

Sustainability training for SMEs

Meike Cordts¹, Karsten Uphoff², Barbara Rapp³

Abstract

This paper discusses essential results of a research project at the University of Oldenburg. Under the supervision of the Centre for Lifelong Learning (C3L), the department of Business Informatics/ Very Large Business Application (VLBA) and the ecco consultancy, SME training needs in the context of sustainable management were evaluated and translated into a SME-related qualification concept. Although the topic of sustainability is particularly important for SMEs, it is an enormous challenge for the majority to develop their employees' skills and competencies in this area. As yet, the external education to support sustainability management in SMEs is hardly developed – this includes specific training needs for various sustainable management aspects.

1. Sustainability in SMEs – a topic for part-time qualification

Profound socio-ecological changes compel companies to deal with strategies that enable them to face current and future social challenges. In this context, sustainable management plays a crucial role as a key prerequisite of sustainable design and orientation of companies. While large companies create specialized positions to work on these topics – know how, financial and human resources are missing in small and medium-sized enterprises (SMEs). In addition, precise and practical ideas on how to transfer sustainable management into SME-business reality are rare and, if existent, more of a theoretical and abstract nature – all in all the practical implementation is still an enormous challenge especially for SMEs.

One of the latest studies exploring training needs of SMEs is [1]. Nearly all responding SMEs mentioned a lack of knowledge on how to change and adapt their business model including their competencies, the attached processes and activities in changing markets and economies.

Facing such challenges, SMEs are in the urgent need of dealing with long-term-sustainable business strategies and the implementation of sustainable structures and processes. Nevertheless, the external education supporting an appropriate sustainability management in SMEs is a, so far, surprisingly untapped instrument (see [2]). Internal SME qualification- and training-options are very limited and the external provision of skills is insufficiently developed. From a current perspective, specific training needs e.g. for different aspects of corporate governance (such as the efficient use of energy, the promotion of cultural diversity and tolerance within the company or the socially and environmentally responsible management of the value chain) cannot be satisfied.

Existing pre-employment education offers for sustainable management in SMEs only focus on solitary aspects. Innovative, practicable, part-time and integrated qualification offers that put their attention to a complete, integrated and SME-compatible sustainability management are currently not available.

¹ University of Oldenburg, 26129 Oldenburg, Germany, Meike.Cordts@uni-oldenburg.de, Department of Computing Science

² ecco Unternehmensberatung, 26121 Oldenburg, Uphoff@ecco.de

³ University of Oldenburg, 26129 Oldenburg, Germany, Barbara.Rapp@uni-oldenburg.de, Department of Computing Science

2. Background and objectives of the proposed model project

The project “Sustainability Learning Lab” (SLL) under the supervision of the Center for Lifelong Learning (C3L), the department of Business Informatics/ Very Large Business Application (VLBA) at the University of Oldenburg as well as the ecco consultancy wants to give an answer to the sketched qualification gap in SMEs. Therefore relevant qualification needs were evaluated and, as a result, translated into a corresponding educational concept. In the long run, the project focuses additionally on two long-term goals: the development of a holistic innovative education offer in the field of sustainability for SMEs and for the short term the development of innovative methods of IT-based learning (e.g. simulations and scenarios).

The initial question of the project was: How can sustainability be established and implemented in SMEs in a long-term perspective? In this context, the employees’ qualification plays an important role as it influences the companies’ processes and culture for a long time – this is in clear contrast to the only superficial and short-lasting concepts that can be found in most of the companies that deal with this subject by now. A serious challenge for companies is the transfer of knowledge and competences to employees at different hierarchy levels with heterogeneous qualifications and backgrounds that form the basis for an integrated sustainability management. For this reason, the key qualification elements in this project focus on different target groups:

- Management/the strategic level (‘the big picture’): The SME-Management should understand the key sustainability drivers and opportunities for the organization. The correct targets must be set and effective sustainable steps must be initiated.
- Execution and alignment through quality, energy or environmental managers (ISO 9001; 14001; 50001, etc.): The transformation to a more sustainable company is usually a process of evolution in management systems. By using the existing infrastructure and processes of these systems, significant changes can be achieved.
- Operational Departments, such as purchasing, manufacturing or sales: In these departments “everyday business decisions” are being made. On this level, decisions about the detailed content and design of sustainable processes are in the focus.

Especially small companies do not have time and knowledge to provide the qualification necessary for all these employees by themselves. This is why the project SLL focuses on a tool that was rather neglected in the area of sustainability by now: the demand-oriented external training of employees with a focus on practice. Therefore, the project aims at establishing a holistic qualification system, which supports the implementation of an integrated sustainability management and keeps the specific needs of SMEs (with all its different actors) in focus.

On the project level the early integration of companies in workshops and events guarantees the active participation of the major target group of SMEs in the project and supports the practical relevance of the project results. In this context the project does not only focus on the content but also the design and structure of a possible qualification program. This includes didactical elements as well as tools (e.g. IT-support) and learning locations which can be found inside as well as outside of a company.

3. Some obstacles and success factors

As one overall conclusion we can assume that successful sustainability needs generalists who bring their expertise to sustainable development in a holistic approach (e.g. to give orientation) and specialists who contribute concrete sustainable-related ideas into enterprise department-units. Corresponding processes are not running without resistance and require specific implementation expertise. Required qualification offers providing these skills, should be able to deal with these hurdles and success factors.

3.1. The right content

In the sustainability related competence discussion, the distinction between core (cross-) competencies and domain or job specific skills can be found (see [3], page 8). What skills to be addressed, how they can be taught by teachers and how to use them, raises a wide range of development tasks and research questions.

An important (qualification) success factor is the finding of relevant sustainable tasks for different levels of action:

- Cognitive, reflexive and communicative actions: e.g. understanding significant developments relevant to enterprise sustainability, the development of entrepreneurial concepts and decision-making processes; goal-setting processes, creative thinking processes.
- Instrumental actions (implementation of closed-end workflows): e.g. compliance with sustainability in procurement and product development, performing control procedures in the supply chain etc.

A knowledge of both levels (process and content knowhow) should be provided. The main challenge is to provide an adequate qualification concept that is integrating the knowledge of different perspectives on the topic of sustainability.

3.2. Organization of qualification

Unsuitability and hence a lack of use of qualification for sustainable management in SME-business is the status quo. In functional areas such as controlling, R&D, human resources or marketing, sustainable qualification isn't perceived and used as a tool to solve future challenges.

As a consequence it is important to ensure that the qualification concept fits the formal booking requirements of SMEs' functional organization units: last minute booking, close location of the venues, reasonable costs etc. Furthermore SMEs are requiring in particular a good (academic) care during and after the qualification events.

3.3. Methods

The success of qualification offers ultimately depends on the design of the qualification arrangements, used methods and the nature of the learning situations and case studies. So the competence-enhancing qualification arrangement has to answer different questions:

- Qualification arrangements and the used methods should be aligned action-oriented. In what way succeeds an action-oriented qualification offer that fits the (reciprocal) relationship between strategic level know how and concrete action?
- It should be learned in the course of concrete entrepreneurial tasks. In what – at best holistic – way should different levels (in the sense of knowledge integration) of the qualification concept map relevant processes and fit them with necessary knowledge transfers?
- Because of lengthy and complex decision contexts subjects should be taught in forms of self-regulated and collaborative learning arrangements. Which forms of learning meet these self-organizational and social requirements?

The essential, often in literature discussed pros and cons of blended learning approaches (cf. [4] or [5]) will not be discussed here.

4. Concept and methods of the sustainability training approach

Large companies already deal with sustainable challenges, albeit in a very superficial way; SMEs rarely cope with it. For small companies, transforming the very abstract and theoretically discussed topic of sustainability into practical use with realizable objectives and actions is quite difficult.

Additional obstacles SMEs are facing in the daily business are the limited time and restricted financial resources. Developed qualification concepts and methods should be able to deal with these restrictions.

In view of the already outlined conditions under which SMEs act and taking the identified hurdles and success factors of necessary qualification concepts into account, specific solutions are required. A further special challenge is the diversity of the target group, which consists of employees from staff or management departments as well as operating departments, e.g. purchase or marketing (cf. chapter 2). All of them should be involved in a sustainability concept claiming a holistic approach. All potential participants bring in different levels of knowledge as well as personal qualities and preconditions into the learning situation. Additionally, the individual goals connected with a qualification program differ extremely between these groups. This leads to the assumption that a flexible organization and design is a major necessity of the project results which need to meet the requirements of a strongly heterogeneous target group. Another central challenge relates to the curriculum and its' adequate design regarding the content. It shouldn't be overloaded with content and the flexible integration of the planned modules should be ensured. Furthermore, there should be time for joint discussions, as this is one of the main success factors of successful blended learning concepts.

In order to meet these conditions, a qualification concept for SMEs should be developed, which contains the important environmental, social and economic issues, uses existing educational opportunities and potentials and considers general requirements of SME learning situations (places, times, shapes etc.). These requirements should meet with the following technical and methodological ideas, inter alia:

- Transfer of skills supported by simulation games: Simulation games are one of the most applied training methods in the area of economic qualification. They highly meet the afore stated requirements: multidisciplinary and cross-functional transfer of knowledge, individual training and experiencing sustainable management as well as the demonstration of the cross-linked character of sustainability in different operational areas and markets.
- Learning labs with real data, topics etc.: This very specific instrument offers the possibility to model, test and reflect sustainable processes. Amongst others, sustainability strategies, scenarios and decisions on how to design business processes can be tested by simulations and be reviewed regarding their sustainability related consequences. For this purpose the corporate environmental information systems, developed at the department of Business Informatics I/ Very Large Business Applications (VLBA) at the Carl von Ossietzky University of Oldenburg are being systematically adapted.⁴
- Technological education design: Currently, e-learning technologies and web-based applications enjoy a high degree of attention in the transfer of qualifications and knowledge. At this point it is important to state, that e-learning-concepts must not replace but complement human interaction.⁵ Nevertheless most contents can be displayed perfectly in the way of e-learning. Main advantages are that learners can work on modules and tasks in their own pace, modules and lectures can be designed interactively and less attendance days can reduce individual inhibitions. As a total effect, e-learning can lead to a higher quality of learning. This is why in this project special assessment technologies (for the evaluation of individual and corporate

⁴ At the University of Oldenburg new solutions for corporate environmental information systems in the project IT-for-Green are being developed. These systems are able to depict interdependencies of economic, ecological and social goals. They are an important base of the software used in the project. Cf. www.it-for-green.eu.

⁵ A main challenge lies in the task to not overloading the curriculum, to create space for common discussion despite of the blended learning concept and to guarantee the intended interlocking of the modules.

qualification demands in the field of sustainability) to be used in combination with intelligent e-learning offers and tutorial learning systems.

- To offer studies independent of time and place, qualification programs are to be designed according to blended-learning concepts. This means that phases of independent learning are to be combined with phases of attendance and web-based cooperative learning in a way that permits flexible and participant-oriented studies.
- Arranged exchange of experience: To confirm attained knowledge and reflect the experiences made, an exchange among learners and between learners and teachers is an indispensable element of a blended-learning concept. At this stage, the critical debate on the subject of sustainability and the transferred knowledge is a crucial factor.
- Attendance by mentors: Throughout the whole learning process and especially the phases of independent learning the attendance of a mentor that contributes methodical know-how and expertise is to be ensured by the provider of sustainability education.

The central project idea is the development of the above outlined learning lab, which will be discussed in more detail in the following. Learning labs are innovative places of learning, in which problem-solving-skills can be proved in a practical way. Therefore, individual trying, experiencing and reflecting is in the focus, similar to a workshop. The main idea is that theoretical or abstract knowledge is being translated into management practice which in the end leads to the development of new competences of the employees. The sustainable learning lab offers the chance to model decisions and processes in the company, to put them to a test and to reflect them. Sustainability strategies can be tested, business process creation may be simulated and its impacts are examined. To this purpose, IT-simulation- and scenario-planning-tools have to be designed. These give the opportunity to reduce the complexity of processes and to make them more transparent. Therefore, important instruments are e.g. the CEMIS developed in the research project IT-for-Green that can be used specifically for the required purpose.

The purpose of a learning lab is to prepare participants for decision making in complex surroundings and to arouse skills for the handling of complex decision making processes. Some features of the mentioned Learning Lab tool are outlined exemplarily in the following:

- Main purpose is to simulate decisions and strategies, comparable to corporate strategic planning simulations. This can be done individually or in small teams to understand the dynamics of interconnected elements (e.g. sustainability, consumption of energy and resources, employee's behaviour or similar) and to find solutions in a systematical way. Furthermore, the concept is supposed to provide opportunities to reflect self-made decisions and to initiate learning processes on this basis. In connection with the new CEMIS technologies and their possibilities of simulating and building scenarios, the subject of sustainability management and strategy can be communicated on a concrete database.
- The learning lab is an innovative combination of technologies and methods to simulate decision making processes in complex systems. By means of special software-based miniature copies of reality, learning labs reproduce surroundings of complex decision making processes and enables learners to experience the consequences of their decisions and strategies in virtual simulations.
- A learning lab process is of a circular nature and consists of three phases: conception, testing and reflection. Participants have the possibility to experiment in this this surrounding to understand the dynamic of interconnected elements (e.g. sustainability, energy and resource consumption, behavior of employees) and to develop systemic solutions.

5. Conclusion

SMEs have to deal with long-term sustainable business strategies and concrete operational sustainability tasks. External SME based qualification offers are a relatively untapped instrument, as internal SME qualification- and training-options are very limited. All in all there is a lack of use of qualification for sustainable management in SME-business.

Against this background, the project's objective is to create a qualification offer, which contains (SME focused) lifelong learning aspects, interdisciplinarity as well as diversity in the choice of methods and (as a result) provides concepts for problem-solving knowledge, systematic-cross-linked thinking and concrete domain specific skills.

The currently developed SLL is a qualification concept which can reflect the effects of sustainable management by an IT-based simulation and scenario technique. The SLL closes the existing gap between necessary reflexive and communicative (decision-making) and concrete action (performance) know how.

To the end, it is important to highlight that there does not exist the optimal way or embodiment of a sustainability concept in enterprises, but an individual way has to be found by employees themselves. Therefore, a qualification program should prepare the participants to make decisions in complex situations and teach them necessary skills and attitudes.

References

- [1] IBM 2010 Global Chief Human Resource Officer Study, Capitalizing on Complexity Assessment
- [2] Schaltegger, S., Hörisch, J., Windolph, S.-E., Harms, D., Corporate Sustainability Barometer 2012.; Center for Sustainability Management e.V. 2012
- [3] Bormann, I.; de Haan, G., (Publishers), Kompetenzen der Bildung für nachhaltige Entwicklung. Wiesbaden, 2008
- [4] Sauter, W., Sauter, S., Workplace Learning: Integrierte Kompetenzentwicklung mit kooperativen und kollaborativen Lernsystemen, Berlin, Heidelberg 2013
- [5] Hans-Jürgen Appelrath and Leonore Schulze: Auf dem Weg zu exzellentem E-Learning. Waxmann Verlag, 2009