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Semantic Mapping

Effective Problem-Solving and Organizational Change with Semantic Maps – Part 2

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Language is powerful: it can unite a business or Balkanize it into a chaotic storm of cross purposes.

The tool of Semantic Mapping harnesses language to expose the disparate perceived meanings and implications of business decisions, and then to unify all employees around a common purpose.

Semantic maps graphically represent the spheres of meaning surrounding concepts. Using semantic maps, one can acquire orientation in the thinking and understanding of other organization members regarding practical terms regularly used in a problem-solving context, with an understanding shared by all concerned (and recognize the differences from one's own thoughts and understanding).

Part 1 of this article grounded the reader in the Semantic Mapping concept. Part 2 presents a detailed implementation in a large software organization attemping to move from custom projects to a standard product offering.

III. IN PRACTICE

SEMANTIC MAPPING— COLLECTIVE ACTION ON THE BASIS OF SHARED SEMANTIC MAPS

Semantic Mapping offers a practical tool for organizations wishing to improve problem-solving and change management. The application of this tool will be described in the following by means of an actual practical case.

A heated debate regarding the business model was already in progress.

The case concerns Q, a medium-sized German software firm with approximately 1,400 employees and around €250 m. in turnover. The firm has affiliates in approximately 14 countries on four continents. Initially, the firm operated exclusively in the project business. Custom software solutions are developed for client organizations. A heated debate regarding the business model, with a view to entering the product business (development of standard product) in addition to the project business, was already in progress within the organization. Q was operating successfully but a multitude of reconciliation and efficiency problems, internal power struggles and a complex personnel policy etc. had destabilized the firm. A high level of insecurity regarding the future and the direction of the organization had developed among the staff.

At the beginning of the project, the CEO and the COO of Q reported that the firm had already been trying to re-focus itself from being an exclusively project-oriented business to a product-oriented one. The Executive Board saw this as the key to further rapid growth and expansion abroad with manageable investment revenue.

An internationally renowned management-consulting firm had already been enlisted for the reorientation of Q, who introduced a shiny new set of processes and structures into the organization. Nevertheless, according to the COO, who reported that they had yet to be successfully implemented, departments and staff continued to orient themselves predominantly towards old, well-known processes and those who had tried to change over to the product business had in the meantime given up out of frustration.

The problem of the 'semantic trap' was explained to the executive and it was pointed out that even with an apparent collective understanding of the new orientation of the organization, it was still a large possibility that the staff had developed different perceptions and was consequently acting inconsistently. The executive decided to apply Semantic Mapping to work out a solution to the problem. Five steps were established:

1. Exact description of the problem

2. Identification of the key terms of the 'problem world'

3. Visualization of the different perspectives using semantic maps

4. Development of a collective semantic map

5. Development of an action plan, building on the collective semantic map

A key condition was that Q employees responsible for the implementation of the strategy should be involved in the project. This included the intensive involvement of all members of the executive. In this case it meant 31 actors altogether: four members of the board, six vice presidents (Sales, Strategy, Product Development, Project Consulting, Corporate Law, M&A, Finance), six directors, as well as 12 managers of the international affiliates. Three further Q employees, identified as important 'change agents' within the organization (two of them were staff spokespeople) were similarly involved. Moreover it was made clear that the result of the process was not fixed at the outset but that a binding end product would emerge from the collective development of a shared map. The executive let itself in for this 'risk' and the project could begin.

Step 1—Exact description of the problem—in this case the initial problem: Namely the complete re-focussing of the organization from the project to the product business, was broadly predetermined. In the past 12 years, Q had grown strongly, largely by undertaking big projects on the national market. The project business was extremely resource-intensive and tied up lots of staff, time and capital. It appeared too risky for further growth, especially for expansion in the international market. The long-term upgrading of the business through a complete change to the product business appeared to be attainable more rapidly, with less risk and less resource-intensively. The firm's management were in agreement about this. Nevertheless, 'project thinking' dominated just as much as it did before. All projects continued to be taken on and the transition to standardized products dragged along extremely slowly.

At the same time there was a discussion about optimum market access. While a group of the employees responsible for this department called for direct sales through Q and its affiliates, others pressed for sales through partner organizations (partner sales). Still others called for a combination of the two. Vast differences were also revealed through analysis of the semantic sphere surrounding international expansion, another of Q's central strategic concepts. Under this fell the affiliates' degree of autonomy, the ideal type of business for each country (product, project or partnership), the role of the German parent company and degree of support it provided, etc. Central to the debate, moreover, was the discussion regarding the ideal organizational structure (to support the future strategy, involving, for example, partner management, product management, etc.), the corresponding responsibilities of the staff nationally and internationally, the most suitable product portfolio (knowledge management systems, integrated technology solutions etc.) as well as future positioning vis-à-vis competitors. A further point of debate was the future investment policy of the organization, as well as the targeted degree of growth and the means by which to attain this growth (acquisition versus internal growth, conquering of new markets, expansion of existing markets, client structure, key clients, key accounts, etc.)

Step 2—Identification of the key terms of the 'problem world': From numerous introductory talks with the executive and wider management personnel, the bare bones of the basic problem became clear relatively quickly. On the basis of these discussions and the analysis of various strategic documents we could compile a preliminary picture of approximately 15 to 20 key terms in the problem world. Figure 4 shows an extract from this preliminary sketch:

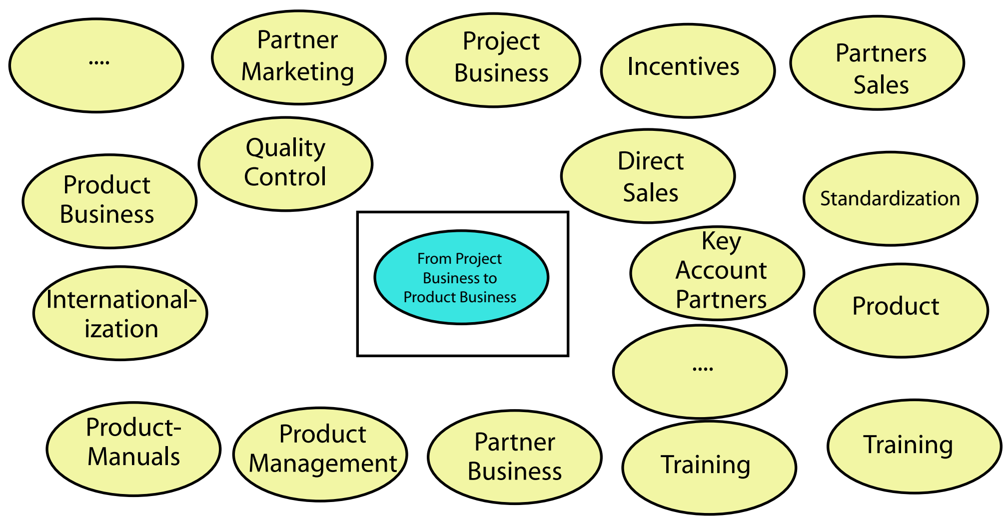

Figure 4: Approximation of the key terms of the problem world

The next step was to refine (supplement, edit and adjust) this collection of key terms with the help of partly standardized questionnaires, to understand the spheres of meaning for the individual key terms. All 31 participants in the project received the same, anonymous questionnaires, in which they could make statements regarding which terms they associated with the key terms put forward, which new key terms they would suggest to describe the problem world and which of the key terms they regarded unsuitable for describing it. A sample question is: "Within Q, which terms do you personally associate in the first instance with the term 'product'?" A choice of a few terms would then be suggested, (in this case: software, manual, support…) and the participant could tick them at their discretion or add further terms. From the evaluation of these questionnaires, which took each participant approximately 30-40 minutes, an individual semantic map for each of the key terms emerged, step by step (see fig. 5).

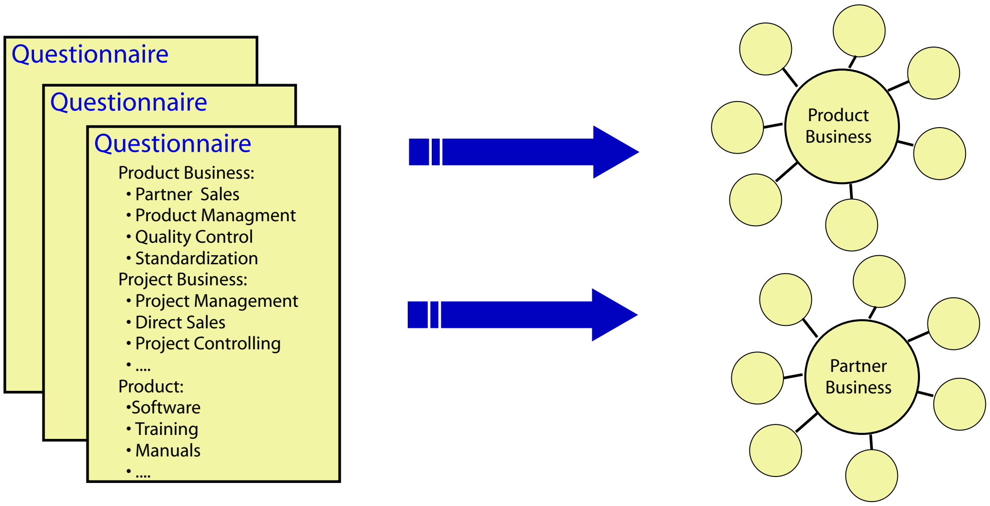

Figure 5: From key terms to semantic maps

It was astonishing to see how differently terms that were constantly being used in the everyday life of the organization were understood.

The compilation of the semantic maps was not about identifying and classifying all the terms that belonged to the semantic sphere of a term. The aim of identifying the organization's prevailing model of interpretation remained at the fore. It must be ensured that each semantic map represents the semantic sphere of each term, not the semantic sphere of a person. After the compilation of the maps, the individual interpretations could no longer be assigned to individual people. This was because the following step was centred not around the people but the conflicts arising from the differing interpretations of the term.

Step 3—Visualization of the different perspectives using semantic maps: After the completion of the first two steps, all actors were invited to a two-day assessment workshop. The workshop room was filled with semantic maps presenting the previous analyses and questionnaires. These semantic maps were presented right at the beginning and it was explained how they portrayed the various existing interpretations of the key terms surrounding the problem to be solved. The divergences and potential conflicts lying behind the various spheres of interpretation were demonstrated with arrows. The semantic maps formed a good basis for the following discussion, during which the different perceptions relating to the key terms were again clearly revealed. It was astonishing, even for the participants, to see how differently terms that were constantly being used in the everyday life of the organization were understood. The discussion brought a multitude of inconsistencies to light, each one graphically depicted with an arrow.

After a couple of hours the semantic map was littered with a plethora of arrows. Particularly problematic divergences were visualized with flashes. The divergences between the terms 'partner business' and 'product business' provide an example of this. Q planned to distribute the majority of its products through partner organizations. However this required a completely new understanding of the product: namely a product that also included customer support and comprehensive user guidelines (manuals). Only then, therefore, could a product from a partner organization be sold both nationally and internationally. However, many of the actors present had perceived the product concept considerably more narrowly. A further major area of conflict became transparent between the semantic maps for the terms 'project business' and 'partner business'. The distribution of products through partner organizations, which were to install the products for the end customer, stood in direct opposition to the project business operated by Q. Yet an effective partner network could only be developed if the partners could see that Q itself was relinquishing the project business and not creating difficulties for its own partners in the marketplace.

The following figure shows an example of the results from the introductory round of discussions.

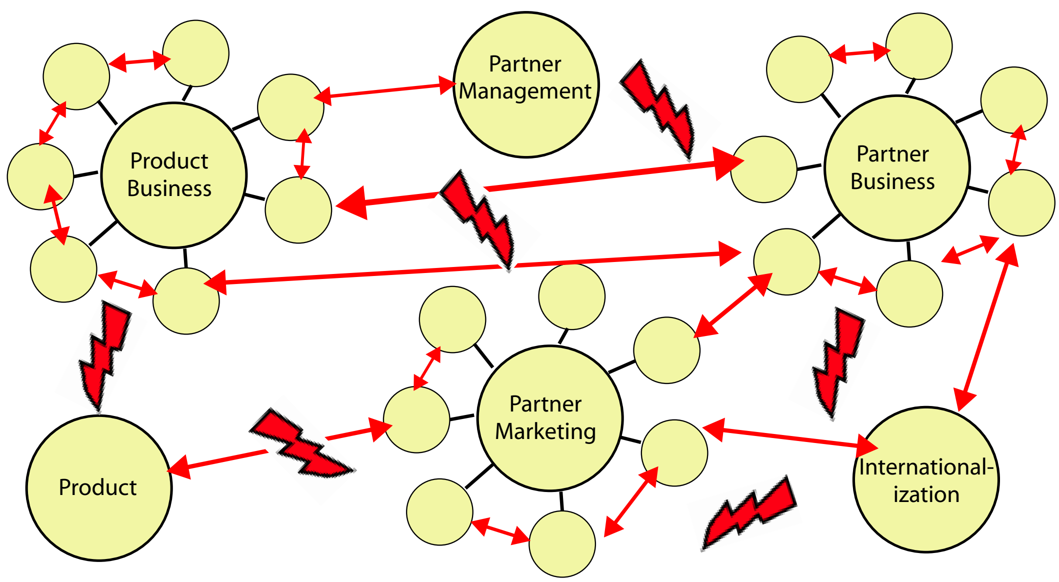

Figure 6: Semantic maps for the visualization of the varying perspectives

The participants were made just as aware of the meaning of semantics as of the great potential for conflict that lies behind the individual spheres of interpretation.

Discussion and comprehensive visualization lead to participants' increased understanding that their personal interpretation of the problem only represents a small part of a bigger picture. Where individual viewpoints are strongly defended at the beginning of the discussion, in time it is recognized that as long as such pronounced divergences exist to inhibit collective action, the problem will not be solved successfully. The participants were made just as aware of the meaning of semantics as of the great potential for conflict that lies behind the individual spheres of interpretation. Collective reflection following the discussion showed that all participants could develop a better understanding of the problem as a whole. This was a good starting point for the development of a common map.

It was important to emphasize the meaning of modified communication, initially in a short intermediate step. While discussion is very well suited for defending and working out the various perspectives, it reaches its limitations when it comes to collectively dealing with shared solutions to problems.

However, this is exactly what this was about. New rules of communication were therefore drawn up. To this end, after a break that included a meditation exercise, participants were requested to state what they considered to be aspects of a good conversation. Contributions included statements such as 'listening', 'letting someone finish', 'allowing everyone to have their say' and 'letting things go and not criticizing or commenting on them straightaway'. It was decided to use these statements as rules for the following rounds of dialogue. This was the starting point for the fourth step.

Step 4—Development of a common semantic map—in the rounds of discussion: Some key terms could be filtered out which characterized the central problem especially well. So-called 'potential-oriented' questions were developed around these five terms and they were at the centre of the following rounds of dialogue. Potential-oriented questions are a type of open question, oriented towards possibilities that invite the actors to think and create together. These questions establish a common ground: each one builds upon the others. The five questions subsequently jointly drawn up were:

1. Product: what can being a product-oriented business mean for us?
2. Market: which markets should we ideally serve on the basis of a new understanding of the product?
3. Sales/Marketing: how can we deal with these markets in the best way?
4. Structure/Organization: how must our organization be sensibly structured in order to support this market strategy in the most optimum way?
5. Resources: which financial and other resources do we need to fund and implement this strategy?

The seating order in the workshop room was changed for the rounds of dialogue. Whereas participants had initially been sitting in two rows next to each other, they were now sitting in groups of approximately 4-5 people at round tables. Following on from the previously established rules of dialogue, the formation of a common map, oriented towards the above-mentioned questions, began step by step. The dialogue sessions proceeded in the following way: first of all, the answers to question 1 were discussed at every table. After approximately 10 minutes, each participant changed to another table, except for one person who, as the 'host', received new people at his/her table. As an introduction, the host passed on the results of the first session to the new guests at the table, before they presented the outcome they had brought with them from their previous table. This type of conversation structure is called World Café; it allows for exchanges between participants in a relatively short time, enables everyone to be heard and allows for an optimum exchange of knowledge. After approximately 45 minutes the first question had been dealt with on this circuit. The results were discussed in the plenary session and graphically transposed in the form of a common semantic map (in this case regarding question 1, i.e. regarding the concept of 'product'). The further questions were subsequently worked on, concluding each time with a graphical transposition. Anomalies between the individual semantic maps were dealt with directly in the plenary session. All additions had to fit into the bigger picture. In this way, step by step, a common map regarding the central task—which always remained visible as the focal point—was drawn up. The common map looked something like the following:

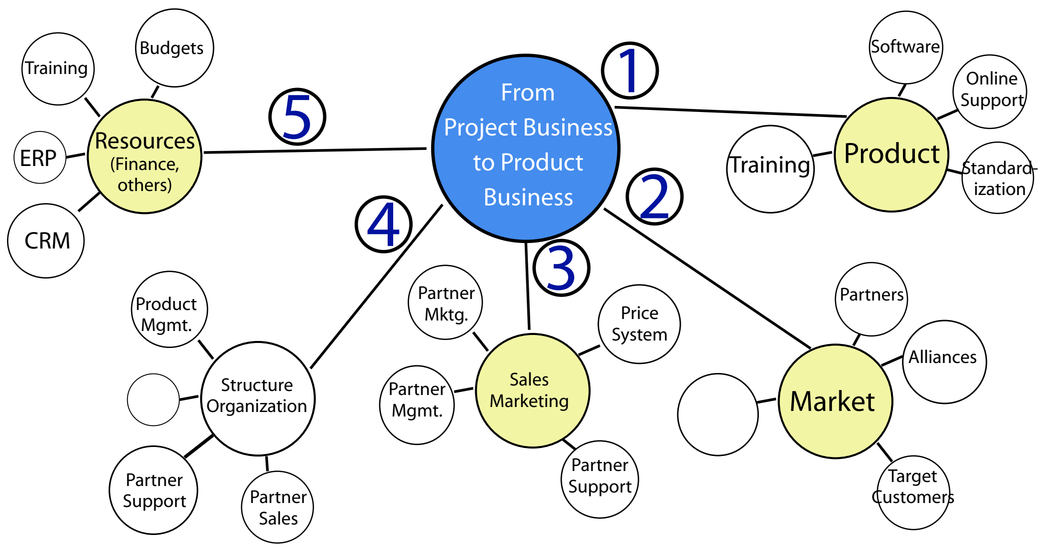

Figure 7: The common semantic map

The individual perspectives are not supposed to be 'talked away' with this procedure. This is crucial—it is not about 'cosy harmony'. On the contrary, opposing opinions become visible, and are recognized and respected as such. Since there are several possible solutions to most problems, it also cannot be seen in terms of right and wrong. Instead it is about collectively working out a shared 'solution space', that can form the basis of collective action for all actors. Only when this foundation has been established is a concrete action plan developed in the last step.

Step 5—Development of an action plan on the basis of the common semantic map: In the following part of the workshop, the common map was completed with actions that should lead to the realization of this map within the organization. To this end, a round of dialogue (again, in the style of the World Café) was held for each of the five parts of the map. Here again, potential-oriented questions were used, such as, 'What do we have to do to secure the new understanding of the product in the organization?' Each individual action was visually portrayed in the form of an 'action triangle' on the map. Figure 8 simulates this.

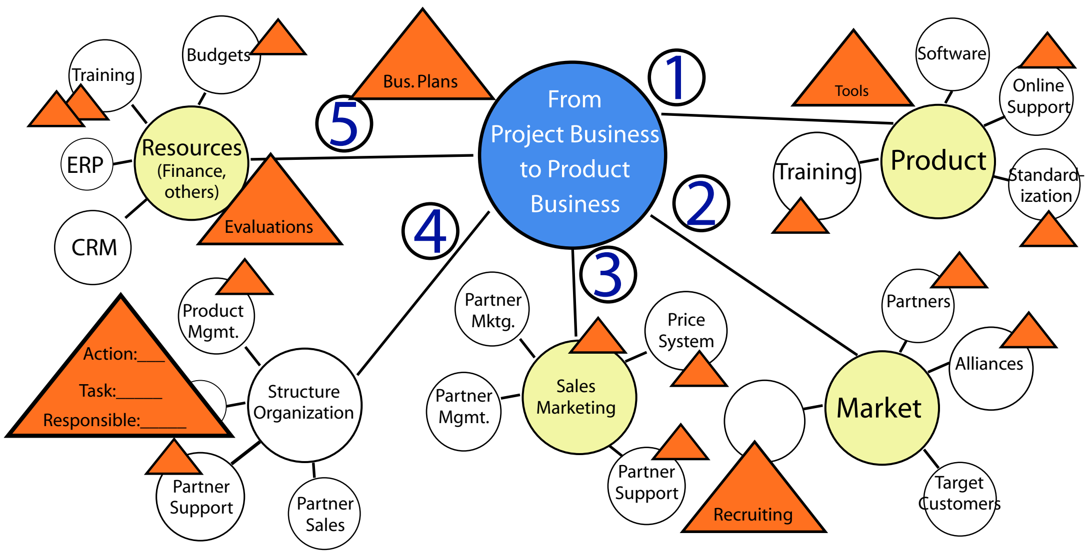

Figure 8: Plan of action on the basis of a common map

A person was named responsible for the realization of each of the five parts of the map. Those five then together formed a steering committee for the realization of the whole action plan. The CEO of Q took on the leadership of this committee. A further two members of staff from the Strategy and Development departments became involved in the project management as so-called 'reflection agents'. Their task was to monitor the timely realization of the actions. The collectively drawn up maps were duplicated and placed at several locations in the organization (e.g. in internal meeting rooms).

Since then, the realization process is already well advanced. The common map supports the continual reflection of the realization process and also helps to make newly arising areas of tension transparent and enable them to be solved. According to statements by the board of Q, the development of a common map was a crucial experience for many of the staff that took part. Many emphasized that they had learnt more about the business and the other actors during the workshop than during their entire time at the firm. Moreover, the fact that every actor was involved on an equal basis had generated an enormous impulse of enthusiasm and participation.

IV. CONCLUSION

WIDE-RANGING CHANGES WITH THE HELP OF SEMANTIC MAPPING

Semantic Mapping was developed as an independent tool that enables organizations to successfully develop solutions for internal problems and challenges.

Oriented towards real problem situations, semantic maps serve to make transparent the different perspectives and contradictions they conceal. If this does not happen, the result is inconsistent, contradictory behaviour that leads to conflicts and inefficiency within the organization. Different interpretations are shown alongside each other on the map, on an equal basis. This allows for an objective detection of potential for conflict and forms the basis for the development of a common solution. This procedure makes Semantic Mapping an effective motor for collective action and for sustainable and enduring organizational change.

Through the practical example it has been shown how Semantic Mapping can be implemented in practice. The Semantic Mapping Change Cycle shown in fig. 9 summarizes the central steps. The diagram underlines the process-oriented nature of the method:

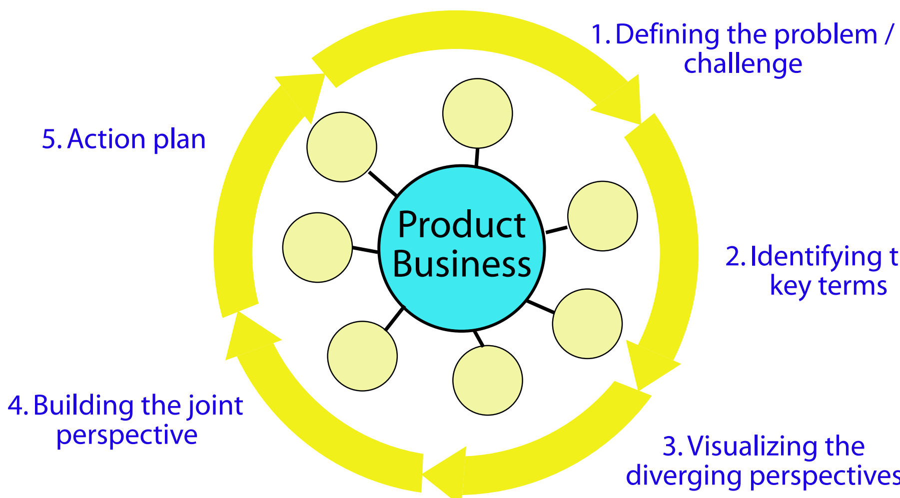

Fig 9: The Semantic Mapping Change Cycle

Discussion, as a form of conversation, makes the search for common positions, and therefore collective action, extremely difficult.

Organizations have to come to terms with change as cyclical and as a permanent part of all social systems. It cannot be avoided, only dealt with more or less successfully. Successfully dealing with change requires that the process of change is actively and continually organized. It is exactly this that the Semantic Mapping Change Cycle makes possible.

It has been demonstrated that it is best if the implementation of Semantic Mapping takes place within the framework of a closed workshop, at least until the procedures of this method are familiar. Idaeally, an internal or external moderator is appointed to lead the workshop. Both the first two steps—definition of the problem and the determining of the key concepts—should certainly be at the forefront of the workshop; their results form a crucial input. The introductory semantic maps portrayed at the start of the workshop form an excellent basis for the visualization of the different perspectives and almost always lead to a lively discussion.

The transition from discussion to dialogue takes place within step 3, initially with a reflection upon the fact that discussion, as a form of conversation, puts only the dividing and differentiating factors in the foreground and makes the search for common positions, and therefore collective action, extremely difficult. The moderator shows that the various points of view (and sticking to one's own version of reality) strongly inhibits working together productively and that a common map has to be drawn up that can be accepted by all as an orientation framework.

The transition from discussion to dialogue is one of the most difficult moments of each semantic mapping workshop. The change in perspective has to be carefully prepared to successfully set the scene for dialogue. The World Café with its specific seating plan and its focus on potential-oriented questions has proved itself here to be an effective method for the drafting of a common map in step 4 and, on the basis of this, a collective action plan in step 5. Only at this point have the requirements for a shared meaning and for common action been met; the semantic trap has been overcome (see fig. 10).

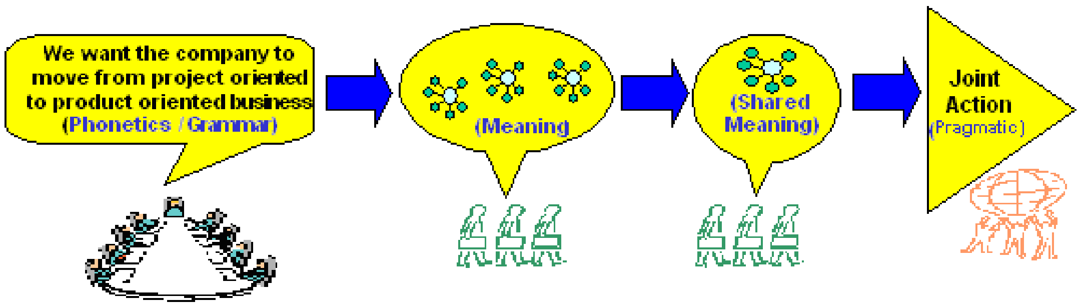

Figure 10: collective action on the basis of shared meaning

Semantic Mapping is suitable for solving practically all complex problems. Practical uses are, for example, strategy development, the development of an innovation culture, the integration of subsidiaries (post-merger), as well as dealing with internal conflicts within the organization.

However, organizations should not just understand Semantic Mapping as a universal method for effectively solving complex problems but as a tool with which the organization can put itself in the position to continually renew its own capacity for problem solving and development.

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