Designing plans for organizational development, lessons from three large-scale SME-initiatives

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Abstract

This paper reflects upon the way that we balanced design and development in three specific case projects in order to contribute to creating and accumulating knowledge that is both relevant to practitioners and academics. More specifically, it is shown how learning within one project was used to improve the design of the next project. The three projects were set up in the context of government-sponsored social science programs and aimed at improving innovation in SMEs. As the paper shows, looking at these three projects shows the contribution from seeing design and development as two sides of the same coin.

Keywords
design-oriented research, organizational development, large-scale projects

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1. Introduction

Van Aken [1] puts it frankly: "Yet there are serious doubts about the actual relevance of present-day management theory as developed by the academic community." (p.219). Van Aken [1] discusses the utilization problem of mainstream management research and pleads for a stronger praxis-orientation in research. Research should not only *describe how things are,* but also *how to change things* for the good. In this paper we join the growing number of authors in management and organization studies [e.g. 2, 3] that chose to put the development of organizational design principles and rules high on the research agenda. The inevitable implication of this choice is that researchers have to get seriously involved in the design of managerial and organizational policies in the same way as clinical researchers in medicine are involved in clinical practice. However, there are hardly beaten tracks for the journey. Research in this field appears to be a complex balancing act. This is what we have learned in our everyday business of designing, implementing and researching projects to support small and medium-sized enterprises (SMEs) in their effort to strengthen their innovation capacity. The first part of this act starts from the researcher's perspective and deals with the question "how to get the right data" in the middle of turbulent change processes. Our choice has been to place the benefiting SMEs in a central role. This implies that all data gathering is primarily driven by practical relevance – i.e. the data gathered should allow a better insight in what is going on in the SME in order to *support* the SME to improve upon its situation. At the same time, the data gathered provides a rich source of facts and figures to scientifically scrutinize a wide range of topics, both on firm and program level. It is nothing else than the same basic logic on which *action research* is based: use research in organizations to change them and use the change to learn about them. The second part of the balancing act starts from the perspective of the change agent. It regards the question "how to find the right balance between *design* and *development."* The design perspective that builds on the work of Nobel-prize winner Herbert Simon [4] is focused on the creation of "real things", and uses design principles, methods and procedures and is normative in character. The development or action perspective builds on Kurt Lewin´s work [5] and concerns organizational change as a development/learning process where members of the organization are actively involved in the reshaping of their organization. In recent years our challenge has been to design large-scale programs for strategic development in SMEs. That challenge inevitably implies a combination of both perspectives: making plans for large-scale implementation and supporting the development and learning processes in individual firms. These projects offer the appropriate context for clarifying the relationship between design and development in organizations. The paper reflects upon the way that we balanced design and development in three specific cases in order to contribute to creating and accumulating knowledge that is both relevant to practitioners and academics. More specifically, we intend to show how learning within one project was used to improve the design of the next project.

2.Design and development: two sides of the same coin

According to van Aken [1], the major inhibition for the utilization of management theory lies in the nature of the theory itself. Van Aken [1] pleads for adopting the paradigm of the design sciences like engineering and medicine. The mission of design science is: "…to develop knowledge for the design and realization of artifacts, i.e. to solve construction problems, or to be used in the improvement of performance of existing entities" [1, p.224]. This definition is close to the definition of *design-oriented research* that we use in the government-sponsored social science programs in which we are involved. In that context design-oriented research refers to: "research into planned interventions in the natural context of organizations, with the aim to develop a knowledge base for the innovation and improvement of those interventions" [5, p.12]. This perspective builds on the seminal work of Simon [4]. Simon recommended scholars not to limit their ambitions to deliver "what is" knowledge, but to use their potential for "how to" knowledge. In this vein Simon has offered a broad definition of design activity stating that everyone designs when they devise courses of action aimed at changing existing situations into preferred ones. The concept of design might sound technocratic, linear and mechanistic, but is also used within the more organic learning tradition within organization and management research. Argyris [7] for example, gives in his work a central position to the concept of *design causality.* He refers to the logic by which human beings specify actions to be taken in order to achieve intended consequences. Argyris has certainly been inspired by the work of Herbert Simon, but clearly is even more influenced by that of Kurt Lewin. Illustrative in this respect his embrace of Lewin's most quoted propositions: "If social scientists truly wish to understand a certain phenomena they should try to change them. Creation, not predicting, is the most robust test of validity-actionability" [8, p.814]. However, how strong the parallels between the visions of Simon and Lewin might be, and how strongly both perspectives can complement each-other, we should be aware how things can go wrong in practice. In line with the conclusions of Romme and Damen [9] we see too much *design without development,* and *development without design* in practice. That has been the first concern in our projects: how can we design programs, in such a way that real development takes place

inside the targeted SMEs. The second concern regards the *accumulation of knowledge*. Learning from preceding cases is an absolute necessity in our practice. The same goes in a wider sense for academic research into organizational design and development. That challenge requires the codifying of the implementation strategy in terms of principles and rules [9]. In this paper we aim to contribute to that broad objective.

In the field projects that will be described below we regard design from an action perspective: "An action perspective emphasizes that it is *impossible* to separate conception from execution or formulation from implementation" [10, p.55]. This perspective can be recognized in the following, more concrete characteristics:

- The projects have a double aim: support of change processes in organizations and development of "chunks" of design theory.
- Frameworks are generated and developed in the context of application.
- Participating entrepreneurs, managers and other staff are strongly involved in data gathering, sense-making and planning for change during the intervention program.
- A variety of qualitative and quantitative research methods is used.
- Content and process of change are regarded as two sides of the same phenomenon.

3.Three cases of interventions in SMEs

Since the year 2000, our research group is involved in setting-up and implementing projects aimed at SMEs to improve upon the innovative capacity in these organizations. In 2000, it all started with the Edison Project, a small scale intervention project. In 2004, the experiences of the Edison project led to a large scale replication in the project Strategic Innovation in the Euregion Meuse-Rhine. In 2009, a third project was initiated to replicate again the developed intervention logic in SMEs. Below, each of the three projects is further introduced with respect to the context in which it was set-up, its aim, the underlying assumptions guiding the approach to achieve the aim set, and the approach used.

3.1 Edison project

The first project reported here was part of a larger EU-sponsered program (EDiSon, European Commission, IPS 2000-0067) designed by the Consorzio Qualital in Pisa, Italy. Seventy five firms in France, Germany, Greece, Italy, and the Netherlands participated. The project was primarily meant to support the processes of technology transfer and innovation in SMEs based upon a linear reasoning. The project started with a multidisciplinary audit of the support needs of the individual firms with the objective to indicate what the kind of knowledge was required in these firms. For the Dutch team things went already wrong during the intake interviews. The researchers tried to discuss the particular knowledge needs of the company at hand. The discussion led to the surprising conclusion that in the large majority of the companies they visited, knowledge and experience on the most relevant areas was amply available. However, soon it became clear that managers and entrepreneurs were not waiting for a multidisciplinary team of "company doctors" telling them which disease they were suffering from. Nevertheless, the entrepreneurs indicated to appreciate guidance from outsiders in the making of fundamental decisions for the future of their companies. In most cases they asked for support in the discussion of the available options with a larger group of internal and external stakeholders. This experience led to a fundamental and unanticipated modification in the project for the part carried out in the Netherlands. Instead of offering useful knowledge packages relevant for the individual firms, the orientation changed towards facilitating the use of knowledge that was already available in the companies. "Strategy development" and "Implementation" became the key concepts in the process of internal discussion that was facilitated. In other words: the team tried to connect the technology transfer view with a management of change perspective. An intervention set up in seven steps was developed and successfully implemented in 14 SMEs. The development process within the firms contained again a design task: the participants were expected to draw a concrete plan to prepare their firm for its future.

3.2 Strategic Innovation in the Euregion Meuse-Rhine

The second project, Strategic Innovation in the Euregion Meuse-Rhine, is also a governmental sponsored program that can be characterized as a "strategic development program" implemented in the Euregio Meuse-Rhine (i.e. Province of Limburg both in Belgium and in the Netherlands, Province of Liège in Belgium and Aachen Region in Germany). The project aimed at increasing the innovative capacity of the participating SMEs by (re)aligning their strategy, setting priorities and consequently making choices. The implementation of the actions that have been formulated is an integral part of the project. The actual intervention offered is based on the experiences within the former Edison project. However, the large scale of this project called for the use of consultants to actually carry out

the interventions within 650 SMEs. The fieldwork was done by 189 consultants from 19 private consultancy firms engaged by means of a public procurement procedure. The consultants were expected and trained to act in a facilitating role as "process consultants". Briefly summarized, the project included several phases. The first phase focused on the selection and training of the consultants. Second, the consultants and program coordinators started the acquisition and intake interviews with participant companies. During the intake interviews, the consultant assisted in composing the in-firm task force. Third, the actual intervention started with the Search conference (group session in which strategic analysis methods are used) followed by the Navigation conference in which strategic goals were formulated and the action planning was initiated. The intervention within each company was closed with the formulation of an implementation plan. Fourth, the project ended with a follow up interview that zoomed in on the extent to which the planned actions were already implemented. Moreover, in these interviews the project was also assessed by the participant companies. A large part of our attention as program coordinators was paid to managing the 189 consultants to make sure that the 650 SMEs obtained a high-quality intervention irrespective of the consultant that assisted them.

3.3 Strategic Innovation in OP-ZUID

The third project Strategic Innovation in OP-ZUID (Operational Program in the South of the Netherlands focused at stimulating innovation) follows thanks to the success of the two projects described above. The positive evaluation of the project both by the prime beneficiary – the SME – as by the financing authorities led to a new round of interventions in 300 SMEs in the Netherlands financed by the Dutch government in the context of the program OP-ZUID. The set up of the intervention within each SME overlaps largely with the intervention developed and validated in the two previous projects. Nevertheless, further refinement of the intervention – both in terms of the process and the content – occurred to make sure that each participating SME gets a high-quality intervention and at the same time that the consultants gets sufficient support to carry out and report about the interventions in a standardized way. At this moment the project is in its starting phase. Fourteen consultancy firms are selected in a public procurement procedure and 90 consultants are being trained. The acquisition of the first participating SMEs is a fact. An important difference in comparison with the two previous projects is that the current economic climate is one of recession with a lot of uncertainty instead of the booming economic climate in which the former two projects were embedded.

In Table 1 below, the three projects are introduced and the particular design and develop issues are emphasized.

Table 1: Design and development in three projects

	Edison project (project completed)	Strategic Innovation in the Euregion Meuse-Rhine (project completed)	Strategic Innovation in OP ZUID (project recently initiated)
Aim project (policy measure)	Support processes of technology transfer and innovation in SMEs	Strengthen the innovation capacity in SMEs	Strengthen the innovation capacity in SMEs
Approach to achieve aim	*Initially*: Standardized company interventions carried out by 2 consultants in 2 steps to diagnose lack in expert knowledge and to introduce SME to experts. *Eventually*: SMEs did not experience a lack in knowledge, but had difficulties in making the right strategic choices. Consequently the project was redesigned into a team-based strategy development effort.	In-company interventions carried out by 189 professional consultants to organize "strategic conversations about things that really matter." Consultants had to follow a standardized intervention process of 7 steps. The thematic focus of the intervention was demand-driven: participants drew up the agenda.	In-company interventions carried out by professional consultants to organize "conversations about things that really matter." Consultants have to follow a standardized intervention process that consists of 4 refined steps. The thematic focus of the intervention is demand-driven: participants draw up the agenda
Period	2000-2003	2004-2008	2009-2011
Actual/ targeted sample	14 SMEs in the Netherlands mostly active in food and life sciences, containing high, medium and low tech firms with a size ranging between 7 and 309 employees.	650 SMEs located in the Euregion Meuse-Rhine active in a wide range of sectors containing public and private, products and services organizations with a size ranging from 1 to 1100 employees.	300 SMEs in the Netherlands with no specific objectives for particular sectors. Participants need to be profit seeking companies with a size between 5 and 250 employees.
Balanced design for development	(1)Design of interventions aimed to improve the innovative capacity of SMEs.	(1)Design underlying interventions in SMEs is validated. (2)Design is adjusted to replicate the intervention on a large-scale making use of third party consultants.	(1)Design underlying intervention in SME is validated in a new economic setting. (2)Making the database accessible for research on the broad issue of innovation and strategic development in SMEs.
Design principles and methods which proved to be effective	(1) Demand-driven intervention (2)Getting right people around table, (3) Consultants as facilitators, (4) Use of rhetoric without jargon, (5) Short throughput time	(1) Use of protocols, progress control, and intranet. (2) Demand-driveness, (3) Double focus both on strategy and innovation, (4) Combination of various innovation policy instruments, (5) Robustness	(1) Opening up the database for research purposes
Roles of the MERIT researchers	Designer, change agent (facilitator), researcher	Designer, manager (change agency), coach	Manager, coach, researcher

4. Knowledge accumulation in three projects

Reflecting upon the experiences in these three projects, hopefully adds to the knowledge about the management of successful large-scale interventions within companies. The aim of this study has been to use the vested insights to strengthen the practical construction and management of future projects. Furthermore, these insights hopefully allow integration of previous insights to get to stronger theories about organizational changes in the context of innovation issues. As is shown below, there is a close link between the three projects both in terms of content and process. The core relation between the three is that in each new cycle of interventions attention is focused on aspects that have been tacit or missing in the previous cycle of interventions as is recommended by Trullen and Bartunek [3]. Put differently, the common summary is that in each project, the design of the next one is developed.

In the Edison project, the situational circumstances demanded to put the original intervention scheme aside and to design an alternative intervention during the course of the project. The main emphasis was put on drawing an intervention that can make a difference for the SMEs and that starts from the issues that burden these firms. The result was an intervention program building on a smart bundling of extant strategic analysis tools and team work, and aiming at the improvement of the SME's innovation capacity. During the project the intervention was designed, implemented, and tested in the context of 14 SMEs. The designers of the projects fulfilled the role of change agent and researcher at the same time. Comparative case study analysis after closure of the project revealed that the intervention program worked because of six characteristics: 1) its demand-driven character, 2) the combination of extant strategic analysis tools such as SWOT, 3) the fact that the intervention involved various people within the organization, 4) the rhetoric used by the consultants that avoids academic jargon, 5) the consultants' facilitating role and 6) the short throughput time. As such the design of a successful intervention was unraveled and ready to be tested in another setting.

In the project Strategic Innovation in the Euregion Meuse-Rhine, the Edison intervention was further validated in 650 SMEs located in four different regions. The main challenge in this project did no longer relate to the set-up of an intervention within one SME but to the way in which these interventions can be successfully implemented in a large-scale setting. As such, our role as project coordinator altered from change agents towards a change agency as the execution of the interventions was outsourced to consultants. In this project the challenge was to make a design that allows replication of the intervention making use of third party consultants. The result was a design that combined explicit protocols (how to organize and carry out the intervention), unambiguous requirements for deliverables (how to report about the intervention), administrative procedures (e.g. a clear link between payment of the consultant's invoice with his/her compliance with the protocols), and an effective ICT infrastructure that transparently contains protocols, deliverables and other administrative information that is open to consultants and program coordinators. This design allows guiding, monitoring and supporting the consultants in carrying out the interventions. The design should lead to a homogeneous quality in the service that participant SMEs receive irrespective of the consultant involved. Various intermediary and post-closure analyses of the experiences in this project disclosed the following issues. First of all the intervention in each SME still works. As expressed in various satisfaction measurements, the intervention causes participant SMEs to engage in the planned organizational change as aimed for. Second, scrutinizing the design underlying the large-scale replication reveals that the protocols, deliverables, administrative procedures, training of consultants and intranet work. Iterative rounds of intermediate analysis show that the consultants comply with the requirements in the supporting system. However, a third conclusion is that a need for smaller design alterations became evident to further streamline the interventions within each individual SMEs – i.e. later on we decided to rearrange the original seven steps in four steps. Fourth, monitoring the consultants relied heavily on what they reported in writing, this proofed to be a rather time-consuming process. Later on decisions were for instance made to replace parts of the written reports by follow up calls by phone. Fifth, reflections can be made on what this project contributes to knowledge on innovation policies. In this respect, experiences show that the design emphasizes that innovation in SMEs benefits from programs that 1) start from the needs of SMEs with a particular focus on strategy, 2) make use of a range of various instruments, and 3) are robust in the sense that the projects should be large-scale, make use of a combination of interactive tools and run for a longer period in time.

In the project Strategic Innovation in OP-Zuid, another round of interventions is set up. Again replication of the designed intervention in SMEs is the main goal. The challenge in this project relates to whether the design that proofed its value in the two previous projects can be applied in a negative economic setting. In the previous two projects, no problems were encountered to engage the targeted numbers. However, what should we expect in this project? What effects will the economic climate have on the extant intervention design? The development issue in

this project is increasingly concerned with building networks for regional development, involving entrepreneurs, industry associations, policy-makers, consultancy firms, knowledge centers, and technology-assistance services. The research role is becoming more prominent again in this phase, because the database is offering the possibility to study a large number of issues relevant to practitioners, policy-makers and/or researchers.

5. Conclusion

As academic researchers we build on design-oriented research to contribute to knowledge about interventions within SMEs as a valuable instrument of innovation policy. The main objective of our research is to unravel the underlying logic of the intervention process within each individual SMEs next to the logic of the whole process underlying the interventions as a policy program. More specifically, the first conclusion that can be drawn from the three cases is that design and development are complementing perspectives indeed. Large-scale organizational change is an illustrative case in that respect. Large-scale organizational development programs mostly serve the implementation of broader business policies or public policies, and are bound to restrictions of direction, time and money. The projects described in this paper indicate that careful planning and design is vital, even when the "active ingredient" of the program is the support of development processes inside the firm. The second conclusion is that accumulation of knowledge and experience is essential, not only for local program designers, but also for the wider community of academic researchers in the field of planned organizational change. This process of accumulation of knowledge is again a learning (or: "development") process in which different phases have to be completed, and in which a growing number of actors and stakeholders become involved both at firm- and policy level. Together these phases form a learning cycle: problem→ invention using design theory→ experimentation and testing → large-scale implementation and testing → improvement of the design and adjustment of design theory. Research can play an important role in each phase. The researcher plays different roles in the course of this development cycle: designers, change agents and action researchers (project 1), and designers, coach and managers (project 2 and 3). The actual research role has become more prominent in project 3, because of the ambitions of the researchers to share their experiences with others in the research community. The final conclusion is based on the observation that the designers of the three projects could hardly rely on empirical research to help them with their design task. The stock of empirical research carried out in the context of large-scale organizational change remains limited. It seems that the academic community has to pass through the same kind of learning process. That definitely will require a broader and deeper engagement of academic researchers in the design and implementation of organizational change, and using the academic forums actively for the exchange of knowledge. If academic researchers in the field of management and organization aim to be taken seriously by practitioners, they have to take practice seriously just as well.

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