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Greening the Workplace: Conceptualising Workplaces as Settings for Enabling Sustainable Consumption

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Abstract: This conceptual paper contributes to management studies on workplace-related pro-environmental behaviour (PEB) by combining approaches from social practice theory (SPT), the settings-based approach to health promotion as well as the literature on organisational learning. From these perspectives, sustainable consumption at the workplace is seen as being embedded in daily routines which are rarely reflected upon and cannot easily be changed. We argue that companies – instead of focussing on individual attitudes and knowledge of employees – should enable them to experiment with sustainable consumption practices, provide supportive organisational and material structures, and integrate their experiences and needs in a continuous process of co-designing such an “enabling setting”. We present an analytical framework that can be used to identify weaknesses of existing entrepreneurial strategies to promote PEB among employees and to conceptualise comprehensive strategies for “greening” the workplace.

Keywords: pro-environmental behaviour, workplace setting, sustainable consumption, practice theory, employee participation

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1 Introduction: Employees as Consumers

In the last two decades, the pivotal role companies play as promoters for sustainable development has been widely acknowledged in political and managerial domains. In organisational studies, there is a broad consensus that, for comprehensive corporate greening, it is equally important to minimise environmental impacts from core business (greening products and services) as well as from workplace activities (Muster, 2011; Muster and Schrader, 2011; Røpke, 2004). Several authors stress that this process of transforming the economy requires initiatives and responsive conduct by employees throughout the entire company (Daily et al., 2009; Lamm et al., 2013; Lülfs and Hahn, 2013; Schrader and Harrach, 2013), and the literature reveals an increase of concepts from industrial and organisational psychology exploring pro-environmental behaviour (PEB)¹ among employees with a focus on individual motivation, attitudes and values (Ciocirlan, 2017; Loverock, 2010; Norton et al., 2015; Smith and O'Sullivan, 2012; Tudor et al., 2008; Young et al., 2015).

Usually, these concepts are based on behavioural models² defining PEB as “behavior that *consciously* seeks to minimize the negative impact of one’s actions on the natural and built world” (Kollmuss and Agyeman, 2002, p. 260, emphasis added). However, according to recent sociological studies, environmentally relevant behaviour is part of numerous basic daily routines, such as having meals, showering, combining the way to work with shopping or bringing children to school. These routines are rarely reflected upon and are deeply embedded in institutional and infrastructural contexts, which makes them very resistant to change (Burgess et al., 2003; Jackson, 2005; Schäfer et al., 2012). Yet, up until now, consideration of habitual processes and their embeddedness in everyday life has been neglected, not only in the analysis of current behavioural patterns of employees but also in terms of its practical implications for the development of appropriate strategies and interventions that can foster sustainable consumption at the workplace (Lavelle et al., 2015; Lülfs and Hahn, 2013).

We take up this gap in the management literature by seeking to supplement the research on sustainable consumption at the workplace with further analytical concepts. First, we introduce concepts from social practice theory (SPT) to help in achieving an understanding about the characteristics of habitualised everyday behaviour at the workplace and how consumption practices³ can be changed. Referring to SPT concepts, we argue that a systematic strategy for “greening” the workplace should include providing supportive material conditions and practical knowledge as well as transmitting sustainable consumption as a meaningful activity (section 2).

Second, we use the settings approach to explore how practices persist and change in organisational contexts. Based on the definition of settings as having physical boundaries and being “individually mediated interactional and activity microenvironments” (Green et al., 2000, p. 23), we argue that the workplace is a promising setting to analyse relationships between consumption practices and their carriers. Third, we refer to the literature from workplace learning and organisational learning to include participatory management practices for intervening in a “system of practices” (section 3).

Based on these strands of literature, we present an analytical framework with three central dimensions for workplaces to become “enabling settings”: opportunity, experimentation and stabilisation. Furthermore, we propose that integration of experiences and needs of employees in co-designing within a continuous optimisation process should be seen as a central characteristic of successfully developing supportive settings for sustainable consumption practices (section 4). Finally, we discuss the potential benefits and risks of interventions aimed towards “greening” the workplace and formulate open questions for future empirical research on sustainable consumption at the workplace (section 5).

2 Applying an Everyday Life Perspective: Characteristics of Consumption Practices and Opportunities for Change

Sociologists have found that the link between environmental awareness, attitudes and knowledge, on the one side, and pro-environmental behaviour, on the other, is rather weak, especially with regard to habitually carried out everyday practices (e.g. Diekmann and Preisendörfer, 1998). Recent studies on resource consumption support this finding in showing that the per capita energy consumption is above average among those social milieus demonstrating high levels of environmental awareness (e.g. Aro, 2016; Kleinhüchelkotten et al., 2016; Mayer, 2014).

SPT takes into account that individual behaviour is deeply embedded in social and institutional contexts and is often carried out in a habitualised manner. In this regard, SPT changes the focus of investigation, from analysing the role of individuals and single pro-environmental behaviours (like most behavioural approaches in the management literature), to exploring “social practices ordered across space and time” (Giddens, 1984, p. 2). This section provides a brief overview of how we operationalise basic SPT concepts: characteristics of consumption practices (2.1) and ideas about how they can change (2.2). Based on recent SPT-informed studies on sustainable consumption, we argue that understanding change in consumption practices requires not only focusing on specific and located practices (e.g. driving to work) but also considering the connections between practices across space and time (e.g. working, socialising, shopping etc.).

2.1 Characteristics of Consumption Practices

Social practices are conceived “as being routine-driven, everyday activities situated in time and space and shared by groups of people as part of their everyday life” (Verbeek and Mommaas, 2008). Compared to the sociological concept of “actions”, described as purposive activities of individuals within a context to which they have given meaning, a social practice is a type of behaving and understanding that appears at different locales and at different points of time and is carried out by different bodies/minds (Reckwitz, 2002). Thus, a social practice represents a pattern which can be filled out by a multitude of single and often unique actions reproducing the practice, such as getting a driver’s license or using a car-sharing app for the practice of “car sharing”.

Every practice – a manner of cooking, gardening, taking care of oneself or others, etc. – consists of three interconnected elements:

- **materials:** objects, infrastructure, tools, hardware and the body itself;
- **meaning:** mental activities, emotions and motivational knowledge;
- **practical knowledge:** shared understandings of good and appropriate performance (e.g. rules, know how) as well as skills required to perform (Shove et al., 2012).

Figure 1 illustrates the connections between these three defining elements of a social practice.

A social practice forms, so to speak, a “block” whose existence necessarily depends on the existence and specific interconnectedness of these three elements but which cannot be reduced to any one of them (Reckwitz, 2002, p. 250). Consequently, social practices exist as performance: “It is only through successive moments of performance that the interdependencies between elements which constitute the practice as entity are sustained over time” (Shove et al., 2012, p. 7).

Taking social practices as the central unit of analysis provides a different perspective on consumption choices than, for example, the concept of an environment-friendly attitude: consumption is a by-product of practice, of what people “do” every day and what is meaningful to them; it is not an end in itself (Spaargaren, 2003; Warde, 2005). Thus, many people do not naturally desire to own a car but, rather, prefer to go to work in a convenient, safe and private manner. From this perspective, individuals feature as the “carriers” of consumption practices. This is a radical departure from attitude-behaviour models in which understandings, know-how, meanings and purposes are taken to be personal attributes (Shove et al., 2012). Rather, these attributes are regarded as qualities of a practice in which the single individual participates (Reckwitz, 2002). The development of consumption patterns can thus be grasped as a process of co-evolution linking technical, economic, social and cultural developments within the context of everyday practices (Brand, 2010).

As we want to highlight this embeddedness of consumption practices in societal norms and lifestyles, hereafter, we speak of “sustainable consumption practices” (instead of, for instance, “pro-environmental practices”). To analyse sustainable consumption practices at the workplace, we include sets of situated practices within a limited number of consumption domains identified as important targets for environmental governance, since they combine the familiarity of everyday life with considerable environmental impacts or footprints (Spaargaren and van Koppen, 2009). Regarding consumption at the workplace, this includes nutrition, mobility, energy use and recycling/waste prevention practices.

2.2 Changing Consumption Practices

Although practices appear to be stable entities in themselves, opportunities for changing them can arise. Regarding the emergence of practices, Shove et al. (2012, p. 24) draw the analytical distinction between different stages in the life of a practice: from “proto-practices” in which the elements exist but are not yet integrated, through practices in which the elements are routinely combined, to “ex-practices” in which the elements have become disconnected from each other (see figure 2).

Based on these ideas, this section elaborates on current explanations regarding how (unsustainable) practices can be changed. These concepts will later be considered when developing

the framework for workplaces as supportive settings for sustainable consumption practices (see section 4). First, practices can change when a “population of carriers” – people who perform a practice – changes, through recruitment to or deflection and migration from the practice as well as variation and redistribution of commitment across participants (Southerton et al., 2012). Recruitment to practices can occur through social networks (e.g. Nordic walking community) but also through laws, material networks and cultural norms (such as daily showering). Interventions could, therefore, aim at shaping social relations and networks which hold undesirable practices in place or through which practices are propagated (Shove et al., 2012).

Second, practices can change when some of their elements disappear or interconnections between elements are broken (ibid.). People create combinations between new and existing elements, such as with newly acquired competences or new technology or equipment (e.g. disappearance of the coal oven for heating and emergence of the wood pellet oven; Gram-Hanssen, 2011). In these processes, elements shape each other (e.g. maintenance of a coal oven requires different competences than a wood pellet oven). Transformation relies on arrangement of the elements and their integration into everyday life – how they fit together within daily practices. Interestingly, many studies reveal that new practices tend to emerge whenever people connect old behaviours to new meanings (e.g. Shove and Pantzar, 2005; Schäfer et al., 2012). In other words, a practice can be transformed whenever its existing elements are connected in novel ways or new elements are adopted (meanings, practical knowledge or materials).

Third, practices can also change when relationships between them – so-called practice bundles – shift. Bundles are defined as “loose-knit patterns based on the co-location and co-existence of practices” (Shove et al., 2012, p. 81). Gram-Hanssen (2011), for example, explores how practices related to household energy consumption – including indoor climate regulation, standby consumption and computer use – are interlinked. Changing unsustainable practices can be fostered through creating conditions under which desirable bundles of practices can be developed and disseminated. Also, practices from different life spheres are interconnected. So driving or cycling can be nested between home and work or home and shopping, with their attendant practices. A practice can, therefore, change “as neighbouring practices change” (Watson, 2012, p. 492).

Fourth, in the case of sustainable consumption at the workplace, not only consumption practices but also other work-related social practices, such as human resource management practices, should be included in the analysis, as parts of the whole “system of practices” (Macrorie, Foulds et al., 2015). Consequently, understanding changes in practices requires attention not only to specific and located practices (e.g. driving) but also to those to which they are connected across both space and time (e.g. of working, socialising, shopping) and that are “seemingly unrelated” (Spurling and McMeekin, 2015, p. 90) to this specific consumption practice. Food consumption activities, for instance, can be seen as part of daily maneuvering between food practices and other practices in the social organisation of time and space, including parental practices, work practices and transportation practices (Halkier and Jensen, 2011). To change interconnections between practices in profound ways means to find new ways in which they “interlock”. For example, providing the possibility of using home office might encourage people to work more at home and travel less (Spurling and McMeekin, 2015).

Empirical studies on the transformation of consumption practices have thus far concentrated primarily on the home and domestic everyday life, including eating, cleaning, heating, cooling, washing, showering, lighting, and cooking. However, Keller et al. point out that, due to the intertwined nature of practices, there is a “need for more focus on consumers’ workplace practices alongside domestic practices and analysis of and intervention in the material environments and objects in which social practices are embedded” (2016, p. 75). In this vein, Barr et al. propose that attention should shift “beyond the home as a site of environmental practice to consider the ways in which individuals respond to exhortations towards ‘greener’ lifestyles in other high-consumption and carbon-intensive settings” (2011, p. 3011). Responding to this call in recent SPT studies, we focus on consumption practices in workplace settings.

3 Workplaces as Enabling Settings for Sustainable Consumption

In this section, we develop the idea of workplaces as “enabling settings” for sustainable consumption practices. We have chosen to concentrate on workplaces here, as a considerable percentage of people living in industrial countries attach high importance to work and spend much of their lifetimes at workplaces. Daily routines and consumption habits are, consequently, substantially influenced by work routines.

According to SPT, a company⁴ – as any organisation – is “a bundle of practices and material arrangements” (Schatzki, 2006, p. 1863). Further, Nicolini has defined management as “a particular form of activity aimed at ensuring that these social and material activities work more or less in the same direction” (2012, p. 2). As the carriers of such practices, employees have, however, not been considered in these definitions. To further explore the relationship between consumption practices and their carriers as well as their embeddedness in specific workplace contexts, we draw on arguments from the settings approach to health promotion⁵ and the organisational learning approach (section 3.1). We have chosen these theoretical perspectives because they both treat a company as a setting for meeting employees’ human needs (health issues, learning), regardless of their professional operation.

Second, we observe that the use of SPT to analyse everyday consumption at work is not very common yet (section 3.2). To fill this gap, we present an analytical framework based on SPT and the settings approach that aims at integrating a variety of dimensions into a systematic strategy towards “greening” the workplace (section 4).

3.1 Advantages of Conceptualising Workplaces as Settings

We argue that workplaces offer broad opportunities for supporting a shift towards more sustainable practices and considering the systems of practices they are embedded in.

A first advantage of using a settings approach for analysing workplace consumption practices is that settings are physically bound in space and time. Adopting the definition of the World Health Organization (WHO), “settings can normally be identified as having physical boundaries, a range of people with defined roles, and an organizational structure” (Nutbeam, 1998, p. 19). Due to these characteristics, it is possible for employers to approach their employees directly and potentially influence all three elements of practice: meaning, practical knowledge and material conditions. For example, they could strategically improve facilities and infra-

structure on site to encourage sustainable energy consumption and dealing with waste (Heisserer, 2013). They can also integrate sustainability issues into organisational management structures, which in turn can affect meanings and norms that influence workplace practices. Finally, they can provide training regarding sustainable consumption practices as well as an inspiring or “invitational” environment for informal learning (Billett, 2001; Faber and Jorna, 2010). Regarding their potential to shape the three types of practice elements, workplaces differ from community-based organisations or local governments, which can approach participants or citizens only indirectly (Middlemiss, 2009) and, consequently, tend to have less effect on rarely reflected-upon routines.

Second, “in settings people can actively use and shape the environment” (Nutbeam, 1998, p. 19). Thus, employees can have the possibility to give direct feedback about their consumption routines in the workplace. In terms of Giddens’ structuration theory (1984), settings are both the medium and the product of human social interaction. This enables the possibility to investigate relationships between practices and their carriers (employees in this case) as well as between carriers, constituting “communities of practice” (CoP; Sahakian and Wilhite, 2014; Wenger, 2000). The CoP concept, which was developed in organisational studies, recognises the fundamentally social nature of practices and is concerned with how people coordinate among themselves to jointly negotiate and perform particular practices (Hargreaves, 2008). Thus far, however, the social dynamics of practices have often been neglected, both in conventional behaviour-change approaches (e.g. Nye and Hargreaves, 2010) and in practice-based accounts (e.g. Hitchings, 2010; Røpke, 2009).

Third, workplaces have the advantage that several domains can be addressed more or less simultaneously, including mobility, nutrition, recycling, and energy use. This is important, because consumption practices in the workplace condition each other in different ways and are also linked to domestic practices (e.g. food shopping on the way home from work), with varied consequences (Shove et al., 2012). Using a settings approach can, thus, help to conceptualise comprehensive strategies for corporate “greening” of the workplace (Lülfs and Hahn, 2013). By focusing on daily routines, an SPT approach enables an integrated view of behavioural patterns in the workplace and at home.

Fourth, not only consumption practices but also management practices can be included as parts of a whole system of practices (see section 2.2). For example, in tackling obesity, a settings approach would target a broad range of policy spheres, including food, physical activity, taxation, employment, education, housing and welfare (WHO, 2012). Hence, for our purposes it is necessary to include not only consumption practices from different activity domains (like car sharing, recycling, eating organic food) but also management practices (including inherent normative standards and regulations) that are in some way related to employees’ needs, such as practices within facilities management, workplace health promotion, mobility management and human resource development.

3.2 Changing Everyday Consumption within Organisations: Research Gaps

Over the past few years, management scholars have begun to investigate “discretionary” or “voluntary” pro-environmental behaviour on the part of employees that is neither rewarded

nor specified in official job descriptions (Daily et al., 2009; Lamm et al., 2013; Lülfs and Hahn, 2013; Tosti-Kharas et al., 2016). Based on environmental psychology, these concepts take into account that pro-environmental behaviours at the workplace are routine and habitual, but they do not consider their embeddedness within the organisation of everyday life. Consequently, although they aim to analyse these behaviours as “cumulative patterns” (Daily et al. 2009, p. 246), these concepts primarily focus on individual determinants, such as environmental attitudes, beliefs, organisational commitment or identification, sociodemographic characteristics or perceived supervisory support. The interplay between organisational determinants, such as organisational culture and structure, and individual determinants are still not well understood within the context of employees’ everyday consumption routines (there are exceptions for particular consumption domains, e.g. Gustafson (2014) on business travel).

One strand in the management and organisational literature that does take the social and cultural contexts of employees’ consumption routines into account is research on spillover effects between work and home. Spillover is a psychological concept used to describe the effect of change in one particular practice on other practices regularly implemented by individuals (Thøgersen and Ölander, 2003). Some scholars have investigated whether specific consumption practices at home, in many cases recycling/source separation or energy conversion practices, actually spill over into the work sphere (e.g. Dittmer and Blazejewski, 2017; Smith and O’Sullivan, 2012; Tudor et al., 2007), whereas others have examined spillover effects from the workplace to the household (e.g. Andersson et al., 2012; Loverock, 2010). A shortcoming of this strand of the literature is that spillover effects are usually regarded as incidental or unintended effects of management interventions, for example of vocational training (e.g. Smith and O’Sullivan, 2012; Truelove et al., 2014). This perspective implies that behaviours in the private and work spheres are regarded as being carried out separately. From a sociological point of view, however, consumption practices are understood as always emerging and persisting in relation to each other and in relation to their contexts.

Currently, the use of SPT to study changes in consumption practices at the workplace is not very common, and interventions within companies mainly tend to build on individual behaviour-change approaches. The work of Hargreaves (2008, 2011) and Heisserer (2013) are exceptions, since both use an SPT-informed approach to evaluate the effects of interventions (including measures, initiatives, programmes and campaigns) on selected consumption practices at work.

Hargreaves concentrates on the social dynamic and behavioural outcomes of a team-based behaviour change intervention at a British company, highlighting the “subtle shifts in the elements of practices and in how they are experienced by practitioners” (2011, p. 85) for the development of intervention strategies. He concludes that interventions based on SPT should “include a clear focus on the performances of practices and how they interlink into complex systems, rather than continuing to focus on the organisation of single practices which reinforces an idealised view of practices as abstract entities” (2008, p. 247).

Meanwhile, Heisserer (2013) investigates short- and long-term effects of two behaviour-change initiatives on commuting practices at an Irish company. She found that a combination of different measures – incentivisation and infrastructural improvements, like installation of

showers and better bicycle racks at the firm, as well as continuous motivation and support – proved to be helpful for a modal shift away from the car.

Lastly, Klade et al. (2013) and Schultz and Seebacher (2010) adopt an everyday life perspective on sustainable consumption at the workplace, analysing ten Austrian companies regarding preconditions, measures and tools for promoting sustainable consumption at work and in private life (including health issues). Their study provides an initial understanding about offering supportive conditions, mutual learning about sustainable consumption at work and spillover into private life. However, although the routinisation of everyday life is reflected upon in the research design, the authors do not discuss their findings from an SPT perspective by, for example, elaborating on interlinkages among their defining elements or between different employee consumption practices (at work and at home).

Overall, however, there have only been a few attempts to use insights from practice theory to tackle the question of how workplaces can enable and stabilise sustainable consumption. To fill this gap, we present below the central characteristics of settings that we believe can promote a normalisation of sustainable consumption practices at work, which might subsequently also have positive effects on domestic consumption patterns. Taking a holistic view on employees' daily lives and considering systems of practices, we include practices from several domains, including nutrition, energy, recycling and mobility.

4 Analytical Framework

Based on the literature we have reviewed from SPT, the settings approach, and the organisational learning approach, outlined in sections 2 and 3, here we develop a framework integrating individual as well as organisational aspects for analysing sustainable consumption at the workplace. As far as we are aware, this is the first attempt to combine insights from these three strands of literature to develop a comprehensive concept for “greening” the workplace.

Given that practices have “emergent and uncontrollable trajectories” (Shove and Walker, 2010, p. 474), we acknowledge that it is not possible to precisely steer consumption practices in specific directions. Rather, we argue, first, that companies could serve as supportive settings that can enable employers and employees to change practices towards normalisation of sustainable consumption at work. Interventions (single measures or long-term campaigns) are only one part of this process; it is also crucial to include rules, norms and meanings that have emerged during an organisation's lifespan and became an integral part of the organisational and material structures forming the basis for carrying out everyday routines. Second, there needs to be room for experimenting with newly introduced practices (e.g. car sharing) or re-examining existing practices (e.g. tap rather than bottled water for regular use). Third, to stabilise the performance of sustainable practices at work, it is crucial to consider the needs of different communities of practice within an organisation (e.g. shift workers, young mothers) as well as linking their work and domestic practices. The integration of employee experiences and needs in co-designing workplaces is an essential element of this approach.

Overall, we have identified three central dimensions constitutive of such enabling settings – opportunity, experimentation and stabilisation – which will be explained in more detail in the

following sections. Using the example of the practice “eating organic”, figure 3 illustrates how the three dimensions of workplaces as enabling settings can be interrelated.

4.1 Opportunity: Creating Material and Organisational Structures

The first dimension of an enabling setting for sustainable consumption is related to the integration of sustainability into the material and organisational structure of a company.

First, material structures in the workplace are an essential element for the performance of sustainable consumption practices. Heisserer (2013), for example, found that although on-site infrastructural changes were relatively small in scale (installing showers and parking spaces for employees’ bikes), they contributed towards creating an environment which was favourable for active commuting. There are also examples of the positive effects of newly installed facilities in the fields of recycling (Lo et al., 2012) and virtual communication (Strengers et al., 2015). A coherent sustainability orientation could be expressed in providing supportive material context conditions for all relevant consumption domains, including the use of renewable energies for electricity and rainwater treatment for toilets, offering drinking fountains with tap water and vegetarian/organic meals in the canteen or procurement of ecological office equipment and furniture. If certain materials (such as bikes, public transport or canteen) cannot be provided, the organisation can offer financial support to its employees, including bike leasing, refunding of public-transport costs or vouchers for organic restaurants.

Second, analogous to meaning as a defining element of practices (see section 2), sustainability needs to be seen as integral part of the respective company’s corporate image, which should ideally be comprised of achieving particular ecological requirements for its core business (e.g. supply chain management) and for the workplace (Lülfes and Hahn, 2013; Ones and Dilchert, 2012). According to organisational studies scholars, sustainability should, on the one hand, be strategically grounded in corporate identity, which includes vision, mission, values, branding, and messaging (Harris and Crane, 2002; Linnenluecke and Griffiths, 2010; Norton et al., 2015) beyond formal rules and norms. Meanwhile, a comprehensive sustainability orientation can, on the other hand, be expressed in the way “things are normally done” within the organisation (e.g. saving energy, reducing waste, ordering organic food for catering as part of basic organisational routines). Generally, different options exist for creating corporate meaning in informal ways (often grouped under the heading “strong leadership”). One option is management acknowledging employees’ sustainability activities by, for example, granting awards, supporting voluntary engagement, announcements on the company website or other forms of public appreciation. Another option is for an organisation’s management personnel to serve as a positive role model by, for example, cycling to work or taking trains for business trips. In the management literature, meaning is mostly connected to individual qualities of decision makers (“executive or managerial attitudes”, “senior management commitment”; e.g. Ciocirlan, 2017; Thomas and Lamm, 2012; Zibarras et al., 2012). In contrast, from a practice theoretical lens, managers and employees can be seen as the “carriers” of corporate meaning while performing certain consumption practices, not their “owners” (Schatzki, 1996, p. 105).

Third, the importance of practical knowledge for enhancing employees’ PEB has also been recognised in the management literature (e.g. Lo et al., 2012; Ones and Dilchert, 2012; Smith and O’Sullivan, 2012; Young et al., 2015). However, it has not been specified how practical

knowledge can be integrated into employees' daily routines. To qualify ways of providing practical knowledge on how to act sustainably in everyday life, we draw on the literature regarding organisational learning. According to Faber and Jorna (2010), inspiring learning situations are based on trust (not pre-defined tasks and processes or functional roles), are multi-directional and use "sensory knowledge" (taste, touch, smell) to transfer content, supported by small bits of coded and/or theoretical knowledge. Examples are classes for vegetarian cooking, eco-driver training or bike repair workshops for employees as well as provision of opportunities for informal exchange.

Establishing favourable structures is necessary for providing "proto-practices" for sustainable consumption, but they do not guarantee that employees will be automatically recruited to such proto-practices. Materials, meanings and practical knowledge need to be integrated through performance to become proper practices. This is why experimentation is another crucial dimension for the framework.

4.2 Experimentation

Experimentation involves the creation of measures and offers that can motivate employees to experiment with new or existing sustainable practices (e.g. eating organic food, riding bikes to work). At this stage of the process of changing over to new practices, the employee as the carrier of a practice interacts with the material and organisational structures outlined above, which is essential, because practices can only be changed while being performed (see section 2). Experimenting with new practices ideally de-stabilises links between the elements of existing unsustainable practices ("breaking links") and provides opportunities for integrating new sustainable elements ("making links"). Interventions with an experimental character can range from single actions (e.g. "Sustainability Day", with the option of riding an e-bike) and regular meetings (e.g. eating organic or vegetarian food together) to long-term campaigns (e.g. annual "Sustainability Week", with a focus on energy saving or waste reduction).

Interventions which foster experiments have two organisational functions. First, they allow a company to strengthen the recruitment of new practitioners for certain practices that are already part of the organisation (e.g. choosing organic/vegetarian offerings, switching off electronic appliances, using car sharing provided by the organisation). Campaigns that support already existing structures offer the chance to get critical feedback, which can result in improvement of these structures. Second, campaigns can be used to test resonance for the inclusion of new elements in organisational structures (e.g. offering e-bikes or incentives for using public transport). Combined with possibilities for participation and feedback (see chapter 4.3 on stabilisation), this type of intervention can be part of the process recursive optimisation and enhancement of an enabling setting.

There are three characteristics mentioned in the reviewed literature that can increase the effectiveness of these types of intervention. The first characteristic is voluntarism: "It has to be clearly communicated that provisions are voluntary and non-participation is ok, too" (Schultz and Seebacher, 2010, p. 13). This is important for avoiding psychological reactance among employees.

Second, to change habits and ideas concerning what is considered “normal”, it is important to address the entire staff – not only “green employees”, as for instance Ciocirlan (2017) or Lovrock (2010) do. As workplaces consist of a wide variety of different individuals, groups and communities (Hargreaves, 2008); thus it is recommended that measures and activities offered by a company be diversified according to different needs so that different target groups or communities in the organisation can select “their own” activities (Schultz and Seebacher, 2010, p. 13). These groups or communities could, for example, include elderly workers, shift workers or mothers and fathers with young children. Klade et al. found that measures and offers “are more effective and attractive, when they take into account everyday life experiences” (2013, p. 328). This is an argument for a multi-motivational approach that combines different types of measures (e.g. regarding time of day, frequency, level of creativity) and addresses a variety of consumption domains and beyond (e.g. health issues).

Third, an organisation should take advantage of the effects of social learning when it comes to experimenting with new consumption practices. Schultz and Seebacher found that “changing of routines most of the time happens in the course of emulating and imitating the behaviour of colleagues. Employees are hence inspired by fellow employees” (2010, p. 10). The positive effects of peer-to-peer learning have been confirmed by several studies (e.g. Billett, 2001, 2004). Therefore, team-based approaches, such as competitions, have been identified as being successful types of interventions: “Members motivated and supported each other. They also shared the same challenges and difficulties. [...] Many were encouraged by the competitive nature of the challenge” (Heisserer, 2013, p. 196). Team-based approaches “create a form of shared togetherness, a shared company’s culture. All measures which promote this social cohesion (sport events, excursions, subsidised theatre events etc.) are attractive for employees who like to be socially together” (Schultz and Seebacher, 2010, p. 12f).

Experimentation can deliver important impulses towards trying out new practices. The integration of these new practices into everyday life routines can, however, be a challenge, as addressed in the next section.

4.3 Stabilisation of sustainable consumption practices

Stabilisation of sustainable consumption practices requires “ongoing accomplishments in which similar elements are repeatedly linked together in similar ways” (Shove et al., 2012, p. 24). Therefore, stabilisation can only be attained over longer periods of time, during which links between the elements of a sustainable practice become increasingly stable. An effect of stabilisation should be the normalisation of sustainable consumption practices at work. Accordingly, once such practices have become stabilised, double-sided printing or using reusable coffee cups should then be regarded as “normal behaviour” among the majority of employees – without regard for hierarchies, gender or age.

There are three general ways for stabilising sustainable consumption practices at the workplace. First, taking up experiences gained through experimenting with new elements (see section 4.2) and trying to strengthen the links between new and existing elements: It is, for example, possible that the introduction of certain new material elements (energy-saving or waste-reduction devices) requires the offering of additional training or strengthening of internal social norms, or a temporally restricted incentive can be transformed into a continuous

form of financial support for performing certain sustainable consumption practices. In this regard, measures should be “long lasting, regular or only vary within a small range” (Schultz and Seebacher, 2010).

Second, stabilisation can be supported by raising recruitment for new practices throughout the entire organisation. A way to expand the population of carriers is, for example, to install management practices which can unburden employees from multiple everyday life demands (e.g. company-supported child care). In the study carried out by Schultz and Seebacher, especially young mothers with small children but also shift workers formulated strong demands for such “unburdening” (2010, p. 20) practices to help them to be able to organise their daily lives in better ways. Measures of this type belong to the domains of human resources or health management (work–life balance).

Third, stabilisation can result from linking new consumption practices with social practices from other domains, such as private transportation practices or management. For instance, employees in the study by Schultz and Seebacher (2010) mentioned the positive effects of measures which also entailed the private domain. Muster and Schrader call these kinds of measures “work-to-life interventions” that “focus on employees’ environmental behaviour in private life and support them in consuming in an environmentally friendly fashion” (2011, p. 149). For example, based upon normalised practices as work, employees may also become motivated to order organic or regional food for private use, taking advantage of the supply chains their workplace canteen has established. Refunding annual subscriptions to public transport, which can also be used for private trips, or offering bike repair workshops are other examples of this kind of intervention. The spillover of sustainable consumption practices should, therefore, already be integrated into the planning of sustainability provisions.

A prerequisite for all three kinds of interventions is integrating employees’ needs and experiences and building upon their tacit knowledge about, for example, concerns such as time restrictions (Klade et al., 2013). Measures offered are likely to be more successful if shaped or re-shaped by the employees themselves (Schultz and Seebacher, 2010). Furthermore, organisational studies show that employees develop a stronger corporate identity when they have the possibility to participate in decision making (e.g. Schrader and Harrach, 2013). We assume that this is especially true for issues which directly affect their everyday lives, such as food supply, office design, open spaces (e.g. gardens or parking) or a company’s organisational mobility strategy. Moreover, by encouraging employees to share their private sustainability experiences, participation also offers the chance to link domestic practices to workplace practices (“life-to-work interventions”) (Muster and Schrader, 2011).

In turn, employee participation in changing workplace practices can help to continuously improve the material and organisational structures of a company, as implied within the dimension of “opportunity” in Table 1, which provides an overview of the dimensions and characteristics of our developed framework for the design of workplaces as enabling settings for sustainable consumption.

Table 1: Analytical Framework for the Design of Workplaces as Enabling Settings for Sustainable Consumption

Dimension	Effect on Practices	Aspects for Design of Interventions	
Opportunity	Providing elements of proto-practices: materials, meaning, and practical knowledge	Equipment (e.g. energy, waste disposal), infrastructure, workplace design, open spaces, technical devices, office materials, supply in canteen	Integrating employees' needs and experiences
		<ul style="list-style-type: none"> • Explicit meaning (sustainability image, vision, code of conduct, etc.) • Implicit meaning: a) management as role models b) acknowledging employee engagement 	
		<ul style="list-style-type: none"> • Formal learning: training • Informal/social learning: inspiring learning environment (trust, multi-directional, using sensory knowledge) 	
Experimentation	<ul style="list-style-type: none"> • De-stabilising links between old (unsustainable) elements of practices • Establishing links to new elements of practices 	<ul style="list-style-type: none"> • Voluntarism • Diversified according to different employees needs: multi-motivational approaches • Fostering imitation/peer-to-peer learning: team-based approaches 	
Stabilisation	<ul style="list-style-type: none"> • Strengthening links between elements of a new practice • Recruitment of more carriers to new practices • Linking sustainable consumption practices with other social practices 	<ul style="list-style-type: none"> • Long-lasting and regular measures • Unburdening practices: support employees in coping with everyday life demands • Focus on employee environmental behaviour in private life (work-to-life interventions) • Integrating employee experiences with domestic sustainable consumption practices (life-to-work interventions) 	

5 Discussion and Conclusions

In this paper, we have used insights from social practice theory (SPT) in an attempt to understand how sustainable consumption at the workplace can be fostered, arguing that behaviour of environmental relevance at the workplace should be considered an integral part of everyday routines that are embedded in various social, institutional and (infra-)structural contexts. Each of these so-called consumption practices (e.g. transport to, eating at and dealing with waste at the workplace) depends on the enactment of material conditions, practical knowledge, and respective meanings that are integrated through everyday performance. Adopting an SPT perspective shifts the focus from individual attitudes and single behaviours to acknowledging that such routines can only be altered by addressing these three elements in a coherent way. Thus far, however, SPT has mainly been used to explain why everyday routines (in the domestic context) are very stable, and there have been few attempts to develop strategies of “greening” the workplace based on SPT insights.

We became inspired by the settings-based approach to health promotion and the literature on organisational learning to develop a framework which seeks to conceptualise workplaces as potentially enabling settings for sustainable consumption practices. Elaborating on the dimensions of opportunity, experimentation and stabilisation, our framework seeks to complement existing behavioural research on corporate greening, which has mainly focussed on addressing individual attitudes (“raising awareness”) and single behaviours (e.g. saving energy, re-

ducing waste; Lülfs and Hahn, 2013). Thus, this paper has sought to offer an integrated, multidimensional and cross-sectoral perspective on workplace-related environmental behaviour.

Here we assess the strengths and limitations of our framework. Whereas section 5.1 refers to the benefits and risks of our approach from a management perspective, section 5.2 discusses the relevance of our framework for analysing workplace-related sustainable consumption practices and poses some open questions for empirical research.

5.1 Benefits and Risks of “Greening” the Workplace

Within the discourse on sustainable development, a call has been articulated for comprehensive corporate greening that goes beyond the traditional “passive” view of corporate social responsibility (CSR) (Ones and Dilchert, 2012). Rather, it is contended that fully integrating CSR into an organisation requires contributions from people across all functions and departments (World Business Council for Sustainable Development, 2005). The present paper responds to this call by proposing that companies are not only responsible for improving the sustainability performance of their core business but can also motivate sustainable consumption behaviour among their own employees.

We argue that companies can reap several benefits when they combine “greening” of their core business with “greening” of workplace activities/routines. Apart from reducing a company’s material throughput, there can also be positive effects for sustainable human resource management (Muster and Schrader, 2011). First of all, the presented participatory approach can contribute towards employee satisfaction and, as a consequence, potentially enhance labour productivity. Moreover, we suggest that firms that adopt our approach of greening the workplace may then be regarded as more trustworthy and authentic by clients and potential employees. Thereby, they might be able to find (more) “green employees” who have a high commitment to the firm.

However, there are also risks of adapting our approach. First, greening the workplace requires a coherent and systematic adjustment of different measures from all organisational domains, possibly resulting in a complete re-organisation of the company. This can be a complex task, especially for smaller companies with limited resources and competences, whereas large companies might have the advantage of being able to build upon existing structures and competences for sustainable development and employee integration (e.g. CSR department). In such cases, we recommend step-by-step implementation of workplace greening.

Second, we have argued that workplaces influence employee consumption practices by creating material and organisational conditions for everyday activities to take place. These conditions can be favourable, but also unfavourable, with regard to sustainability. Organisational settings thereby limit individual behavioural freedom to a certain extent but can also offer opportunities for actively changing everyday routines, especially if the engagement and participation of employees in co-designing entrepreneurial structures and offers is appreciated.

5.2 Relevance of the Framework for Empirical Research

In focusing on workplaces as settings for sustainable consumption practices, we have sought to show that SPT is not only suitable for analysing trajectories of single practices, such as showering, but also the dynamics in systems of practices, where multiple practices in every-

day life intersect (Halkier and Jensen, 2011). As our framework demonstrates, workplaces offer opportunities to tackle different stages in the lives of practices simultaneously, ranging from “proto-practices” in which elements exist but are not yet integrated to “systems of practices” that spread among different settings in everyday life. This specific dynamic of practices in the organisational context should be considered when designing interventions for sustainable consumption at the workplace.

To operationalise SPT concepts, we have presented a framework for designing green workplaces which is meant to support researchers in identifying strengths and weaknesses of existing entrepreneurial strategies for greening the workplace as well as to become aware of basic requirements for the conceptualisation of innovative measures. We believe that the empirical relevance of the framework should be tested by applying it to different types of companies, comparing for example pioneers within the green economy with more traditional companies which have recently started to take sustainability issues into account. As the framework can be applied to all kinds of organisations regardless of their professional areas of operation (see footnote 4), it could also be interesting to include public organisations (e.g. universities, hospitals) and non-profit organisations (e.g. civil society organisations).

Through empirical application, the framework can be refined, especially regarding the following four questions: First, there is still little known about the complexities of the relationship between organisational culture and corporate sustainability (Linnenluecke and Griffiths, 2010). To this end, it might be helpful to examine the role of leadership styles for establishing a sustainability-oriented organisational culture in everyday working life. Kastner and Matthies (2014), for example, have found that differing leadership styles in Eastern and Western Germany influenced the success of interventions on energy-efficient behaviour in Higher Education Institutions. In line with Wolf (2013), we argue that a cooperative leadership style is necessary for structural implementation of sustainability. Our framework reveals, on the one hand, the importance of involving employees in co-designing supportive material and organisational structures as well as interventions which can allow experimentation with sustainability practices. Via such participation, they can also contribute their “private” knowledge and needs for performing consumption practices and can be acknowledged as “whole human beings” (Muster and Schrader, 2011). On the other hand, our framework also seeks to reveal the importance of management guidance due to its potential capacity to become a role model for sustainable consumption practices. We believe that future studies should focus on the relationship between these two aspects.

Second, empirical application of the framework might tell us more about the recruitment process. As the framework indicates, different groups of employees with different practical knowledge, everyday needs, understandings of the organisation and constructions of sustainability can exist within a single company (Hargreaves, 2008; Linnenluecke and Griffiths, 2010). We, therefore, believe that social interaction between these different groups (or communities of practice) is of great importance. In this regard, more empirical research is needed investigating the mechanisms of social interaction and knowledge development and addressing the question of how practitioners become recruited to or defect from practices (Macrorie, Royston et al., 2015).

Third, the framework can be used for empirical research on systems of practices and investigating the question of how consumption practices from different domains and settings are linked to the workplace. What kind(s) of texture(s) do these systems of practices have, and what does this imply for the role of organisations for sustainable consumption practices? The empirical focus on systems of practices also includes questions regarding positive and negative spillover effects from the work sphere to home and vice versa: Under what conditions does experimenting with sustainable practices at work lead to a change of sustainable consumption at home (e.g. eating organic food, using green electricity)? Does the stabilisation of a sustainable practice in one domain (e.g. using car sharing) lead to rebound effects in other domains in private life (e.g. shopping)? To address such questions, experimental research designs employing a combination of quantitative (e.g. network analysis) and qualitative methods might be helpful.

Fourth, the geographical and cultural contexts of companies deserve further investigation. The availability of public transportation or regional cultural habits and cultures (e.g. dominance of car driving in rural areas, meat as part of traditional meals in certain regions), for instance, can either limit or facilitate sustainable consumption by employees. These factors, or “macrocultures”, in which organisations are situated (Harris and Crane, 2002, p. 230) could very well have some influence but have not been included in our framework, since our primary focus has been on processes within an organisation’s boundaries.

Summing up, our developed framework seeks to address some of the questions and challenges mentioned in the current literature on sustainable consumption. We view it as a first step towards stimulating further research seeking to validate the use of SPT for sustainable consumption at the workplace.

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Endnotes

- 1 When referring to employee pro-environmental behaviour (PEB), we include the following terms: environmental workplace behaviour, environmental behaviour in the workplace, organizational pro-environmental behaviour, workplace pro-environmental behavior, environmentally friendly behaviours in the workplace, and environmentally responsible behaviour in the workplace.
- 2 We want to contribute to research on sustainable consumption in the workplace. Accordingly, we speak of “sustainable consumption” when we refer to the general subject of the article; meanwhile, we use the term PEB when we refer to the PEB literature and we use the term “sustainable consumption practices” when we refer to the SPT literature.
- 3 In many cases, these behavioural approaches use variants of Fishbein and Ajzen's (1975) Theory of Reasoned Action. When applied within the field of environmental studies, this attitude-behaviour model uses individual attitudes or norms to predict concrete future behaviour of individuals. For a comprehensive overview of models on consumer behaviour and behaviour change, see Jackson (2005).

- 4 We mainly deal with workplaces of private organisations (hereafter called “companies”), because we primarily want to address academics from management studies. However, the presented framework can also be applied to other types of organisations (such as universities, schools, administrations) where people spend several hours the day. This is due to the fact that everyday consumption takes place at work regardless of the professional area of operation of the corresponding organisation (be that producing goods or knowledge, offering private or public services) or the professional duties of employees.

- 5 Settings-based approaches to health promotion involve a holistic and multi-disciplinary method which integrates action across risk factors. The goal is to maximise disease prevention via a "whole system" approach. The settings approach has roots in the WHO “Health for All” strategy (1981) and, more specifically, the “Ottawa Charter for Health Promotion” (1986). Healthy Settings’ key principles include community participation, partnership, empowerment and equity.

Figures

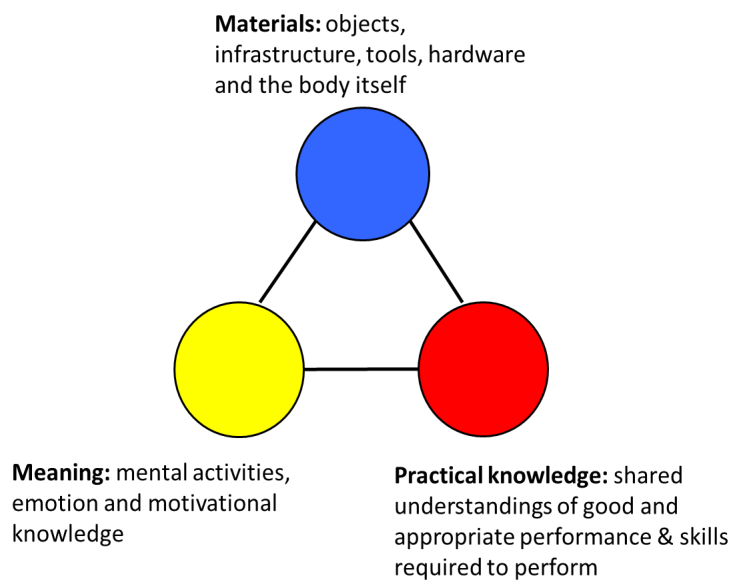


Figure 1: Elements of a Social Practice (Source: Shove et al., 2012, modified by authors)

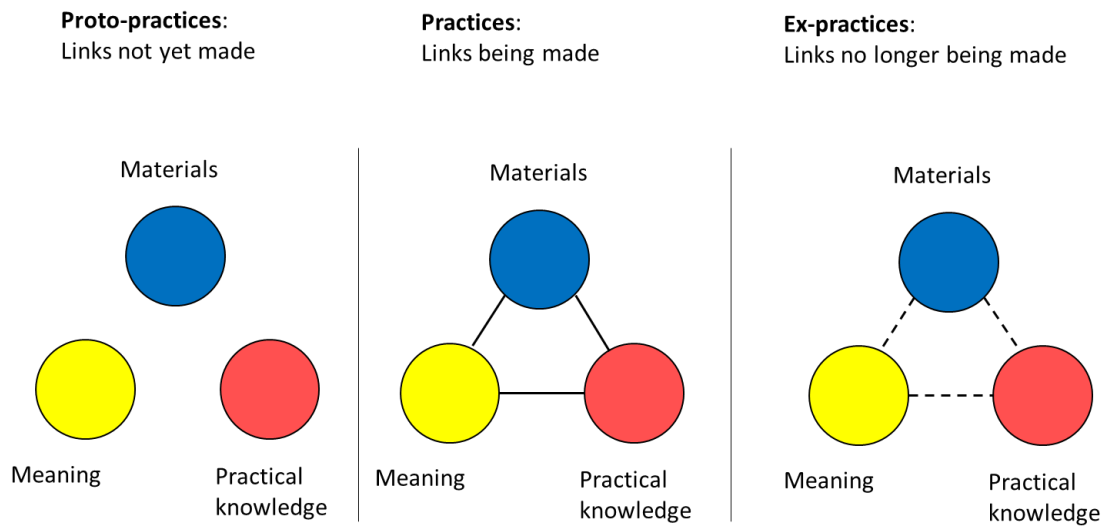


Figure 2: Stages in the Life of a Practice (Source: Shove et al., 2012, modified by authors)

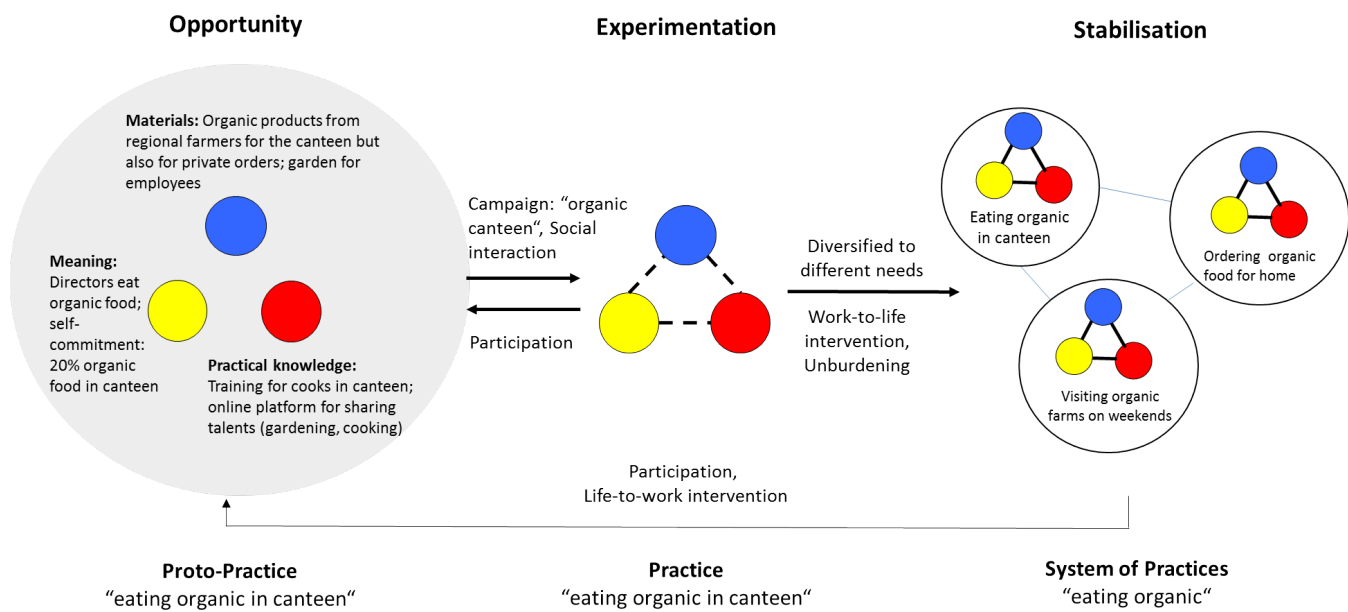


Figure 3: Dimensions of Enabling Settings for Sustainable Consumption Practices