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BEHAVIORAL COMPONENT OF ISSUES RELATING TO CORPORATE ENVIRONMENTAL SUSTAINABILITY

ПОВЕДІНКОВИЙ КОМПОНЕНТ ЩОДО ЗАБЕЗПЕЧЕННЯ СТАЛОСТІ ДОВКІЛЛЯ НА ПІДПРИЄМСТВІ

Summary. The article considers the potential energy savings in office buildings. Identified key strategies for implementation of the necessary changes in employees 'behavior for energy saving and motivational factors in energy consumption to achieve environmental sustainability.

Key words: environmental sustainability, energy savings, behavior change, office buildings, enterprise.

Introduction. Achieving sustainable development goals is high on the international and national agendas. Sustainable development is increasingly being presented as a kind of development that provides real improvements in the quality of human life and at the same time conserves the vitality and diversity of the Earth [1]. A growing number of companies worldwide have engaged in serious efforts to integrate sustainability into their business practices. One approach to reduce the impact of organizations on the environment is by understanding employee's pro-environmental behaviors, and reduction in energy consumption particularly [2]. There are a lot of possibilities to reduce enterprise energy consumption through energy efficient technologies and materials, and it should be mentioned that all these measures require financial investments, physical and other efforts that can benefit to company only in future. Behavior change, on the other hand, also has the potential to reduce energy consumption yet possesses just a fraction of the costs of technological change and can benefit present company management. However, to become a useful tool, the theoretically grounded and methodologically sophis-ticated understanding of environmentally significant consumption concept is needed to be clearly defined.

Literature review. The results of complex analysis of the literature on the achieving sustainable development goals suggest that many scholars and authors have given their own interpretation and definition of behavioral component of issues relating to the sustainability. The works of the researchers who have begun to examine the behavioral component of issues relating to corporate environmental sustainability include Dietz McDonald, Lülfs & Hahn, M. Nguyen, S. Lo, S. Attari and others [1–15]. However, the problem question about how can energy-saving behavior in the workplace be achieved has just recently been explored [4; 5; 7]. It appears after conducting a review of relevant literature, that there is the need for greater understanding on the role of commitment, norms, social comparison as well as other variables such as office culture on pro-environmental energy-saving behavior.

The research objective. The purpose of the article is in the theoretical justification of the effectiveness of behavior change interventions in the office building settings at the enterprises that facilitate gaining corporate environmental

sustainability based on modification of the individual decision making context.

Results. The important statement is that human behavior plays a significant role in climate change. Our response to climate change is made all the more complex by the fact that the environmental costs appear far into the future and are relatively intangible. Addressing climate change effectively will require policy actions by both government and the private sector [1]. The pivotal role organizations and their employees play in tackling climate change has been acknowledged by governments, communities and scholars [2]. Individuals' actions matter as well. Individuals' consumption decisions can significantly reduce greenhouse gas emissions and political support from citizens is necessary for implementing policy [3]. Individuals affect the climate via their roles both as consumers and as citizens [6]. Decades of research suggest that there is an energy-efficiency gap. The gap is a result of decision-making processes that deviate substantially from standard models of utility maximization and from policies that are intended to promote efficiency, but that are poorly designed [3]. Energy use is an abstract concept for most, resulting in a real disconnect between intention and action.

Numerous studies have been conducted assessing the potential for energy savings through investments in energy efficient technologies [7]. However, while there are a lot of technological opportunities, it is reasonable to focus on the potential for energy savings in office buildings through changes in individual behavior due to that fact that measures involving behavior change, unlike technological improvements, can reduce energy use and greenhouse gas emissions immediately and without significant financial costs [2; 4; 5]. T. Dietz et al. offer evidence that behavior change measures can on their own lead to substantial reductions in energy use [3]. T. Nguyen & M. Aiello suggest that careless energy consumption in office buildings 'can add one-third to a building's designed energy performance, while conservation behavior can save third' [8, p. 245]. Thereat, energy unaware behavior 'uses twice as much energy as the minimum that can be achieved' [8, p. 246].

D. Miller points out, that behavior change must be at the center of the overall strategy to reduce energy use and greenhouse gas emissions associated with office buildings [7]. Behavioral interventions may also have a positive spillover effect related to energy efficient technologies: the behavior of individuals 'can strengthen the effectiveness of technical measures which have been implemented with energy conservation and efficiency considerations in mind' [9, p. 227–228]. D. Miller justifies the need for behavior change – through workforce engagement, energy saving skills training, and an energy aware culture – within a set of mutually reinforcing strategies to reduce office building energy consumption in order to gain corporate sustainability [7]. Despite the challenges, many of the changes that governments around the world want to encourage, and particularly consumers engaging more in energy supply markets, require individuals to make active choices that require effort and changes to their routines [3].

T. Dietz stressed that, it is clear that changes in consumer behavior can help reduce the stress we place on the environment. This substantiates that an integrative theory of environmentally significant consumption can guide efficiency policy. But it should be mentioned that, generating the science to inform effective policy will require serious investment in interdisciplinary research [3; 15]. This justifies that for gaining corporate sustainability companies encourage greater energy efficiency. Most individuals are not taking energy efficiency actions despite the benefits for the environment and for individuals' budgets. This substantiates that to realize the potential of consumer action policies based on a sound understanding of environmental decision making are needed.

Most scientific literature is concerned with internal factors and their influence on pro-environmental behaviors originate from the field of Social Psychology and can be broadly categorized into three theoretical domains: rational choice, moral and non-rational choice [5]. The earliest attempts to understand environmental decision making assumed consumers were rational actors promoting their individual self-interest using perfect information about the costs and benefits that would follow from their actions [10]. One of the social psychologist theories used to explain pro-environmental behavior is the Theory of Planned Behavior (TPB), which adopts a rational decision-making framework [5; 10]. Under this model, if a product or a change in behavior would save money while providing the same utility to the consumer, it would be adopted. The assumption of self-interested behavior raised the specter of the tragedy of the commons [11]. However, it should be noted, some commons have been maintained sustainably for decades or even centuries, whereas others have collapsed. This contradiction has inspired a rich and sophisticated literature [15]. The rational choice theory has been subject to increasingly assault in the last half of the century with scholars arguing that non-rational components, such as habits and emotions have to be considered to explain pro-environmental behavior [5].

Moral and non-rational choice theories focus on environmental values as the main driver of pro-environmental behaviors whilst Rational Choice Theories focus on the impact of attitudes. These Theories focus on environmental values as the mam driver of on pro-environmental behaviors [5]. Supporters of this approach assume that altruistic or moral reasons are the cause of pro-environmental behavior [12] The New Environmental Paradigm (NEP) and the Noun Activation Theory (NAT) are amongst the leading constructs in this field [5]. NEP argues that environmental concern is the key to pro-environmental behavior, whilst the Noun Activation Theory contends that personal norms antecede environmentally friendly behavior [13]. These were later integrated into the Value-Belief-Norm Theory (VBN), which is now considered to be a comprehensive and widely accepted moral theory for pro-environmental behaviors amongst Moral Theory Psychologists [6].

VBN indicated a strong initial support for the NAT theory's contention that personal moral norms are the main basis for an individual's general predispositions to environmental behavior. However, the theory was extended claiming that not just altruistic but biosphere and egoistic beliefs in conjunction with new ecological worldview) were the basis for our behavior. If they were activated by our beliefs about our responsibility and the consequences of our actions our norms would be activated, which in addition would affect our behavior [5].

The Comprehensive Action Determination Model (CADM) integrated TPB and NAT and added the non-rational component habit to address the multidimensionality of human behavior [5] The CADM argued that environmental behavior is an outcome of the complex interrelationship among normative, intentional, habitual, and situational processes [4]. The core assumption of CADM is that behavior is directly predicted by intention, perceived behavioral control, and habit. Following the TPB, an intention refers to the feeling of being ready and willing to perform a behavior, whereas perceived behavioral control corresponds to a perceived ability to perform the behavior. Habit refers to both behavioral routines and behavioral automaticity. On the second level, in line with the TPB, intentional process is generated from attitude toward the behavior, perceived behavioral control, and social norms.

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Attitude regards person's evaluation on the behavior, whereas social nouns indicate the influence of relevant other people on the behavior. In addition, personal norms, which reflect to the feeling of moral obligation according to person's values, also influence intention directly [5]. Normative processes do not influence behavior directly, but are mediated by intentional and habitual processes [5]. Personal norms, themselves, are considered stable, yet perceived behavioral control could impact personal nouns in the long terms [3].

The results of the theoretical analysis allow to justify that previous studies of pro-environmental change have mainly focused on socio-psychological models of individual behaviors. A. Darnton et al. in their study noted that it is possible to trace a move from simple linear 'information deficit' models, to those that recognize that holding positive attitudes does not automatically lead to undertaking positive individual behaviors [14]. Researchers in pro-environmental fields have repeatedly shown that holding pro-environmental attitudes does not necessarily lead to pro-environmental behaviors.

Motivating consumers will not be sufficient to realize environmental gains. Dietz argues that motivation will have to be accompanied by effective communication about what actions will have the biggest pay-offs. Furthermore, financial obstacles will have to be addressed [3].

Lo S.et al. suggest that «the research on household energy conservation and other pro-environmental behaviors cannot be easily generalized to organizational contexts» like offices [9, p. 293]. Focus must be placed on energy saving behaviors in an office setting directly because the personal motivations for energy consumption and energy savings vary in comparison to a household setting. The existence of split incentives – whereby organizations reap the financial benefits of changes in behavior enacted by employees – therein presents a potential barrier to behavior change. Those engaged in behavior change likely perceive the process as providing only costs and no tangible benefits (Table 1).

Conclusions. It should be mentioned that a lot of programs which devoted for encouraging energy efficiency assume that monetary costs and the amenities provided by energy are the dominant motivators of energy consumption. The result of theoretical analysis allows to justify that a lot of authors stresses that consumers consider energy price but are not too sensitive to it [3; 10]. The findings of this research devoted to motivational determinants of employees' energy consumption are consistent with broader understanding of environmental decision making and environmentally significant consumption and allows to justify that beliefs, norms, and values also have a strong impact on energy consumption. Most energy consumers in office buildings have rather inaccurate beliefs about resource use and may select the wrong actions when they try to become more efficient. Thereby for ensuring environmental sustainability at the enterprises it is reasonable to modify the individual decision making context in office building according the most valuable motivational determinants of energy-consumption.

Table 1

Motivational determinants of employees' energy consumption

Motivational determinants	Energy Consumption
Well-being	Individuals use energy to enhance well-being. However, for most energy uses there are diminishing returns to well-being with increased consumption [3]. Energy efficiency actions are seeking to find an optimal trade-off between the amount of energy used and the amount of well-being produced. The goal is to provide the same improvement in well-being by using less energy, thus reducing harm to the environment [3]. This justifies the need to examine not only what improvements in well-being are derived from energy services, but also what people consider in making decisions about energy use [3]
Norms	T. Dietz et al. determine norms as understandings of what our friends and neighbors are doing and what they expect of us and point out that norms have a strong influence on decisions [3]. Being able to compare one's own consumption with that of an efficient group of neighbors undoubtedly encourages efficiency actions. D. Miller points to the presence of norms that inhibit the adoption of pro-environmental behaviors [7]
Altruistic values	When a decision has impacts not only on the individual but also on other people or the environment, altruistic values can complement or even dominate the narrow self-interest presumed by a standard rational choice theory of decision making [1; 3; 15]
Beliefs	Attari's work shows that we cannot assume that consumers will accurately assess the environmental impacts of their actions [10]. It justifies that the misperceptions are systematically biased. It appears that some of the systematic variation has to do with the resource itself [10]
Shortcuts	Cognitive psychology has demonstrated that humans use shortcuts to simplify the information available, an approach labeled 'heuristics and biases' [3; 5; 11]. Attari's work shows that our perceptions of consumption impacts can be systematically inaccurate [10]

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Анотація. У статті розглянуто потенціал економії енергоресурсів в офісних будівлях. Визначено основні стратегії щодо впровадження необхідних змін поведінки працівників для енергоощадження та мотиваційні чинники споживання енергії для досягнення сталості довкілля.

Ключові слова: сталість довкілля, економія енергії, зміна поведінки, офісні будівлі, підприємства.

Аннотация. В статье рассмотрен потенциал экономии энергоресурсов в офисных зданиях. Определены основные стратегии по внедрению необходимых изменений поведения работников для энергосбережения и мотивационные факторы потребления энергии для достижения устойчивости окружающей среды.

Ключевые слова: экологическая устойчивость, экономия энергии, изменение поведения, офисные здания, предприятия.