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Organization and Learning: Transformation of Industry Structures in Eastern Germany

Horst Albach

I. Introduction

In organization theory research, we can witness a quest for a new paradigm. Some authors are of the opinion that the existing body of theory is inadequate for a proper understanding of the development of multinational corporations (Paauwe/Dewe, 1995). Others seem to be convinced that, in order to be more innovative, organizations have to be perceived as “fractals” based on the principles of self-similarity, self-organization and dynamics (Warnecke, 1995). And others again stress that organizations have to be conceived of as overlapping networks (Hakansson, 1989; Johanson/Matsson, 1987).

The search for a new paradigm appears to be necessary. Traditional organization theory has been static in nature. There have been attempts, it is true, to develop a theory of organizational change¹, but these efforts have been more concerned with psychological and sociological phenomena than with the economics of dynamic organizations.² The theory of the innovative firm has developed conditions for the rate of innovation in the firm and distinguished between those factors that enhance creativity and those that constitute barriers to innovation (see Albach, 1994). Transaction-cost the-

1 See the overview of the literature in my contribution “Organisationsänderung” to the *Handwörterbuch der Organisation* (Albach, 1980). Since the early eighties the theory of organizational change seems to have made little progress: Meinolf Dierkes in his analysis of cultural change, learning and corporate development still relies on the well-known Schein model of organizational learning (Dierkes, 1992, p. 28; see also Dierkes/Hähner, 1995). And in a 1990 paper Peter Senge, reporting on research about “Building Learning Organizations”, uses the renowned Argyris “single-loop, double-loop model” of 1978 (Senge, 1990, p. 8). For a review on the theory of organizational development in the eighties see Sashkin/Burke (1990). A recent book by Castiglioni (1994) still uses the 1969 definition of organizational learning by Simon. See also Simon (1969).

2 It is interesting to note that one of the few recent economic models of social learning is a “waiting-contest model”, where firms try to learn at zero cost from external information gained through the observance of previous movers. A waiting-contest model is the least applicable concept in the theory of transformation. See Kapur (1995).

ory has been helpful in explaining changes in corporate form in the process of growth and diversification (Schmitz, 1988).

Interest in the dynamics of organizations has been stimulated by the transformation process in East German firms. The organizational structure in these firms underwent very dramatic changes after German unification, and changes in the organizational form continued even after the new legal forms had been adopted.

These changes have been described in terms of existing catch phrases: project management, lean management, concentration on core competences, flexible organizational forms, and a host of other terms fashionable in Western literature. However the above descriptions do not fully reflect the dramatic changes that these companies have made or been subjected to. It seems important, therefore, to take a fresh look at the transformation processes and to generalize from them some preliminary organizational insights.

II. Transformation as a Learning Process

Changing Gear

The transformation of firms in the new federal states of Germany is a specific learning process. True, there was learning in the state-owned firms in the former German Democratic Republic: learning by improvisation, by research and development, by imitation and by spying out Western firms. This learning process was rather slow. Otherwise the gap between labor productivity in the West and in the East could not have widened to the extent it actually did. By contrast, learning in the West is rather intensive. It was slower during the period of "quantitative growth" up the early seventies, and it was higher after 1973 when competition intensified, globalization increased and extra emphasis was placed on innovation.

Transformation could be described as changing gear: from the low gear of learning in the German Democratic Republic to the high gear of learning in a market economy. Changing gear, however, requires a higher learning rate than is necessary in the dynamic "steady state" of a market economy. During the transformation process the learning rate is of great importance for the eventual survival of the firm. In the following this learning process will be analyzed and its impact on the organization described.

The Concept of Organizational Learning

There is no generally accepted theory of organizational learning (Fiol/Lyles, 1985, p. 803). The definition by Fiol and Lyles is wide enough to encompass the learning processes that occur in the transformation of firms: organizational learning means the process of improving actions through

better knowledge and understanding. More specifically, organizational learning in the transformation process is defined as the process of ensuring survival in a market economy through acquiring and generating appropriate knowledge and understanding at the workplace and in a radically altered and still constantly changing legal and economic environment.

This definition incorporates some elements of other theories of organizational learning and excludes others. Dierkes' definition relies heavily on "corporate memories" which reflect consensus on "appropriate behavior" (Dierkes, 1992, p. 23). However formerly state-owned firms had to discard such memories. Senge distinguishes between adaptive learning and generative learning on the basis of Argyris' concepts of single-loop learning and double-loop learning. Adaptive learning means ensuring survival in a constantly changing environment; generative learning means improving actions through better understanding and requires "new ways of looking at the world" (Senge, 1990, p. 8). In the transformation process the firms had to gain an understanding of the market economy for their specific set of resources after the radical change of the system. Furthermore, Senge stresses the importance of leadership in building a learning organization. In the transformation process, however, "surface learning" of the persons in direct contact with the markets was more important than leadership. "Surface learning", as it will be developed below, may seem related to the "peripheral learning" that Brown and Duguid use to define "a unified view of working, learning, and innovation" (Brown/Duguid, 1991, p. 48). However, peripheral learning is much too broad a concept to apply to the transformation process. Of course the formerly state-owned firms have to "acquire that particular community's (i.e. the market economy's) subjective view point and learn to speak its language", and "learners (i.e. the firms) are acquiring the embodied ability to behave as community members", that is learning by doing or learning "on the periphery of practice" is important. But how else could firms undergoing transformation try to ensure survival? Fiol and Lyles introduce four contextual factors which affect the probability that learning will occur: culture, environment, strategy and structure. The specific learning processes in the transformation process involve firms that try to get rid of their former culture, that operate in a completely different environment, that do not have a strategy but are constantly trying to seize opportunities and that consequently have no structure.

Armin Schmiedeberg in his recent doctoral dissertation (1995) analyzes organizational learning in acquiring and acquired firms. This is a situation which seems to come closest to the problems of organizational learning in the transformation process. Acquisition entails a radical change for both companies, the culture of the acquired firm may have to be changed completely, a new strategy is introduced and the structure may have to be changed. It does not come as a surprise, therefore, that some of the propositions for successful mergers like "small teams of highly committed senior managers" (proposition 2), interaction within core groups (proposition 3) and looser functional reporting lines (proposition 3d) have their counter-

parts in organizational learning in the transformation process. However other propositions do not seem relevant or applicable. We now turn to the organizational learning processes that were observed in the transformation of firms in Eastern Germany.

Learning by the State

The fall of the Berlin wall on November 9, 1989 put the German Democratic Republic "out of gear". The people had stepped on the clutch, and the State lost its grip on the people. The people opted for West German laws and institutions. But even when this wish was fulfilled on October 3, 1990, the economy was not yet in a new gear. The laws and institutions, good and proven as they were after forty years of West German democracy, were not immediately suited to the new federal states. Thus the State had to learn too.

In the first stage of the transformation process it seemed as if the laws and institutions were good, but that the administration did not know how to operate them correctly and self-assuredly. The Government adopted a "Godfather system", whereby civil servants from the West went East to train their East German colleagues "on the job". Let us call this form of learning "transplant learning". The knowledge and the experience embodied in the civil servants from the West was transplanted to the civil servants from the East.

This learning process was by no means an easy one. It took more time than was originally expected. The reason was not a slow rate of learning on the part of the East German civil servants or a lack of educational skills on the part of the West German delegates. Nor was it a scarcity of "teachers" from the West in the East. It soon became apparent that the laws and institutions were inadequate for coping with the transformation process. Basically institutions are designed to slow down any process of change in order to make sure that every individual is given the time to exert his or her individual rights. Also there is no denying the fact that people's organizational designs accommodate their individual slowness.³ But in the transformation process the cost of the slowdown in the process of change proved to be unbearable: high unemployment, unnecessary shortages of homes and distortions of competition due to unnecessary approval times are just a few cost items to be mentioned. The State was forced to learn that new laws had to be passed in order to permit a higher learning rate in the transformation process. Let us call this form of learning "innovative learning".

3 Walter Riester has made the point that trade unions are institutions designed to slow down the process of change: "those who orient themselves only toward the dynamics of the new, toward the dynamics of the global market and technologies and who do not take into consideration the slowness of men and of the institutions that they have created will not only fail but will promote irrational eruptions" (Riester, 1994, p. 179).

The first example of innovative learning is, of course, the *Treuhandanstalt*: one of its founding pillars, the principle of “restitution before damages”, had to give way to the principle of “investment before restitution” in order to increase the speed of privatization of East German firms.

A second example of innovative learning may be seen in the infrastructure institutions, railways and telecommunications. At first there was the idea of two separate railway institutions, the *Deutsche Bundesbahn* and the *Deutsche Reichsbahn*, which were to loosely coordinate their activities through a joint bureau in Berlin. It soon became evident that this solution was completely inadequate if the infrastructure was to be developed rapidly in order not to slow down the process of private investment in the new states. Also, the State passed a new law which shortened the periods for objections by individual citizens or groups of citizens against the construction of new roads, new highways, new lines of telecommunication, etc.

Some of the most important laws that had the purpose of speeding up the rate of transformation may be cited here:

- Regulation of Unresolved Property Rights Issues Act, October 3, 1990
- Special Investment Act, October 3, 1990
- Filing of Property Claims Act, October 3, 1990
- Land Transfer Act, October 3, 1990
- Removal of Obstacles in Privatization of Firms Act, March 23, 1991
- Right-of-Way for Investment Act, First Amendment to Property Rights Act, March 22, 1991
- Splitting-up of Firms Act, April 1991
- Second Amendment to the Property Rights Act, July 14, 1992
- Investment Facilitation and Improvement of Supply of Housing Land Act, April 22, 1993
- Speeding-up of Land Transfer Act, December 24, 1993.

The existence of the above laws proves that the State learned in the transformation process and innovatively passed new legislation in order to enable the learning rate in the economy and in society to increase.

Obviously there must be an “optimal” rate of innovative learning on the State side. If the State had applied transplant learning, there would have been a protracted transformation period with high social costs. Where all old structures are abolished anarchy may result, which is also accompanied by very high social costs. There seems to be a rate of innovative learning on the part of the State which allows for speedier transformation without disrupting the belief in an orderly state-controlled process. It is this learning rate that is most conducive to the learning process of firms in transformation.

Learning by the Firm

Firms in transformation had to learn, and they had to learn fast. Two phases of learning have to be distinguished. The first was the period of *Treuhand-*

anstalt ownership; the second was the period after privatization. In each phase there was, of course, learning on the part of individuals. Some communities on this type of learning in the firm are in order, but the emphasis is on institutional learning.

Individual Learning

Employees in the firm who had not been party officials or collaborated with the state security authorities of course tried hard to maintain their jobs. The production workers learned to operate new high-tech production equipment, they learned work-safety regulations and codetermination laws. The accountants learned commercial law and tax laws. The sales people learned contract law and the fair-trade laws. Environmental protection laws had to be learned and observed by everybody.

Each member of the firm had to learn new rules of behavior. Most surprising to most East German employees was the fact that the companies continued to work according to plans, but with a significant difference: the plans had to be taken seriously now.

Suffice it to say that all our research into individual cases of transformation shows a remarkable rate of individual learning. The pressure on these people was enormous, but most of them realized they could cope with such a high learning rate.

Organizational Learning

Individual learning is one thing, but it takes organizational learning for the firm to move in the right direction. Some companies were initially under the impression that they only needed transplant learning in order to survive in the market economy.

(a) *Transplant Learning*

Transplant learning is typical of the banking sector. Following the completion of economic and monetary union on July 1, 1990, the West German banks moved into the new federal states. Industrial and house-building credit outlets of the former State Bank were taken over by the *Deutsche Bank* and the *Dresdner Bank*. One-fifth of the farm credit outlets were integrated into the local *Volks- und Raiffeisenbanken*, the rest were integrated into their central organization, the *Deutsche Genossenschaftsbank*. The savings banks were reorganized by the West German *Sparkassen*. Some banks set up their own outlets, sometimes in mobi.

Because there was no banking and credit function in the former German Democratic Republic as in West Germany, there was certainly no old

knowledge to be applied under the new institutional circumstances. Banking know-how was transplanted into the new branch offices, mostly by junior bank clerks and managers willing to pioneer in the new states. Branch offices of the more conservative big West German banks proved on the whole to be as risk averse as their counterparts in the West. They did not want to extend personal loans and demanded collateral. There was no registry of deeds, and without registry, no collateral. The banks were even reluctant to accept the five per cent risk they had to shoulder when serving as the "main bank" to channel public investment credits through to the firms. On the other hand, when East German managers in farm and small-business credit organizations did not really master the transplant learning, they extended credit to the former cooperatives and other local firms without adequately assessing the risks involved, and their outlets had eventually to be bailed out by central security funds.

However one has to say that, apart from some of their employees, the banks as such have exhibited a remarkably low rate of innovative learning during the transformation process. Transplant learning dominated and has certainly contributed to slowing down the transformation process of industrial firms. Where transplant learning failed, the managers had acted unwisely and were replaced. The banks obviously did not fully understand the transformation process in the industrial sector and therefore could not develop adequate credit institutions to deal with these problems. They clearly were of the opinion that the Government should shoulder all the risk of financing the transformation process; ultimately this burden fell to the private investors. This attitude of course ruled out any investor from East Germany.

(b) Innovative Learning

At first industrial firms in the East had the false hope that they might survive by transplant learning. This problem will be taken up in the following paragraph. They soon realized, however, that this was not only costly but also futile.

Innovative learning takes place in an industrial firm undergoing transformation when the physical assets of the firm and its networks of transactions have become obsolete, and when these poor starting conditions have to be changed creatively in order to gain access to the networks in the established Western market economy or to build these networks. Without new production technology and without new products new trading networks could not be built. However without new trading networks there was no way of knowing what production technology and which new products to produce. This was the time-consuming and sometimes vicious cycle of transformation. It could only be broken by innovative learning. The forms of institutional learning will be taken up next.

Learning Modes

Learning by Knowledge Transfer

As previously mentioned, East German firms in their ignorance of behavior in a market economy thought they could learn by knowledge transfer. During this period the management and marketing consultants had their hey-day. The firms also thought that they could learn about the necessary production technology and about viable products by taking out licenses. They soon found out that this knowledge was available from their competitors only and that their competitors were rather reluctant to let the firms in the East learn at zero cost. "There is no free lunch" in the market economy was one of the first lessons that the firms in transformation learned. Some of them learned it the hard way.

There was only one form of technology transfer during the first and second phases of the transformation process, respectively, which proved to be important learning modes.

During the first phase it was the chairman of the board who with his or her great experience and wide contacts helped the firms get started in the transformation. His (or her) role went far beyond the role assigned to a chairman of the board by law. The chairman interpreted the role of the board innovatively as that of an American board with a chairman taking full responsibility for the course of events.

In the second phase of the transformation process transfer of knowledge was effected at worker level by exchange of workers between plants in the West and in the East and at manager level by assignment of West German managers to privatized firms in the East. Management teams East and West German managers proved to be a successful method of transferring management know-how.

Learning by Trial and Error

However transfer of knowledge was certainly not enough. Western managers did not come armed with a proven recipe for survival. They had to try to accommodate their ideas in the new environment with new players and in a modified institutional framework. Learning in the transformation process is therefore best described as a process of trial and error.

The firms started out with a vision: rapid privatization, MBO, MBI, or even the hope of getting the company into shape for the stock exchange. The vision was then incorporated in a strategic plan, identifying core competences and target markets and target customers. These plans had to be discussed with the *Treuhandanstalt* as the owner of the company and usually also with the banks. Because the *Treuhandanstalt* preferred privatization to making the firms competitive and then going public many visions were not accepted, and funds to implement them not granted. This required revision

of the plans. By the time they were ready for approval by the *Treuhandanstalt* the environment had changed, the Eastern European markets had broken off, and the plans had to be revised. In the meantime West German competition had made inroads into the group of target customers in the East, suggesting that survival of the company would be improbable, and plans had to be revised again. Successful claims of former owners broke up strategic competences, thus rendering parts or all of these strategic plans waste paper. Then new investors showed up, and again new plans had to be drawn up to exploit to the fullest the potential synergies of the company with the investor.

It may seem from this description of the transformation process that to draw up plans was a futile effort and a waste of time. This impression would be utterly false. Every embarkation on a new course of action has to be checked for consistency and analyzed for consequences. Management could not approach the *Treuhandanstalt* with visions and opportunities only. They had to be embedded in a business plan which showed their financial consequences. Neither could management discuss lay-offs of personnel with the works council without a convincing plan. The most important managerial task in the transformation process was to innovatively search for and identify opportunities, to draw up an action plan to seize these opportunities and to generate confidence in the plan among the workers' representatives, in the *Treuhandanstalt* and in the banks – and not to lose this confidence when new circumstances required a change of plans.

Organizing for the Learning Process

Changing Hierarchies

Management thus had to show that it was “in control” in a trial-and-error process of learning with an extremely high learning rate. Of course no manager from the West, leave alone any manager from the East, was accustomed to such a job. It should be of no surprise, therefore, that managers used inadequate descriptions for this situation.

Some firms tried to follow the change of plans by changing the hierarchical organization of the firm according to the organizational dictum “structure follows strategy”. In one case the following changes in the organization chart of the firm could be identified (Karl, 1995).

1. Organizational Form as of 1989
2. First Change II/1990
3. Second Change 1.1.1991
4. Third Change 21.6.1991
5. Fourth Change 1.1.1992
6. Fifth Change June 1992
7. Sixth Change 18.1.1993
8. Seventh Change 1.10.1993
9. Final Change 2.5.1994

Thus there was a change in the basic organizational structure of the firm on average every six months.

However the sheer number of changes of organization charts is less important than the direction of change.

Three tendencies emerge from the analysis of organizational change in the transformation processes studied.⁴

1. Flat organization
2. Lean management
3. Project management

In order to increase the speed of learning in the organization, the firms cut out several levels in the hierarchical structure of the firm. The result was a rather flat organization. This result was not only a corollary of the company's reduction in size. It was also the consequence of a purposeful attempt by management to reduce the distance between top management and the "surface" of the organization where the learning in the trial-and-error processes took place.

A second general tendency was to reduce the number of interfaces within the company. Team learning is in general more rapid than inter-group learning. Therefore the number of departments in the organization was drastically reduced and the size of the departments was increased, thus internalizing the learning process. One may call this organizational trend "lean management".

In order to seize the opportunities that seemed to arise for the firm in transition, the organizational structure had to be tailored to them. In the original organization chart of 1989 cited above there was no mention of projects. In the second revision we find two divisions oriented to two different types of projects. The third revision has another general project area "diversification". In the fifth change two project areas are eliminated, and in the final revision all project areas are eliminated in favor of a strictly functional organization, but with a group called "project manager" attached to the office of the CEO.

The Amorphous Organization

Flat hierarchy, lean management and project management are all catch phrases taken from the vocabulary of Western organization analysts. They describe types of learning organizations with a high rate of learning. But this rate of learning is certainly much slower than the rate of learning required of the firms in transformation. IBM has been cited in the literature as an organization with a high learning rate. In the past it has changed its organization

4 The research on transformation processes in 23 formerly state-owned firms was funded by the Volkswagen Foundation. This research involved industrial as well as service firms. In addition all the *Volksbanken* and *Raiffeisenbanken* in the new states of Brandenburg and Saxony-Anhalt were analyzed. The report on this research is forthcoming as a book.

charts every two years. By contrast, the firms in transformation change their organization charts every six months.

Some firms in transformation did not even attempt to draw up organization charts. There was no "structure" to be given to the trial-and-error process of high-speed learning that was required in the struggle for survival. One of the lessons that the transformation process in firms has taught us is that there is a speed of learning in firms which leads to a break-down of all hierarchical forms. It has been shown that the chances of survival are greater if the firms give up on attempts to maintain hierarchies. Let us call a firm with a learning rate that renders a hierarchical structure impossible an "amorphous organization".

It is interesting to note that this phenomenon has been observed to some extent in various organizations. Von Falkenhausen speaks of the "adhocratic organization" of consulting firms (von Falkenhausen, 1978). Warnecke talks of "fractal organization" in the context of research institutes (Warnecke, 1995). Flik calls "organizing around opportunity" in a highly dynamic firm the "ameba concept" (Flik, 1990).

The amorphous organization develops around "opportunities". In this context opportunities are not restricted to chances in the market place but also include opportunities within the firm. An example may illustrate this point. When the locomotives plant in Hennigsdorf was acquired by AEG corporation it was found that the width between the pillars in the production hall was only 21 meters. Because modern locomotives have a length of 23 meters it was assumed that the hall would have to be replaced by a completely new facility. However the old hall was seen not as a barrier to transformation but as an opportunity. A new air-cushioned transportation device was invented and developed, whereby locomotives could be moved freely in the hall, and the production flow was reorganized around the opportunity "existing production facility". Substantial savings in investment outlays and avoided costs of interrupting the production process were essential for the survival of the firm.

In most cases, however, it is the business opportunities which determine the project flow in the company. The *Thüringer Teppichfabriken GmbH* is an example of such constant amorphous organizing around business opportunities. The firm was known in the East and in the West as a producer of tufted and woven wall-to-wall carpets of low quality and low price. These opportunities were no longer available after unification. The export subsidies that the firm had received before unification were canceled, and low quality was, of course, not acceptable to customers paying higher prices. The firm experimented, constantly changing products and sales organization. It gave up woven carpets, the dyeing department and wall-to-wall carpeting and concentrated on high-quality tufted measured carpets for private housing projects. Finally it arrived at high-quality tufted wall-to-wall carpets for public buildings using two salesmen only in the new states. The organization evolved continuously around the changing business opportunities, and even the general managers were exchanged constantly as new

business opportunities arose. In the process the firm learned about new production technologies, high-quality products, the markets for tufted carpets, the different target groups and direct personal selling. It also learned that closing down the dyeing department had been a mistake, and so it invested in a new dyeing department equipped with the most modern, environmentally sound production technology.

The lesson gleaned from the study of organizations in transformation is to proceed as follows: organize a flow process by first identifying and seizing a business opportunity, then assign manpower of different competences to it as the opportunity develops into a profitable business activity, and finally make sure that the team assigned to the opportunity at any given moment has the greatest freedom possible to develop the opportunity. This may also involve letting employees decide to transfer from one opportunity to another freely and with the consent of the teams affected without rigorous manpower planning and control. Management coordinates the various "opportunity teams" and their financial requirements in order to keep the firm financially sound.

In such an amorphous organization the ratio of surface to total employment is very high. Surface is defined here as the number of people in the organization in contact with the outside world. This ratio is a better characteristic of the organization in transformation than the term "lean organization". The surface is that part of the organization that learns from the environment. The greater the surface, the greater the potential learning rate.

In an amorphous organization there is no formal interface. Transfer of knowledge and learning between projects and opportunities is achieved through the constant move of people in and out of the projects. This flow requires, of course, highly flexible employees. Rigid organization forms like job descriptions and formal procedures of notice of transfer for moving an employee from one job to another are not possible in an amorphous organization. In the transformation process no attempt was made to write job descriptions. People were so happy to find work, that no transfer procedures had to be observed in moving people from one job to the other.

The amorphous organization is thus an organization which allows for a very high learning rate through emphasis on surface, on opportunities and project flow and on great flexibility of personnel. It is the organization that maximizes the probability of survival in the transformation process.

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