Organisaties conditioneren

Rietdijk, M.M.

2009

document version
Publisher's PDF, also known as Version of record

Summary

In this dissertation the relatively new science of *behavior analysis* has been applied to five Dutch organizations. Behavior analysis is particularly concerned with the influence of rewards and punishment on behavior. The *problem statement* is as follows:

Problem statement
How can behavior analysis help improve work performance?

Research questions
1. What is behavior analysis?
2. What are the results of applying behavior analysis in improving work performance?
3. How can behavior analysis contribute in decreasing the gap between (HRM-) management theory and practice?
4. How can behavior management interventions broadly be implemented and secured?
5. Does behavior analysis, developed in the United States, also work in the Netherlands?
6. How can complex constructs be specified in behavioral terms?
7. What can behavior analysis contribute to intervention science?

1. What is behavior analysis?

Behavior analysis is the science that is concerned with the influence of stimuli on behavior. The key finding is that behavior is a function of its consequences (rewards and punishers). People use the laws of behavior (learning principles), discovered in the laboratory (the experimental analysis of behavior) to solve human problems in the outside world more effectively (applied behavior analysis). That part of behavior analysis that applies the learning principles in organizations is called *organizational behavior management* (OBM). Key outcome of behavior analytical research is that behavior is determined by its consequences. Behavior analysis has a reputation as a basis for behavior therapy. Apart from this field, behavior analysis is applied in many other area's. At least 30 scientific journals are published in this field. The leading journal in OBM has the third impact factor of journals in the social sciences.

2. What are the results of applying behavior analysis in improving work perfor-mance?

In chapter 4, three meta-analyses (Andrasik, 1979; Merwin et al, 1989; Stajkovic & Luthans, 1997) have been summarized. We also look at the effects of behavior analysis at specific organizational issues: absenteeism, safety, sales, pay for performance, the ap-plication of schedules of reinforcement, training programmes and self-management.

In decreasing absenteeism the results vary from 18% to 50% in periods from 2 weeks to 2 years. Also with regard to safety meta-analyses show a positive effect. 16 out of 18 field experiments show that sales results as well as sales behaviors improve after OBM interventions.

In the field of pay for performance the results are mixed. Duncan and Smoot (2001) conclude from laboratory as well as field research that pay for performance only has a positive impact on productivity as the following conditions are present:

1. Objective performance measures;
2. Timely consequences;
3. Closeness of contingencies. Gain sharing is not part of this because the reward comes far after the performance, the individual contribution is unclear and external factors are dominant;
4. No losers. Every performer must be able to earn a reward, independent on the performance of colleagues (therefore no employee of the month or forced distribution recommended).

The subject of applying reinforcement schedules at the workplace is promising for many years. The elaborate designs from the experimental analysis of behavior to determine effects of concurrent schedules of reinforcement on (choice) behavior are seldom applied in organizational settings in experiments. But they are helpful in explaining choices people make.

Company training is seldom designed and evaluated in terms of cost-benefits and behavioral change (Cascio, 1999; Jansen and De Groot, 2007; Van Sandick & Schaap-Neuteboom, 1993). Appendix 2 shows that most behavioral management interventions apply for cost-benefit analysis. Training focused on behavioral change can be designed in a way (see chapter 5), that the target behavior is measured before, during and after the intervention. The few trainings that have been designed according to the steps of OBM (as in chapter 5) show positive results.

A promising application of OBM is the management of the own behavior: self management. Just like changing other peoples behavior, peoples can change their own behavior in steps. Three studies (Frayne & Latham, 1987; Godat & Brigham, 1999; Latham & Frayne, 1989) focused at self-management show that the results of all participants increase significantly.

3. How can behavior analysis contribute in decreasing the gap between (HRM-) management theory and practice?

Academics feel a gap between theory and practice (Pfeffer & Sutton, 2000; Rynes, 2007). People in the field do not easily find the road to scientific literature and academics find it hard tot transfer evidence-based management theory to practitioners (Ham-brick, 1994; Johns, 1993). From our literature research of behavior analysis it appears that behavior analytic interventions in organizations almost always lead to the desired behavioral change. Change is especially detectable in laboratory experiments (*Journal of the Experimental Analysis of Behavior)* (from 1958; Pavlov, 1927; Skinner, 1938; 1957), because the variables can be better controlled than in the field. This goes for applications in OBM and for applications in other fields (see *Journal of Applied Behavior Analysis*, from 1968; Martin & Pear, 2007; Sulzer-Azaroff & Maier, 1991); the applications of OBM are evidence-based. Both internal and external validity of behavior analytical research is strong. The next questions is how this knowledge can be made available to Dutch organizations.

We started by interviewing pioneering American researchers and consultants. At the leading consultancy firm we collected teaching materials and used these for developing a protocol (chapter 5), a training and an audit (chapter 6). In doing so we could teach the basis of the theory to a manager by coaching (case 1) and to internal consultants in case 2 en 3. That is how we contributed to the five wishes of Thomas & Tymon (1982, see §1.1.1):

(1) *Descriptive relevance* means that research should adress issues that the man in the company recognizes in his daily work. This applies indeed for the OBM key concepts like specifying, measurement, analysis, feedback, goalsetting and reward/punishment. These concepts have relevance for the layman and are scientifically well validated as well.

(2) *Goal relevance* is the resemblance between outcome (or dependent variable) in research with matters that the manager want to control. In the cases this has been accom-plished. In the first case the problem was the slow processing of printboards, at case 2 there were insufficient right reports of interruptions, at case 3 there was a need for a general per-formance improvement, at case 4 a need for understanding for a lack of learning capability and at case 5 the question how the culture in the construction industry could be changed. These issues of clients were key at the analyses and, if possible (at case 1, 2, and 3) at the interventions.

(3) *Operational validity* describes the possibility for the layman to design actions, derived from theory, by controlling causal (or independent) variables. During the

coaching phase in case 1, and the training in case 2 and 3, people from the field learned to apply the steps of the protocol. This was not possible at cases 4 and 5.

(4) *Not self-evidentness* means that the used scientific theory joins the theory of the layman or better even surpasses it in usefulness. In most of the cases people could under-stand and apply the protocol rather easily and satisfactory.

Finally (5), the theory should be *available* on every moment. This goes for OBM as it is implemented by a certified consultant. Soon a performance indicator can be selected and a longitudinal performance can be measured. If, however, there is no expert in the field available, then learning and application of the theory will take more time and is not available on every needed moment. During the case-studies theory and expertise were easily available in the form of the researcher and (in some cases) trained students.

OBM can contribute to take the 'double hurdle' of scientific quality and practical relev-ance that theories in the field of management and organization have to take (Pettigrew at al., 2001). This study contribute to other formulated wishes by these authors as well, that is (1) research at different contexts and levels of analysis, (2) incorporating time, history, process and action, (3) connecting change processes and performance results, (4) research to interna-tional and cross-cultural comparisons in the research to organizational change, (5) three of their five mentioned concepts (receptivity, customization, sequencing, pace, and episodic versus continuous change, that is receptivity, customization and sequencing.

4. How does this project contribute in bridging the gap in institutionalizing and assuring OBM interventions?

In all case-studies we worked intensively with organizational members. In the first case the researcher was working three days a week during 3 months in the client organization. By coaching the manager of the department he transferred knowledge about OBM to him. Together we implemented the field research. Also the decision to collect the performance data for two years contributed to the institutionalization and assuring of the interventions.

At the second case we used the training format of chapter 5. After the training one of its participants contacted the researcher because he wanted to apply the knowledge acquired during the training for influencing some behaviors in his own organization. The researcher was available to coach the trainee in his application of OBM. The trainee used elements of the training to teach his colleagues the basics of the approach. A nice example of institutionalizing evidence-based manage-

ment. The researcher himself got a free of charge training from American pioneer Aubrey Daniels, who's ambition it is to spread OBM around the world.

As a result of these experiences a contact was established with an English consultancy firm who owned another instrument for institutionalizing OBM, the audit. This has been applied in case 3. In this case an internal consultant was trained according to the training format. He used the audit subsequently to assess the organization that was his major client. Salient result of the case is that the concerning organization only to some extend sufficed in applying the behavior principles of performance management. We expect that in most organizations much improvement is possible.

The fourth case is the result of a master graduation project. The student who did the field study has been coached by the researcher. After a literature research, she specified broad behavioral categories (in particular the concept of the learning organization) and analyzed the causes and effects of these behaviors in ABC analyses. This case contributes to the quest for more varied levels of analysis at management studies in general (Pettigrew et.al., 2001) and to the upgrading of OBM in particular (Sigurdsson & Austin, 2006). In this case as well as in case 5, the upgrading in level of analysis downgrades the level of precision. These are qualitative, no quantitative evaluations.

Without too much effort the theory can be applied in these different contexts and levels. With the marginal note that this is more ambiguous at higher levels of abstraction and complexity. What we can do is to specify constructs in behavioral terms and then begin to work at a lower level of abstraction with the audit, training or protocol. Those can contribute to diminishing the gap between theory and practice.

5 Does American based behavior analysis work in The Netherlands?

This research project is one of the few OBM studies that has been exercised outside the US. We did collaborate intensively with Americans in order to make the generalization as smoothly as possible. All in all we encountered no big surprises. For example there were no decreases in performance after the interventions in case 1 en 2. That could have evoked other interesting new questions.

Hofstede (2003) describes the following differences between Dutch and American cul-ture:

Power distance: US 38, Neth. 40 in a ranking from 1 (high) to 53 (low);
Individualism: US 1, Neth. 4/5
Masculinity: US 15, Neth 51
Uncertainty reduction: US 43, Neth. 35

According to this high acclaimed cultural research project the median cultural differences between the US and the Netherlands differ most on the dimension Masculinity. This means that in the US the roles between men and women much clearer divided then in the Netherlands. It seems difficult to explain the very specific question why OBM has been developed in the US sooner then in the Netherlands on basis of these differences. Therefore we refer to the historical analysis in chapter 1, where the pragmatic empirical tradition of the Americans and the more theory focused Europeans. Or, as Jansen (2002) describes so nicely: 'The difference between the Aristotelian form of science, that strives to depart, and eventually to return, to the concrete, vulgar and the Platonic form that is characterized by abstracting, reasoning in concepts, impassioned generalizations without empirical basis, by almost a contempt for empirical and measurement issues (p. 3). Behavior analysis better fit the Aristotelian tradition. But when it comes to analyzing the big, complex cases we shall appeal to some Platonic thinking. With this we come to answering the following research question, that happens to refer to analyzing complex concepts.

6 How can complex constructs be specified in behavioral terms?

In chapter 10 and 11 we discussed some much used theoretical constructs in the man-agement literature. In chapter 10 in headlines, in chapter 11 focused on one concept of *ethics*. Earlier Van der Heijden & Rietdijk (1997) specified the construct of *expertise* and Jansen (2002) the construct of *competence*. In case 4 we specified the concept of the *learning organization*. In behavior analysis the building blocks of organizations are *behaviors*. Complex concepts are specified in behavioral terms.

Skinner (1957) describes how complex societal phenomena can be explained in be-havioral terms and we summarize this in chapter 10. Agencies like government, economy, education, religion and psychotherapy differ fundamentally is the way behavior is changed. The government agency determines the rules for behavior and correct these. Its primary way of control is enforcement (negative reinforcement and punishment). Reward is the primary way the economy works. Religion works by reward and punishment in the hereafter and psychotherapy avoids punishment (nondirective therapies) or uses reinforcement deliberately (directive therapies) to neutralize the effects of punishment caused by other agencies (Sidman, 2000). In all sectors we see a trend towards more reinforcment as a preferred way of control. In economics we saw the trend from physical slavery to control by money and appreciation. That negative reinforcement still is a major way of controling people in life and business is shown convincingly by Sidman (2000) and Daniels (2000), respectively.

Specifying complex constructs in behavioral terms can contribute to bridging the gap between theory and practice. We prefer generalizing the in the laboratory discovered behavioral laws to higher analytical (and organizational) levels. The ABC-analysis is a tool to come to intersubjective truthfinding on those levels, as describes in this thesis. Here are abundant possibilities for future research. What are for example differences between companies and sectors and the audit can be a starting point for a survey. That can be used by more people then just behavior analists for a bigger data base.

7. How can behavior analysis contribute to intervention science?

From the viewpoint of intervention science (De Caluwé, 2002), behavior analysis is an almost prototypical blue print approach, because from its beginnings a natural scientific approach has been stressed. It is a technical approach of behavior. At the start of the 20st Century, Watson (1913) releases his behavioristic manifest, in which he judges Pavlov's laboratory research as that important, that whole psychology should be based on it. This exaggerated view is incorporated by B.F. Skinner (1938; 1988), but he neither could realize such claims. Although he achieved remarkable progress with the development of a research apparatus, only the behavior of nonverbal organisms could be investigated. Research about verbal behavior is still in its infancy (Skinner, 1957; Hayes, 1992; 2004). And also because of this, behavior analysis is still far away from the language other intervention scholars speak. Also for these reasons behavior analists will have to consult other intervention specialists and –techniques for helping organizations change.

De Caluwé (2002) analyses the language spoken by different change'schools'. In terms of behavior analysis they have been verbally conditioned differently. Explaining this different verbal behavior could be deepened by behavior analytical techniques, the ABC-analysis included. In reflection and intervision groups, change agents can describe by whom they have been influenced most. In surroundings were results are difficult to measure, this will not be a result oriented blueprint consultant, but consultant and scientists with other dominant languages. Of course, here an enormous variety is possible. Behavior analists also use language as most obvious descriptive and control instrument, but have not explained language itself well.

The language of behavior analysis is far away from many consultants. Behavior analytic language describes a world that is not theirs. But for more blueprint oriented consultants it can be a usefull supplement to their current toolbox. It is no coincidence that this approach has been applied especially in organizations where results can be specified and measured relatively easily, like production sites and

engineering driven sectors like the chemical and construction industry. The step towards other sectors is big, but challenging.