). The second one to find alternatives and evaluate them (Blue, green, yellow, black, red, blue).

- ***Comments from this exercise***
  - It is possible to suggest changes to the order of hats as the process moves along.
  - We are too many to do this effectively. Ideally we should be 5-7.
  - Suggestion of visual hat clue:
    - Colored paper on the table or on the screen (projected)
    - Explanation of the hats on a poster on the wall
  - Normally the hats are placed on individuals – the method forces us to think together
  - It should be quite easy to implement this method in the company
  - You need exercise and experience to "feel" when a "hat" is emptied and it is time to move on
  - If someone comes in and is not familiar with the method – this needs to be addressed

IDEA GENERATION PHASE (2)

Morphological analysis

Focus: Marketing
Goal: Find initiatives to strengthen and develop SEAS' market shares for two specific products.

- ***List of parameters (to gain understanding of the features and functions in focus)***
  - Price
  - Internal processes
  - External processes
  - Product
  - Sales

- ***Table for the morphological analysis***

Price	Internal processes	External Processes	Product	Sales processes
Very high	Production	Transport logistics	Design	Customer service
High	Administration	Purchase	Material	Public relations
Medium	Development	Technical Service	Screws	Marketing
Low	Internal relations	Complaint	Glue	Image
Very low	Intellectual Capital	Competitors	Packaging	Customer contacts
Free		Surface	Brand	

Some casual combinations have been tried, just to show how the idea generating process can be triggered through the table.

- ***Free/Administration/Complaint/Material/Customer contacts***
  - Our best customers could have a free consulting service for some specific products.
  - Free loudspeakers and good Complaint management routines
  - Flexibility on price policy and purchase processes.
  - Let the customer specify much more than today the components and the materials to be used.
  - Free replacement components

- ***Medium/Development/Competitors/Design/Customer Service***
  - Present a new design solution at lest three times a year
  - Invest on better customer service
  - Make the most of the customer emotiveness

- ***High/Internal relations/Transport Logistics/Packaging/Image***
  - High cost packaging gives a better image.
  - Good internal relations can contribute to gain a good image
  - Make the customer pay for faster delivery.
  - Regulate price on delivery time.
  - Marketing our logistics competencies.

General conclusion

We have three main categories of initiatives:

1) Invest in better relationships with suppliers and customers

2) Improve our technical solution

3) Open for higher Customer Influence on design decisions

Discussion

- How do you move toward the solution?
  - All ideas need to be processed/evaluated to see if they are useful, this is an idea generating process.
  - Use the method – let it provoke you – use the generated ideas, evaluate them and see if they are useful
  - Awareness of knowledge, timing and quantity of creative methods in the development process is important.
  - The methods should be used to trigger the ability to generate new ideas – focus is everything (not to get lost)
  - The effectiveness of a creative process is often measured in the quantity of the ideas produced. (Not necessarily all ideas are applicable – but the more ideas, the higher possibility to find more that are suitable for the goal).

Comments

Morphological Analysis is a technique that requires the company to structure the knowledge it has about the chosen focus area. The result is the table with parameters and variables. This table (structured information) can be developed continuously and can become a knowledge resource in itself for planners and developers.

General issues and comments

SEAS is facing a tough challenge in the market, coming from competitors abroad and must find new ways to reduce the loss of market shares, and regain a leading position in its niche. Creativity techniques are considered as useful tools to be used facing this challenge. Nevertheless it seEms clear that introducing creativity techniques in a formal way, to get commitment from the top management and from most employees is a process that requires attention and time. In other words, some employees will have to make and supplementary effort to facilitate the introduction of the creative techniques. This might also require extra training sessions. The management will have to consider this investment.

Representatives from SEAS' units of Production, R&D, and Sales

Consultants and SEAS' Purchase, Logistics and Production specialists.