

# SOCRATIC LEADERSHIP AND THREE-DIMENSIONAL CHANGE

Roland Ekinge

Dr in Microwave Theory and Techniques

Development Director of Microwave ovens

Whirlpool Sweden

e-mail: roland\_b\_eking@email.whirlpool.com

**Abstract** - This paper introduces the concepts of Socratic Leadership and Three-Dimensional-Change. The concept has been developed by the author, over a period of three years, as a tool to more effectively manage the development of new Microwave Ovens at Whirlpool. The author leads and manage, from Sweden, four product development centers, in Sweden, China, Brazil and the US.

The “fuzzy front end” has been the primary target for the efforts to improve effectiveness. The Socratic leadership style has helped to clarify the up-front work, and the concept of “three-dimensional-change” has proven helpful when implementing change. The management of the extreme uncertainty and complexity in the “front-end” is now more effective.

The paper proposes that a Socratic Leader can better master Change, both his own and his organization. The word Socratic implies, of course, that the fundament is a philosophical view, thinking and practice.

The concept of three-dimensional-change is discussed and it is explained how one-dimensional change almost never will lead to lasting and deep change.

The starting point is naturally the art and theory of Thinking

## I. INTRODUCTION

The dramatically changed environment has inspired us to go as deep as possible to find the fundament on which all product development is based and try to understand the fundament for change, individual, organizational, and product change, to look for the drivers of change and the hurdles.

The changes in the environment are many:

**The world is becoming more complex and the environment is changing faster and faster.** Organizations become global and customer are to be

found anywhere on the glob. Individuals from various parts of the world need to work together on a common project and conditions and requirements are changing fast. Values and behavior patterns differ due to cultural and national backgrounds. Even the most basic concepts are interpreted differently.

**The Problems are becoming more complex.**

Contributions from experts of many different disciplines and backgrounds are needed to find answers to all questions.

**Information is exploding** Availability of Information is almost without limit, via Internet.

**The workforce is becoming more Volatile.** Skilled individuals change jobs more frequently than ever before. The issue of retaining knowledge within an organization is becoming top priority.

**Speed.** The speed or tempo in daily life activities is constantly increasing. There are individuals who pull the emergency break on trains, for the sole reason “things are going too fast”. Shorter lead-times in product development are a given requirement today.

**Quick Learning.** In most societies the survivors, or winners, will be the organizations, or individuals, which learn new things most quickly

**Fast Application of new Learning.** Standing still is synonymous with going backwards, since competition and other individuals are constantly moving ahead. This basic observation can be seen as a consequence of LIFE, in the organization and human beings. One definition of life is that a living thing always wants to be “as great as it can”.

**Speed in Innovation.** The need for market shares, “customer shares”, and profit are today met with Innovation as major weapon. The ability to create new becomes crucial.

All these changes in the environment must correspond to changes within the company.

*The rate of change must be the same within the company as it is outside.*

Is change good or bad? It is probably an irrelevant question. Change is part of life. Without change - any life. Change per se is always good, but the outcome must be watched. Resistance to change is a well-known phenomenon and many factors affect the willingness of an organization and its people to change and to be innovative. Innovation always, by definition, means change and a common view is that change, innovation, and creativity are boosted if the people feel a basic stability.

*We believe we have introduced stability by basing our operation on Philosophy.*

## II SOCRATIC LEADERSHIP

It is today not enough to manage the traditional management cycle with its three basic activities: Planning, Action, and Control. The demanding competitive situation asks for much more. One of the most important skills any leader needs to master, would therefore be, to understand change and to manage it to the benefit of his organization. The change effectiveness in an organization is to a great extent related to the leadership or management style in that organization. The leader must facilitate change. He must prevent the heads of the people in his organization from being blocked by the past. And he must help them to unlock their intrinsic creativity and ability to think "out-of-the-box".

And the manager must manage equally well change of his organization and change of himself. He must change faster than ever. So the manager must also understand himself and how he changes and what prevents him from changing.

We claim that Problems are the roots of Change, existing problems or future possible problems and we believe today that a leadership style based on philosophy is better suited to lead and master change than any other leadership style.

We even look at product Development as a change process; the new product is in the majority of cases a modification, an improvement of its predecessor. From a Change perspective, we can look at the new product as a result of a change process.

We argue that Philosophy, as a skill, and as a way of being, has characteristics, which are highly suitable for mastering any Change process:

- foster a reflective, questioning, and critical attitude and questioning is an important element in a creative search for an improvement
- foster the ability to manage around hurdles which prevent us from seeing realities can be seen as an activity - and not as a discipline
- difficult to be taught -but can be learned

- helps in the understanding process
- foster the capability to catch and formulate the problem
- helps to scope the problem
- foster the capability to analyze complex problems very often by redefining the problem
- can be seen as a method to solve a problem, sometimes by dissolving it
- supports in managing unmanageable problems
- foster the capability to question in a way that enlarges the room of possible answers
- focus the thinking process
- Reflect, understand, and create

The Creative Philosopher in many cases do not solve a problem in traditional problem solving way. Instead he solves the problem by *re-defining the problem*. This will give him an elegant new solution.

Six giant Philosophers have so far heavily influenced the development of the Socratic Leadership Concept: Socrates and Plato, Kant, Martin Heidegger, Ludwig Wittgenstein and Karl Popper.

These great men have explored many subjects and this paper will of course only focus on their thinking on subjects, which are relevant in an industrial company, and in particular in Product Development activities: Thinking, Understanding, Knowledge, Learning, Problem and Certainty.

### A. Socrates and Plato - Powerful questions in dialogues

Questions play an important role in our daily lives. Through the entire life span, from childhood to adulthood we ask and answer questions. We find as many questions in our private life as we do in the work place. It has always been in that way. Socrates stressed the learning mechanism in questions by stating his belief that he could make anyone a good mathematician just by asking him questions.

Socrates did not believe in delivery of understanding by means of written text. He saw a written document as a block for thinking. He also developed a method pulling out what people already knew – Questions in a Dialogue.

We believe strongly in this methodology and it is an essential part of the Socratic Leadership style. Only in dialogues between people real understanding and good thinking can be developed. In a good dialogue, new thinking is created. It is sometimes argued that only in a dialogue, full of questions, new thinking can occur. Books can only help rationalize what you have already learned – it can help you be aware of what you already know.

There are different kinds of questions and everyone knows that asking a question is an act of power, or at least it is by most people perceived in that way. In school there is a major difference between these two questions: Did you do your homework? And what causes a rocket to fly?

In many cases it is difficult to know the purpose of the question just from the formulation of it and our emphasis is on the learning by the person who gives the answer

The purpose of the Socratic questions is to stimulate the thinking and in particular remove blocking by orthodoxy's and paradigms.

### **B. Martin Heidegger - Thinking is a response to "what is most thought provoking"**

Real thinking does only happen when the mind is "provoked" to think.

*Good questions provoke good thinking.*

Breakthrough thinking must be a response to something really provoking, almost offending, shocking. This definition corresponds to the most common opinion that thinking starts after emotions have been evoked.

Asking Socratic questions is not always easy, in particular when the question is asked by the manager. Asking a question, any question, is *an act of power* and the Socratic questions must be seeking and tactful, and at the same time initiate good thinking, i.e. be provoking. Asking Socratic questions can be learned and needs a lot of training. In this respect Heidegger follows the tradition of "the greatest thinker" – Socrates.

*A great question is shocking without being offending.* The second central theme in Heidegger's philosophy is the intimate connection between thinking and questioning. Questioning is a way or path of thinking, and the questions asked very much reflects how the questioner thinks.

Describing Thinking can be as difficult as describing Swimming. When we know how to swim then we know what it is. Very often when we try to define a word we define it in terms of the effect it has; swimming prevent us from drowning and it will take us from here to there. In this sense Thinking can be described as a process which creates Understanding.

### **C. Immanuel Kant - Goggles**

"You do not get what you see, but what you think you see, after reality has gone into your mind through "the TIME AND SPACE GOGGLES" and been separated into the "categories" of your mind." This was the way Kant expressed his thoughts on reality. Today we talk about "paradigms" and "orthodoxy's". The Socratic questions seek to find paradigms the team or the individual is holding, and to start thinking

process which makes the paradigm or the orthodoxy visible to the team. The "basic assumptions" behind a certain behavior of a group or individual is seldom known by the individual or the team but needs to be disclosed.

### **D. Ludwig Wittgenstein - Our language limits our thinking**

Ludwig Wittgenstein was a philosopher from modern time. He lived between 1889 and 1951, and he argued that "Philosophy is an Activity, not a Science"; *Philosophy is the struggle against the bewitchment of our mind by the language.*

Problems occur since we become blinded by our own views and since the confusion which makes the problem acute, is routed in an inconsistency in our own world. This world is in some sense common within a certain language region where we think in the way we have learned based on a highly simplified rules of our language".

An example is the word Thinking. On the one hand it can be a response to something thought provoking according to Heidegger, and on the other hand it could mean, "having a view". One might say, for instance: "I think we have a cost problem with this design". The sentence represents a point of view and it is not a response to something thought provoking. Very few words and sentences in daily life are "pure" and without an element of confusion.

## **II. THREE DIMENSIONAL CHANGE**

*If we continue to do what we have always done, we will continue to get what we have always got.*

The message in this discourse is that behavior is difficult to change if the thinking is not changed and in order to change the thinking it is necessary to change how we feel – and vice versa.

The fact that doing, thinking, and feeling are related is not new. We talk about doing with our hands, thinking with our head and feeling "in our stomach". Karl Popper helps us to better understand this relationship, and helps us to work with change by introducing "three worlds"; the real world, the abstract world and the psychological world.

This is a very important concept, which has critical effect on our ability to work with change. The three world's concept detaches doing, thinking and feeling from the person who does, thinks and feels. And this is crucial. The concept of the three worlds has many similarities with Plato's world, as does the

interrelationship between these worlds. So, Poppers concept is not new but give us a very effective model for every day use, Fig.1.

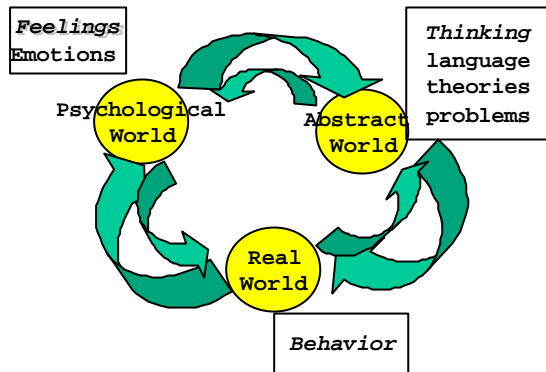


Fig 1 We live in THREE WORLDS which are intimately related to each other

In the Abstract World we find our thoughts, language, mathematics, hypothesis, theories, arguments guesses, and the like. In the Real World we find actions, things like a motor or an IC circuit, and in the Psychological World we find our feelings and emotions.

The message is that the three worlds are interrelated, the way we think is connected to the way we behave and feel and vice versa.

An important concept in Socratic Management is to help employees to understand this picture and in particular encourage a thinking about thinking where a thought is looked upon as something sent up in the abstract world and being unleashed from the person who thinks it. It is the basis for an effective use of Poppers Critical Rationalism

#### A. The concept of truth

The idea of Truth is very old and was treated way back by Plato and others. But its importance increases by the day. Phenomena like “the new economy”; the development of the stock market can be looked at from the question of truth.

Karl Popper gives a crisp list of criteria for truth:

- *Good reasons to believe it is true*
- *A firm belief that it is true*
- *It is true*

At first glance these criteria seems strange, but they are not and we find several times every day in engineering work evidence of the significance.

By reflecting upon them we see that “good reason to believe” are found in the Abstract World

An hypothesis can never be proved to be true, it can withstand attacks, but as soon as it falls for one attack, it automatically disappear as a valid hypothesis

#### B. Definition of problem

A Problem, if perceived as a problem, is thought provoking. A very general and practical definition of a problem is the following:

*A Problem is present when the present situation is not in line with the desired situation*

In Socratic Management problems are welcome. As a matter of fact they are the foundation. All problems are viewed positively as the source of good thinking.

#### C. Popper - Critical rationalism and knowledge

From a product development and engineering point of view, it is interesting to look at Poppers basic philosophy:

- *All our knowledge is created through guessing*
- *The knowledge grows through guessing, and is adjusted through critique!*
- *Let the hypothesis die - and not the person who puts them forward!*
- *By making our mistakes permanent we block further understanding.*
- *Make mistakes faster, correct them, and get success sooner*
- *There is no doubt that ideas are created in our brain, but it is through linguistic formulation they are brought out in the hostile world*

This may not be the first way we look at engineering work, and in particular not an engineer who just finished his engineering school. Much of what is taught is based on a search for “the solution” like finding the missing piece on a jigsaw. Real engineering work has little to do with that.

### III SOCRATIC LEADERSHIP AND THREE DIMENSIONAL CHANGE IN PRACTICE

The Socratic approach is today entering daily work in the engineering department.

#### A. No more Product Specification Documents

We do not work anymore with “Product Specification documents” which were written as the input to a product Development project. We argue that such a document can never be complete, because it talks about something that does not exist yet, and it therefore documents the things, which are already known, and leave the things that “must be changed” when going for the NEW product more or less open. Instead we work with a Product Definition document,

which is a one page animated picture. This picture gives the necessary directions to the development team. Already in this phase of the project we define and agree to the Key Selling Features.

### **B. Intensive dialogues to create the Product Definition and the Technical Path**

The written Product Specifications have been replaced by sessions of intensive dialogue. Recently we joined a two-day off sight seminar where with eleven participants. The objective was to work out the Product Definition and Technical path for a new built-in microwave oven. All participants had the same native language but worked in different countries. We needed ONE FULL DAY to harmonize our thinking. We talked about different things but used the same language and words and we talked about different things and again using same words. It was an experience. Socratic questions finally helped us to “eliminate the bewitchment”.

The Product Definition and its Technical Path become the foundation for the product Creation project Team. We deliberately drive “thought provoking” statements into the description of the Technical Path. We search for consumer needs and benefits for which there is no obvious technical path available. The spirit in such a session is that our thinking in the area of consumer needs is our limiting factor, and not our ability to find a technical solution. “Whatever consumer need we can think of – we can eventually find a technical solution. A Product Definition document and its associated technical Path, which contains only technical solutions, which we can plan for, we consider a not good enough result of a Definition Session. Already at this level we apply Poppers Critical Rationalism methodology.

### **C. Design reviews in true Socratic spirit**

The message “every new design is only a guess” was received within the organization with great skeptics. A common opinion hold by most engineers is that “my design is correct and the only correct one”. This is in many designers mind so strong that they are very reluctant to create alternatives to the first design they make. When we started to talk about “*the infinite design space*” it was an eye opener for many.

We are pursuing the idea of “an infinite design space” as a means to make the designers more willing to criticize their own design. One possible explanation for the unwillingness could be traced back to the ideas above on Problem and Thinking. When one design is ready, the problem has been solved and thinking stops. If Solution A has been created, how do we know if there is another, better solution B available? The answer is; we can not know

that. So we have two reasons for reluctance; we do not know if B exists and if the design problems have been solved with Solution A.

The purpose of the Design Reviews is to create the interest in the designer’s mind to create these alternative ideas. The best design review is the one that during the session create these ideas.

Our experience with design reviews is fascinating. The first review was a drama for the designer doing the presentation. In spite of thorough explanations of the purpose and ideas behind the reviews, this particular designer perceived the session as an insult to her integrity. She perceived the questions put to her as improper and unjustified. She might have been right about this, because also the panel asking the questions did this for the first time. One contributing factor to the negative experience from this session was that the designer was not very good in describing her work. It was not clear to us which the ideas were behind the design, the principles used as basis for the design.

Today design reviews are fascinating and thought provoking sessions.

The collective learning can be summarized as follows:

The designer must be trained in describing his work, the problem he is solving, how he thinks, the reasoning behind, be clear of ideas, connections between earlier designs, backwards, be clear of new elements in his design, why those parts are new and the other parts are left unchanged

The people asking questions need to be trained in this, and ask questions which creates the desired reflective mind of the designer, be aware of the fact that asking is normally an act of power.

A proper culture must be created to make it natural to talk about the design at stake, and have critical session as natural means to improve on the design and even create alternatives.

Designers must be trained in the skills to analyze a design task, assess what can be used from before and which parts must be new. This means that skills must be created in looking at the task in a modular way.

The design area, which deals with the task to take out cost from an existing design, is very important, and need special training method is called benchmarking. The effectiveness of benchmarking, which means looking at what competition has done to solve the various design tasks is very much related to the way it is done, and when it is done.

A basic issue around benchmarking is that it is not thought provoking but creates a defensive attitude. We have concluded the best way to use benchmarking is as an element in design reviews, as additional alternatives. This means that we:

*First think and then benchmark.*

In this way we prevent the thinking from being blocked for several months.

#### **D. “The Problem is ...” Methodology**

A formal methodology was developed around the problem issue. A Socratic Manager sees the world as place where development and progress in any area, such as product creation or organizational development, is achieved by solving the issues which prevents him from improving his products or Organization. It is crucial therefor to state the problems which need to be solved in an effective way, where effective means that when the problem stated has been solved, then further progress is possible.

This methodology has the following steps;

- Every participant states the problem he sees related to the issue at hand. No discussions allowed. Every statement is recorded.
- This step is repeated until no more statements are stated.
- All recorded statements are clustered
- Every cluster is condensed into one new problem statement
- These new statements are prioritized by the participants

This methodology addresses the Kant’s and Wittgenstein’s concerns and helps the participants to focus and they can then solve “the same problem”. When this methodology is not used much time is lost since each participant is trying to solve “his problem”.

#### **E. Reorganization of Product Development Organization**

Recently, the entire product development organization was re-organized to better manage the “fuzzy front end” and to be able to develop into a truly global development organization. Organizational Change is never easy nor is it permanent. The Socratic Management principles were applied in the execution of the change. The change process was initiated in a kick-off meeting and was finished by the announcement six months later. The work on the new organizational structure was carried out by a team of people; the key stake holders. All work was done off-site in half or full day dialogue sessions amongst the team members. The dialogue was characterized by more questions than answers. The “Problem is” methodology was used to focus the team on problems with the existing organization, which prevented improvements. Eventually four key problems stood out blocks and the solution to these problems came to the team very easily.

#### **E. A truly Innovative microwave oven - Maximo**

Our latest microwave oven, Maximo, is a true innovation and the demand exceeds by far planned sales volumes. Maximo “can not be compared to any other microwave oven”. It is unique.

Maximo can be seen as a new product created by a Socratic organization. Maximo is an “out-of-the-box” product and is not perceived by the market as a commodity. The Product Definition was indeed “thought-provoking” and almost every technical solution is new and they were not known at the early stage when the Definition was formulated.

## **IV. CONCLUSIONS AND SUMMARY**

### **A Socratic Leadership of Change**

We can now summarize the essence of Socratic Leadership and Management:

- *understand basic philosophy*
- *encourage Dialogues*
- *ask Socratic Questions which help discover paradigms and orthodoxy's and produces extraordinary thinking which leads to extraordinary action which produce extraordinary results*
- *think the unthinkable and leave the “business as usual” state and create a new reality*
- *master Critical Rationalism*
- *treat fellow associates with Respect*
- *endorse problems and drive Change*
- *create a Socratic Culture and create alignment in the organization to generate ownership and actions*

The initial sentence for Change we can now modify as follows

*If we continue to value/think/do what we have always valued/thought/ done we will continue to get what we have always got*

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