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# Resource efficiency and culture – Workplace training for small and medium-sized enterprises



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#### HIGHLIGHTS

• Enterprises being successful with resource efficiency have a specific corporate culture.

• Depth analyses, a survey and 17 field studies underline the role of "ResourceCulture".

• To enable actors to support "ResourceCulture", qualification is needed.

• Resource efficiency consultants therefore need "soft skills".

· A qualification module has to deal with issues like "trust".

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#### ABSTRACT

Although there are already some qualification offers available for enterprises to support resource efficiency innovations, the high potentials that can be identified especially for small and medium sized enterprises (SMEs) have not been activated until now. As successful change lies in the hands of humans, the main aim of vocational education has to be the promotion of organisational and cultural changes in the enterprises.

As there is already a small but increasing number of enterprises that perform very well in resource efficiency innovations one question arises: What are typical characteristics of those enterprises? Leaning on a good-practice approach, the project "ResourceCulture" is going to prove or falsify the hypothesis that enterprises being successful with resource efficiency innovations have a specific culture of trust, which substantially contributes to innovation processes, or even initially enables them. Detailed empirical field research will light up which correlations between resource efficiency, innovation and cultures of trust can be found and will offer important aspects for the improvement of management instruments and qualification concepts for workplace training. The project seizes qualification needs that were likewise mentioned by enterprises and consultants, regarding the implementation of resource efficiency.

This article – based on first empirical field research results – derives preliminary indications for the design of the qualification module for the target groups resource efficiency consultants and managers. On this basis and in order to implement "ResourceCulture" conceptual and methodological starting points for workplace training are outlined.

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#### 1. Introduction

The project ResourceCulture (period 09/2009 to 04/2013) is a joint research project of the Wuppertal Institute and the artec – Research Centre for Sustainability (University of Bremen). It is part of the funding programme "Working, Learning, Developing Competence – Being innovative in a Changing Working Environment" of the German Federal Ministry of Education and Research (BMBF). The central research hypothesis of the project is the following: businesses that enact innovations in resource efficiency display specific work and trust cultures that may be part of value oriented and value appreciative business structures. As a necessary precondition for innovative ability of businesses, such culture has positive effects on the implementation of strategies for resource and material efficiency as well as on the positioning in the growing market of resource efficiency technologies. The aim of the project is to investigate possible links between resource efficiency, innovation and cultures of trust by doing detailed empirical field research. Target of the project is to establish a significant added value for resources management by the development and piloting of instruments, methods and a qualification module (summed up in a toolbox). The qualification module in particular aims at the promotion of qualifications to enable people in charge for the

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implementation of changes that move towards a sustainable culture of trust.

#### 2. Research methodology

The methodology used for the empirical field research allows making organisational conditions accessible as well as experiences of the organisational actors:

- 1. In depth analysis of current research on trust culture (see Gundert et al., 2011), resource efficiency (see Dreuw et al., 2011) as well as innovation. The results are summed up in "Resource Paper 1" (see Bliesner et al., 2010).
- Survey for enterprises<sup>3</sup> dealing with resource efficiency, done in close cooperation with the Efficiency Agency North-Rhine Westphalia (EFA) and the German Material Efficiency Agency (demea).<sup>4</sup> 188 CEOs (19.9%) and 124 consultants (29.3%) returned their completed questionnaires which entered the analysis.
- 3. Field studies with 17 enterprises<sup>5</sup> which had already made use of consultancy in resource and material efficiency. In each enterprise, the following persons were interviewed: the Chief Executive Officer (CEO), a responsible person for the topic resource efficiency, a representative of the staff and the consultant of the enterprise in terms of resource efficiency (external perception).

Within these three steps the subject of qualification was continuously surveyed as a cross-cutting issue which was examined and addressed in the context of adult learning and correlated training formats.

### 3. Qualification within the meaning of ResourceCulture – indications from the survey phase

The following indications can be identified at the current state of the evaluation (selection).

#### 3.1. Corporate/learning/error/leadership culture and cultures of trust

- Key factors of a culture of trust are particularly reciprocity, interaction, and the non-theming of trust as a promoting condition for a culture of trust. Thereby, interpersonal trust which is reinforced in interactions is of special relevance. At the same time it is a prerequisite for the formation of a system of trust (see Giddens, 1995; Luhmann, 1989; Endress, 2002). In this context, employee participation and fairness are essential requirements for a culture of trust. For the topic resource efficiency this applies especially to the aspect of employee participation in decision making processes. On the one hand, very high importance is attached to this aspect. However, at the same time it has to be appraised that corresponding structures and processes are not existent in practice (see Schmitt et al., 2011).
- The self-evaluation of the interviewed CEOs concerning their management style were addressed which allows references to the organisational learning structure and the tolerance for mistakes in companies (see Rohn et al., 2010a). In order to enable individual and organisational learning error and leadership cultures play an important role (see Stadelmann, 2004; Anlauft et al., 2007; Frommann, 2000; Raich, 2009). 49% of the questioned CEOs find it "rather important" to hold employees accountable for mistakes whereas 34% find this "rather unimportant". The evidence regarding the prevailing

learning and innovation cultures in companies refers to extensive optimisation potentials in view of structural and systematic anchoring of innovation processes and their connectedness with participatory and confidence promoting aspects — in general and for innovation processes towards resource efficiency, in particular (see Schmitt et al., 2011).

• The freedom for creativity and feedback is rated "very important" (23%) and "rather important" (55%) by the CEOs. Interestingly, the effort in actively creating a creative work environment as part of a systemic implementation of innovation processes is not considered highly important. Only 16% of the CEOs evaluate the importance of a systematic implementation of a creative work environment as "very high", 43% as "rather high" and more than a third (39%) as "rather low". In comparison: Asking the consultants for the provision of a creative work environment for employees, from the consultant's point of view only 3% of the enterprises rate as "very important" but more than 50% as "rather unimportant" (see Rohn et al., 2010a; see Schmitt et al., 2011).

#### 3.2. Human resource and competence development

- The essential internal hindering conditions in regard to innovation for SMEs lie among others in the characteristics of change processes, organisational structures and communication as well as lacking skills and competencies (Kristof, 2010; Stuhldreier, 2002).
- Concerning the issue of resource efficiency a lack of knowledge is in many SMEs existent. This can also be traced back to the fact that explicit qualification offers - in the realm of vocational training schools, universities and the free vocational advanced training landscape - are rare for the relevant target groups (see Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, BMU, Hrsg., 2012; Lemken, 2009; KoReBB, 2011). Within the range of university degree programmes the subject is embedded in the field of resource management. By now, resource management has come to the fore in a significant number of degree programmes and generally has a technical or business/economics background (see de Haan, 2007). The topic of resource efficiency is much less prevalent in occupations that require formal training. Up to now, no explicit occupations that require formal training have been established regarding the issue of resource efficiency. Nevertheless, in ordinances on apprenticeships an increase in contents relevant to resource efficiency can be documented (see Bundesinstitut für Berufsbildung, BIBB, Hrsg., 2009; Rohn et al., 2010b).
- If employees are to be involved in change processes "participation competence" – which is the prerequisite for successful participation in change processes – is required (see Anlauft et al., 2007.144). For people in charge of the implementation of employee participation in change processes means learning to give action and decision latitude. In addition, they have to learn to communicate and implement clear and defined goals regarding the scope of participation (see Anlauft et al., 2007.144).
- Change processes in businesses, including innovations in resource efficiency, are often triggered by key personnel, so called change agents (Fichter et al., 2007.11). These actors, their competencies and motivations seem even more important since lacking human resources, missing skills and factual knowledge can also be seen as strong hindrance factors in innovation for resource efficiency (see Effizienz-Agentur NRW, EFA, Wuppertal Institut für Klima, Umwelt, Energie, WI, Hrsg., 2001.36; Kristof, 2010; Schmitt et al., 2011).

#### 3.3. Consultancy

• From the consultants' perspective, the competencies that characterise the implementation of consultancy in resource efficiency, as well as the additional qualification needs that are derived from consultancy in resource efficiency, are widely spread. Thereby business

<sup>&</sup>lt;sup>3</sup> Most of the enterprises which successfully completed the survey (40%) were located in the sector of machine engineering and metalworking industry, some were part of the food industry or chemical and plastics industry (see Schmitt et al., 2011, 27). Nearly the half of the enterprises (43%) had a workforce up to 49 people, just 4% pass the mark of 500 people (see Schmitt et al., 2011, 30).

<sup>&</sup>lt;sup>4</sup> The survey mainly addressed four fields: handling of resources, corporate culture and cooperation, structure-wise data of the enterprise and personal data (see Schmitt et al., 2011, 25).

<sup>&</sup>lt;sup>5</sup> Some of the involved enterprises already participated in the survey.

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