Efficiency of sustainability communication tools

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Abstract

Sustainability is becoming an increasingly popular topic in the context of modern consumption. This encourages businesses to take various measures to spread the message about sustainable production of goods and provision of services. However, not all sustainability communication tools are efficient. This study analyses the efficiency of sustainability communication channels and their impact on consumers. The theoretical part emphasized that sustainability communication is an integral part of corporate social responsibility, helping to strengthen reputation, develop consumer loyalty and promote sustainable development of society. The results of the study, as well as the analysis of other sources, revealed that the most commonly observed sustainability communication tools are information found on social networks, websites and product packaging. They most efficiently perform an information function and influence consumers. Empirical data also showed that a significant proportion of consumers evaluate sustainability communication sceptically and are not convinced by the sincerity of companies in this sphere. However, this does not deny the fact that sustainability communication channels in Lithuania operate efficiently, but such efficiency depends on the ability of companies to communicate transparently and consistently, in a form that is attractive to consumers.

Keywords: sustainability communication, communication tools, efficiency of communication measures.

1. Introduction

The society has been paying more and more attention to the topic of sustainability. The growing threat of global warming, shortage of minerals and environmental pollution is becoming an increasingly important problem of the present and future and encourages companies, state organizations and other institutions to contribute more actively to the promotion of sustainability and to communicate on sustainability topics. One of the essential conditions for achieving sustainable development goals is efficient communication, which draws the attention of individuals, changes their attitudes, and forms new, sustainable habits. However, today, sustainability communication faces challenges - consumer indifference, information overload or ambiguity, and the choice of inefficient tools.

The definition of sustainability communication tools includes various forms and channels of information dissemination - from social media campaigns, public events to corporate environmental responsibility reports and packaging labels. In such a multitude of tools, it is necessary to assess the efficiency of each information dissemination tool and its influence on consumer attitudes and behaviour so that sustainability communication properly performs its function - correctly informing and developing sustainable skills in society. On the other hand, the efficiency of sustainability communication is no less important for business. "Companies that adopt more efficient sustainability communication strategies differentiate themselves from others, and their products may be associated with a price premium (Borges et al., 2023). Thus, an efficient choice of sustainability implementation tools can become one of the main factors of a company's success. There are many scientific works on the efficiency of sustainability communication tools, but this topic has not been sufficiently studied in Lithuania. Therefore, it is important to study how different communication channels affect Lithuanian consumers and assess their efficiency in promoting sustainable behaviour of individuals.

The aim of this study is to assess the efficiency of sustainability communication tools among the Lithuanian population. Research problem: what impact do different communication tools have on the attitude and behaviour of the population on sustainability issues? The object of the study is the efficiency of sustainability communication tools. A quantitative research method was used to determine the efficiency of sustainability communication tools. The results of this study can be used as a source of information for developing and improving sustainability communication strategies for businesses and educational or non-governmental organizations concerned with public information and education in the areas of environmental protection and sustainable consumption.

2. Literature review

The emphasis of sports psychology and performance improvement research has predominantly been on coaching expatriate athletes (Sumarsono et al., 2023). Expatriate coaching calls for mental toughness, cultural flexibility, and athleticism (Soto-García et al., 2023). The performance and cultural flexibility of athletes in foreign settings are enormously influenced by this phenomenon (Zhang et al., 2023). When competing and living overseas, expatriate coaching helps athletes manage their mental and emotional well-being and improve their physical conditioning (Gligor et al., 2024). Based on research, expatriate-coached athletes possessing knowledge of cultures and practical communication skills perform better. Professional training and advice from coaches can help athletes overcome cultural issues and perform efficiently globally (Han, 2020). Expatriate coaching influences society and institutions apart from athletes. Global instructors are in need. This trend underscores the technical and cross-cultural ability of coaches (Anwar et al., 2023). Foreign coaches working abroad must provide a welcoming and open environment for players to grow and thrive. Research indicates that sports persons benefit from

foreign coaching in terms of personal and cultural development, both within and outside of sports (Riaz et al., 2023). Adopting diversity and cross-cultural thinking, expatriate coaches can enhance sporting performance and international sports solidarity.

Sports performance and psychology rely on the LMX hypothesis to understand the relationships between athletes and coaches. LMX theory identifies the interpersonal bond between followers (athletes) and leaders (coaches) as a component of organizational performance (Taylor et al., 2022). According to the hypothesis, LMX represents the respect, communication, and trust between athletes and coaches. Coaching abroad can be challenging due to language and cultural differences (Manthar et al., 2025). Coach-led and performance satisfaction indicate athlete joy and achievement. Athletes demonstrate innovative problem-solving, strategy, and adaptive sports tactics. Numerous studies have investigated the interactions between athletes and coaches and their impact on performance (Root et al., 2025). Several studies propose that LMX is a predictor of athlete enjoyment, performance, and creativity (Kim et al., 2023). Strong athlete-coach relationships have been shown to increase athlete happiness and performance, as concluded by Martin et al. (2019). According to research on coach leadership style and athlete performance, support, communication, and empowerment lead to a positive athlete experience and performance improvement (Muzalfitri, 2023). Grounded in prior empirical research, this study predicts that LMX mediates the relationship between expatriate coach leadership style, athlete performance, athlete satisfaction, and innovative behavior (Manthar et al., 2025). Athlete outcomes are mediated by the expatriate coach's leadership style and the quality of the athlete-coach relationship. Based on LMX and leadership effectiveness literature, coaches who have strong, supportive relationships with their athletes are more likely to enhance athlete satisfaction, performance, and innovation (Ahmed et al., 2017). This is particularly true in expatriate coaching contexts, where cultural adaptation and communication challenges are prevalent (Legood et al., 2023).

> H1: LMX (Athlete and coach Relationship) significantly moderates the relationship between expatriate coach leadership style and athlete satisfaction and performance.

> H2: LMX (Athlete and Coach Relationship) significantly moderates the relationship between the expatriate coach's leadership style and the athlete's innovative behavior.

Past empirical research has examined the complex interaction between LMX dynamics, expatriate coach cross-cultural competence, and athlete performance. LMX influences intercultural coaching, athlete satisfaction, and performance, as many studies have shown (Zaman et al., 2021). Alotaibi (2023) established that positive athlete-coach relationships are associated with cross-cultural athlete satisfaction and performance. Muzalfitri (2023) established that culturally attuned and adaptive coaches empower, invest, and trust athletes with LMX. Ullah et al. (2023) state that LMX enhances well-being and resilience among athletes, and therefore, it is beneficial for various coaching environments. The studies indicate that

LMX acts as a mediator of the relationship between expatriate cross-cultural competency among coaches, athlete satisfaction, performance, and creativity (Theriou et al., 2024). When coaching in a foreign environment, expatriate coaches must possess the ability to navigate cultural differences and address issues effectively. Based on the literature, coaches with higher cross-cultural competency can develop and sustain healthy relationships with athletes, thereby enhancing their happiness, performance, and creativity (Ur Rehman et al., 2024). Roberto de Andrade do Nascimento Junior et al. (2024) established that cultural intelligence and adaptation enhance leadership as well as cross-cultural alliances. Therefore, this hypothesis aims to investigate how expatriate coaches' cross-cultural competence affects athlete results in multicultural sports contexts through LMX (Kuruzović[1] & Đorić, 2024). This research builds upon prior empirical evidence to further elucidate the relationship between LMX, expatriate coach cross-cultural competence, and athlete performance. These hypotheses apply leadership, cross-cultural psychology, and sports management knowledge to coaching interventions and practices, enhancing athlete satisfaction, performance, and innovation in multicultural and diverse sporting settings (Roberto de Andrade do Nascimento Junior et al., 2024). The empirical evidence supporting these hypotheses underscores the significance of positive athlete-coach relationships and the cross-cultural competencies of coaches in promoting athlete well-being and enhancing global performance.

> H3: LMX (Athlete-Coch Relationship) significantly moderates the relationship between expatriate coaches' cross-cultural competency and athletes' satisfaction and performance.
>
> H4: LMX (Athlete and Coach Relationship) significantly moderates the relationship between expatriate coach cross-cultural competency and the athlete's innovative behavior.

Research has shown that LMX, expatriate coach learning goal orientation, and athlete outcomes are linked. Coaching studies have demonstrated that LMX predicts athlete satisfaction, performance, and innovation. Yu et al. (2024) concluded that positive relationships between athletes and coaches are associated with enhanced motivation, commitment, and trust. Nam et al. (2024) concluded that support, communication, and empowerment in coaching enhance athlete experience and performance. According to Bakri et al. (2022), LMX enhances athlete performance and satisfaction. These findings elucidate the role of LMX in athlete-coach interaction and results. Drawing on prior empirical studies, the current research posits that LMX influences expatriate coach learning goal direction, athlete happiness, performance, and creativity (Allami et al., 2022). Personal development, professional development, and improvement, as well as mastering coaching skills abroad, are the primary learning goals for expatriate coaches. Learning goal coaches are likely to establish trust, effective communication, and respect with their athletes, which promotes athlete satisfaction, improved performance, and enhanced creativity, according to a study by Kim and Cruz (2022). Beattie and Turner (2022) found that a growth mindset, as opposed to a fixed mindset, increases adaptive behavior. The hypothesis attempts to describe how expatriate coach learning goal orientation influences athlete

outcomes in multicultural sports through LMX (Saks, 2022). This study extends empirical evidence to predict LMX, expatriate coach learning goal orientation, and athlete performance. These hypotheses translate leadership, goal orientation, and sports psychology theories to coaching interventions and practices that enhance athlete satisfaction, performance, and innovation in multicultural and diverse sporting contexts (Jin, Kim, & Love, 2022). The empirical evidence supporting these hypotheses underscores the significance of positive coach-athlete relationships and a learning goal orientation for coaches in enhancing athlete development and performance in international sports.

   H5: LMX (Athlete and coach Relationship) significantly moderates the relationship between expatriate coaches' learning goal orientation and athlete satisfaction and performance.

   H6: LMX (Athlete and Coach Relationship) significantly moderates the relationship between the expatriate coach's learning goal orientation and the athlete's innovative behavior.

Past empirical studies have investigated how perceived safety climate impacts athlete experiences and results in coaching contexts. Safety climate perceptions influence athlete satisfaction, performance, and innovation, as supported by various studies. Perez (2023) found that an effective safety climate, characterized by clear communication, leadership support, and robust safety measures, enhances both employee satisfaction and performance. In sports, Khorram (2023) discovered that perceptions of safety climate influence athlete motivation, participation, and well-being. Zhao and Jowett (2023) found that a safe climate encourages psychological safety and risk-taking among athletes, which can facilitate innovation and adaptive performance in competitive sports. These studies demonstrate that the perceived safety environment influences the athlete's experience and results in coaching (Sumarsono et al., 2023). Grounded on past empirical studies, this research theorizes that perceived safety climate mediates the association between expatriate coach leadership style, athlete satisfaction, performance, and innovation (Zhang et al., 2023). Expatriate coaches may need to employ a different leadership style in culturally diverse and communication-challenged nations. Based on the literature, expatriate coaches who develop a favorable safety climate by employing supportive, participative, and safety-minded leadership are more likely to enhance athletes' happiness, performance, and innovation (Han, 2020). Taylor et al. (2022) established that leadership influences perceptions of safety climate and enhances safety within organizations. Therefore, this hypothesis aims to clarify how expatriate coach leadership style influences athlete outcomes within ethnic sporting contexts through the perceived safety atmosphere (Muzalfitri, 2023). This study's assumptions are based on previous empirical evidence to understand better how the perceived safety climate, expatriate coach leadership style, and athlete performance interact. These hypotheses apply safety climate, leadership, and sports psychology studies to the practices and interventions of coaching, enhancing athlete satisfaction, performance, and innovation within multicultural and diverse sporting contexts (Legood et al., 2023). The empirical evidence supporting the above hypotheses underscores the

importance of fostering a favorable climate that promotes safety and effective leadership, thereby enhancing the well-being and success of athletes in international sports.

H7: The perceived safety climate significantly moderates the relationship between expatriate coach leadership style and athlete satisfaction and performance.

H8: The perceived safety climate significantly moderates the relationship between expatriate coach leadership style significantly influences the athlete's innovative behavior.

Previous empirical studies have examined how perceptions of safety atmosphere influence athlete satisfaction, performance, and innovation in coaching environments. Most studies have established that perceived safety climate impacts athlete experiences and performance (Ahmed et al., 2022). Muzalfitri (2023) found that a favorable safety climate, achieved through clear communication, supportive leadership, and effective safety procedures, enhances employee satisfaction and performance. In sports, Theriou et al. (2024) established that safety climate perceptions influence athlete motivation, engagement, and well-being. Donnelly et al. (2024) further discovered that leadership influences perceptions of safety climate and enhances safety in organizations. Such studies demonstrate the importance of perceived safety climate in the athlete coaching experience and outcomes (Mandan et al., 2024). Based on prior empirical findings, this research hypothesizes that the perceived safety environment moderates the relationship between expatriate coaches' cross-cultural competence, athlete satisfaction, performance, and innovation (Liu & Li, 2024). In an overseas coaching environment, expatriate coaches must manage cultural differences and related issues. The literature suggests that more cross-culturally competent coaches can foster a favorable safety climate by employing culturally appropriate and inclusive leadership behaviors, thereby enhancing athlete satisfaction, performance, and innovation (Braun et al., 2024). Cotterill et al. (2022) established that cultural intelligence and adaptation enhance leadership and cross-cultural collaborations. This hypothesis aims to describe how expatriate coaches' cross-cultural competency influences athlete outcomes in multicultural sporting environments via perceived safety climate (De Backer et al., 2022). The assumptions of this study extend previous empirical results to comprehend how perceived safety climate, expatriate coach cross-cultural ability, and athlete outcomes interact (Beattie & Turner, 2022). These hypotheses draw upon safety climate, cross-cultural psychology, and sports management studies to inform coaching interventions and practices that enhance athlete satisfaction, performance, and innovation in multicultural and diverse sporting contexts (Saks, 2022). Empirical support for these hypotheses underscores the importance of developing coaches' cross-cultural competencies and cultivating a favorable safety climate to promote athlete well-being and success in international sports.

H9: The perceived safety climate significantly moderates the relationship between expatriate coach cross-cultural competency and athlete satisfaction and performance.

H10: The perceived safety climate significantly moderates the relationship between expatriate coaches' cross-cultural competency and the athlete's innovative behavior.

Previous empirical studies have examined the influence of perceived safety climate on athlete satisfaction, performance, and innovation in coaching contexts. Most studies have shown that perceptions of safety climate influence athletes' experiences and outcomes. Jin, Kim, and Love (2022) discovered that a favorable safety climate, characterized by effective communication, supportive leadership, and safety procedures, enhances employees' satisfaction and performance. In sports, Perez (2023) discovered that perceptions of safety climate influence the motivation, involvement, and well-being of athletes. Khorram (2023) found that leadership influences perceptions of safety climate and drives safety within organizations. These studies emphasize the significance of the perceived safety climate in shaping the experiences and outcomes of coaching athletes (Zhao & Jowett, 2023). Drawing on earlier empirical studies, the present research hypothesizes that the perceived safety atmosphere influences the link between expatriate coach learning goal orientation, athlete satisfaction, performance, and innovative behavior (Sumarsono et al., 2023; Parmar & Ahmed, 2013). The learning objective orientation of the expatriate coach is focused on personal and professional growth, ongoing development, and mastery of coaching skills in foreign countries (Zhang et al., 2023). Literature suggests that learning goal-oriented coaches prioritize open communication, feedback, and learning opportunities to foster a favorable safety climate and enhance athlete satisfaction, performance, and innovation (Han, 2020). Taylor et al. (2022) demonstrated that the acquisition of learning goal orientation facilitates adaptive behavior and a growth mindset. Therefore, this hypothesis aims to clarify the impact of expatriate coach learning goal orientation on athlete outcomes in ethnic sporting environments via perceived safety climate (Root et al., 2025). The assumptions of this study build upon previous empirical findings, furthering our understanding of the interrelation between perceived safety climate, expatriate coach learning goal orientation, and athlete outcomes (Muzalfitri, 2023). These hypotheses integrate safety climate, goal orientation, and sports psychology research into coaching practice and interventions that enhance athlete satisfaction, performance, and innovation across various multicultural sports settings (Legood et al., 2023). The empirical support for these hypotheses highlights the importance of enhancing the learning goal orientation of coaches and maintaining a safe environment to promote athlete well-being and success in international sports.

Sustainability communication is the purposeful integration of sustainability into a company's communication strategy, with the aim of providing information about the company's sustainability goals and results to various stakeholders: employees, customers, investors and the wider society. Thus, it is much more than an ordinary marketing tool and requires a clear embedding in the business culture. The notion of sustainability is rather broad in nature as it entails the three pillars of the triple bottom line, namely environmental, social and economic aspects (Hart and Milstein,

2003). When formulating their sustainability communication strategy and choosing its tools, companies must pay attention to three main things: planet, people and profit.

Main principles of sustainability communication: authenticity, transparency, engagement, consistency (Raskhova, 2024). In a large flow of information, companies must look for the most unique ways to attract the user's attention. Real and authentic communication helps to gain the favour and trust of consumers. Inclusivity helps to build a connection with the audience or specific stakeholders. In this way, consumers, employees, and company stakeholders are included in the dialogue, which strengthens their loyalty. Consistency should demonstrate the company's loyalty to its sustainability promotion promises and declared principles, which in the long run strengthens the company's reputation in the market. It is no less important to pay attention to transparency. The extremely rapid spread and popularity of the concept of sustainable consumption has led to a wave of exaggerated or inaccurate green communication - greenwashing. Walker and Wan define greenwashing as the gap between "symbolic" and "substantive" corporate social actions (CSA). Such dissemination of false information about the sustainability of their services or products is beneficial to companies that have not had time to adapt their strategies to the rapidly developing green market or businesses that do not even intend to do so. However, the skyrocketing incidence of greenwashing can have profound negative effects on consumer and investor confidence in green products. Mitigating greenwashing is particularly challenging in a context of limited and uncertain regulation (Delmas and Burbano, 2011). In response, the European Union reached a preliminary agreement in 2023 to ban greenwashing and to improve consumer information about goods/services and their production/supply. The directive entered into force in 2024 and will be applied from March 2026. Once this agreement comes into force, new clear prohibitions on the use of sustainability labels, general ecological claims and claims based on the compensation of greenhouse gas emissions will be introduced. In addition, for the first time, specific requirements will be set for environmental claims related to future environmental activities (Smielick, 2024). Companies will have to choose the claims that appear on packaging much more carefully, communicate with suppliers and communicate more responsibly on this topic (Baranauskas, 2024). Thus, it is to be hoped that bad decisions that unreasonably declare sustainability will decrease in the market and good practices will increase.

In order to communicate sustainability, companies usually choose one of three strategies: CCA (corporate capabilities), CSR (corporate social responsibility) and hybrid. CCA communication strategy – the creation of cognitive/psychological associations of stakeholders related to the capabilities of the company and products/services, using such templates as: high quality experience, global success, implementation of quality control programs, industry leadership (Dutot et al, 2016; Kim, 2011). CSR communication strategy uses such templates as environmental protection, philanthropic contribution, educational commitments, employee participation. Hybrid communication strategy – a mixed approach that aims to create

a connection with stakeholders using both information about the company's products or services and its social responsibility activities.

Figure 1 shows the types of corporate social responsibility (CSR) communication media, divided according to two criteria: the type of communication (instrumental and deliberative) and the way it is published (published and unpublished). Instrumental communication defines formal, traditional, usually one-way communication tools (e.g. sustainability reports, advertisements, labels). Deliberative communication is based on two-way communication and can be carried out via social networks or during a direct conversation. Published communication is used publicly, unpublished - intended for internal use.

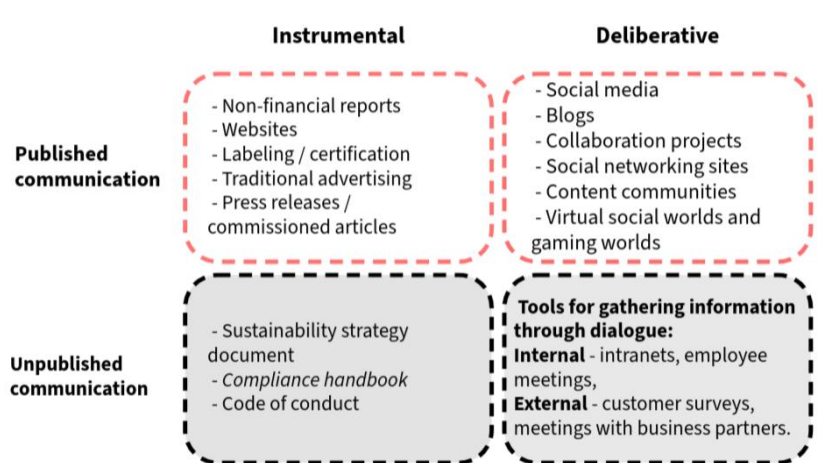|	Instrumental	Deliberative
Published communication	- Non-financial reports - Websites - Labeling / certification - Traditional advertising - Press releases / commissioned articles	- Social media - Blogs - Collaboration projects - Social networking sites - Content communities - Virtual social worlds and gaming worlds
Unpublished communication	- Sustainability strategy document - *Compliance handbook* - Code of conduct	**Tools for gathering information through dialogue:** **Internal** - intranets, employee meetings, **External** - customer surveys, meetings with business partners.

Fig. 1. Conceptual model Types of CSR communication media
Source: Seele and Lock (2014), Cornelissen (2020)

It is noted that CSR communication strategies are the most efficient. They are divided into three more subgroups: information, response and engagement. The information strategy is characterized by unidirectionality. Template messages aim to inform consumers and report news. Due to the lack of dialogue and the inability to foster mutual understanding, these strategies are often criticized as impractical, increasing scepticism, although it is noted that in corporate practice they are most often applied, considered traditional and official (El-Bassiouny et al, 2018). Response strategies are based on a two-way communication method. When communicating with consumers, the company seeks to influence their behaviour and attitude towards the company. The engagement strategy is developed in the same way as the response strategy, involving consumers, but here the aim is to establish a dialogue with them, receive feedback and include them in the process of developing a sustainability strategy. It is noticeable that the market is increasingly paying attention to consumer preferences, attitudes and opinions about business activities/products, their commitments to sustainability, which encourages companies to implement response and engagement strategies, but any dialogue begins with the proper and correct introduction of consumers to the company's

activities in the field of sustainability, which determines that the information strategy is considered the main one for communicating sustainability.

Considering the diversity of companies' activities and goals, the optimization of sustainability strategies is inevitable. Developments in the sustainability arena have significant implications on the strategic decision-making process of the firm as the sustainability challenge requires the revision of current management practices (Schrettle et al., 2014). It is important for each company to choose not only the most suitable strategy for itself, but also the most efficient means of its implementation in order to achieve maximum customer impact, better employee integration, stakeholder trust, the company's attractiveness to investors; as well as improving the brand's reputation, consumer loyalty and increasing the social contribution of business participants to a sustainable future. A good communication plan makes it possible to reinforce the reputation of companies and incorporate corporate values throughout the organization while also allowing for enhancing contact and engagement with its stakeholders (Borges et al., 2023).

One of the most important aspects determining the efficiency of sustainability communication is the reach and impact of consumers. A tool that, once it reaches the consumer, does not affect their daily consumption and does not influence their behaviour towards the product/service will be just as bad as a sustainability communication tool that has a lot of potential and impact, but is presented inappropriately and unconvincingly. Therefore, companies are forced to look for a solution to attract, interest and retain customers looking for sustainable products/services. In this age of technology, eyes are turned to visual and technological possibilities. As traditional advertising recedes, social media content is taking up an increasingly large part of the information sphere. Examples of prominent personalities and recommendations from influencers are changing the "word of mouth" information channel, which not only efficiently affects consumers, but is also financially profitable for companies. This is the single most efficient marketing tool that's ever been created. If you think about spending $1 on any form of marketing, whether it be television, radio, social media, ads, direct marketing with influencers is the highest ROI, lowest investment way to communicate your message (Raskhova, 2024).

Company websites play an equally important role. While information on social networks can sometimes seem superficial, companies can provide extensive information about the production of their products/services on their websites. Websites are becoming a key communication channel for social responsibility because the information provided on them can be accessed by the user at anytime and anywhere, and can be updated easily, quickly and without significant financial resources (Schröder 2021).

Thus, in a society driven by sustainability trends, companies must look for the most suitable sustainability strategies and means of implementing them. Sustainability communication cannot be based on the dissemination of excessive or incorrect information about sustainability (greenwashing). Therefore, it is important to look for the most efficient channels of user reach and influence. Currently, the

dissemination of social networks and information provided on websites serve this purpose perfectly.

3. Methods

In order to assess the efficiency of sustainability communication tools, a quantitative research method was used - a closed-ended questionnaire. This method was chosen because of its suitability for assessing the knowledge, attitudes, and behaviours of respondents. Researchers can find patterns, trends, and correlations by quantifying data that may not be visible by using only qualitative approaches (Creswell & Creswell, 2017). A closed-ended questionnaire was presented to ensure the clarity of the questions and the comparability of the data. The questions are formulated in such a way as to clearly define the boundaries of the answers and subsequently allow for easy statistical analysis. This research method allowed for standardization of the data and identification of relationships between different answers. The survey was conducted online to achieve greater accessibility and reachability.

The questionnaire consisted of four parts:

• demographic information (age, education).

• knowledge about sustainability. Questions designed to determine the respondent's knowledge of the topic under analysis.

• evaluation of communication tools and behaviour and attitudes. Questions about the sources through which sustainability information messages most often reach them.

• behaviour and attitudes. Questions about attitudes towards sustainability and daily consumption habits.

The collected data were analysed using descriptive statistics (frequencies, percentages). Such a methodology allowed for a reasonable assessment of the efficiency of sustainability communication tools for a portion of Lithuanian consumers.

4. Results

A total of 150 respondents answered the questionnaire. Their answers were analysed using Microsoft Excel and Google Forms tools. The first block of questions was designed to identify basic demographic information. It turned out that most respondents belonged to the 18-29 age group. The numbers of respondents belonging to the 30-44 and 45-59 age groups were approximately equal. Persons under 18 years of age made up a much smaller share of all respondents. The least number of respondents filling out the questionnaire was over 60 years of age.

When examining the level of education of the respondents, it turned out that the majority had secondary or lower education. The numbers of respondents belonging to other scientific level groups were distributed almost evenly. In general, the number of respondents with higher than secondary education reached more than two-thirds of all respondents. To the question "What is your average monthly income (after taxes)?" the majority answered that they receive between 501 and 1000 EUR per

month. A smaller proportion of respondents have an average monthly income of 1001-1500 EUR, approximately one fifth have no income at all. Fewer respondents earn more than 2000 EUR, one tenth less than 500 EUR. The smallest proportion of respondents receive 1501-2000 EUR, several respondents refused to answer this question.

The second type of question block, designed to determine respondents' knowledge about sustainability, showed that almost half of the respondents (46.7%) know what sustainability communication is. A third (30%) are partially familiar with this concept. Slightly fewer respondents (23.3%) did not know anything about sustainability communication. This suggests that the majority of consumers at least partially understand what sustainability communication is and can identify it in their environment.

The questions presented in the third type of question block made it possible to find out whether/how respondents react to sustainability communication and its dissemination tools. It was found that almost the absolute majority (95.3%) of the respondents notice sustainability communication tools in their environment. Only 4.7% had not encountered this. This allows us to assume that currently sustainability communication is disseminated efficiently and reaches the majority of consumers.

However, accessibility does not mean impact. Therefore, respondents were asked in the survey to indicate the sustainability communication tools through which they most often notice sustainability information. The most common means of sustainability communication were social networks. Outdoor advertising (posters, stands) was noted as a noticeable means. Slightly fewer respondents indicated information found on websites and markings on packages. An even smaller part of the respondents learned about sustainability from television, and a smaller number heard about it during events or campaigns. The least number of respondents notice sustainability messages when reading companies' environmental activity reports. Analysing these results, it can be noted that sustainability messages are most often noticed in two ways. The first is media dissemination. People can quickly find news about sustainability in the news feed of social networks and online portals or company websites. The second is the use of tools operating in the user's visibility zone. Outdoor advertising and markings on packages rarely slip past the eyes of the buyer or consumer, because they are simply part of their everyday life: advertising stands at bus stops, markings on milk or bread packages - all this is information seen every day, which one way or another penetrates the consumer's head over time.

When asked which specific sustainability communication tools are the most efficient, the votes were distributed similarly (Fig. 2). The most efficient tools were social networks, websites and packaging labels. Less frequently mentioned tools were television, billboards, events and campaigns. Respondents indicated corporate sustainability reports as the least efficient tool for sustainability communication. These results suggest that visual, easily detectable and understandable sustainability communication tools have the greatest impact on consumers. The influence of social networks in the twenty-first century is simply impossible to deny. This also applies

to communicating sustainability. Information provided on websites can have a significant impact, because after social networks, it is the first similar tool used to search for information. Packaging and product labels indicating sustainability are considered efficient because they create an impression of reliability and solidity. Any type of sign in the environment primarily serves the function of attracting attention and providing clear information, therefore, subconsciously, consumers tend to pay attention to the labelling on packaging in stores.
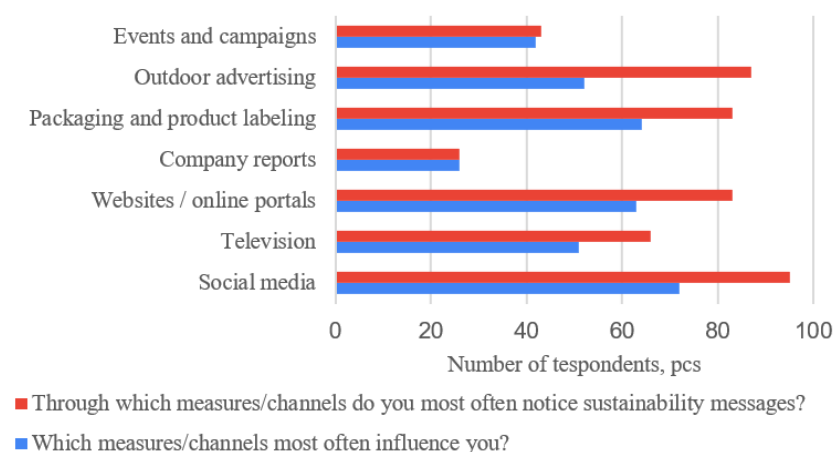
Fig. 2. Visibility and Efficiency of Sustainability Measures
Source: designed by the authors

When asked whether it is important for respondents that a product or service is produced/provided by a company that operates sustainably, 64.7% answered this question positively. 22.7% of respondents said that it is important for them sometimes, 12.7% of respondents said that such a condition is not necessary.

When asked whether they have changed or developed a new habit due to the impact of sustainability communication, half of the respondents (50.7%) answered "Yes". 26.7% answered "No", and 22.7% did not know the answer to this question. Respondents who answered positively to the latter question were asked which sustainability communication tools had the most impact on them. In the free-form part of the answers, the influence of social networks, websites, advertising and television was most often mentioned. The influence of corporate environmental responsibility reports and family members was also mentioned.

The fourth block of questions is devoted to the evaluation of sustainability communication and its tools. When asked how they assess the amount of sustainability communication, half of the respondents answered that the current amount is sufficient (Fig. 3). A smaller part of the respondents lacked information about sustainability, while another part had too much. A small group of respondents had no opinion on this issue. This distribution of respondents shows the interest of the public and consumers in the topic of sustainability and indicates that it is necessary to look for new or improve old sustainability communication tools, because for now the sphere of sustainability communication may not be operating at full

capacity and there is a significant part of consumers who still lack information about sustainability.

4% 17%
28%
51%

- Too much – I'm already tired of this topic
- Sufficient – there is as much information as needed
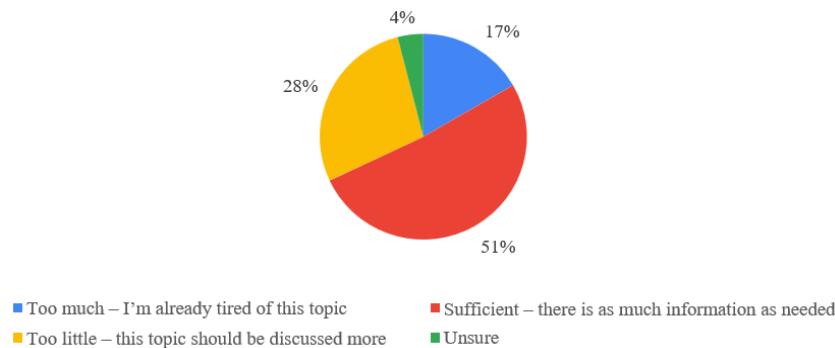- Too little – this topic should be discussed more
- Unsure

Fig. 3. Assessment of the Current Amount of Sustainability Information
Source: designed by the authors

Respondents were then asked to rate the sincerity of companies in communicating sustainability (Fig. 4). When asked whether companies communicate the right information in sustainability messages or are just concerned about the product, the majority answered that companies are only concerned with advertising. A similar number of respondents said that both options are possible. One fifth of respondents answered that sustainability messages usually convey the right information. Several respondents did not provide a specific answer.

1% 21%
37%
41%

- More often provide information
- Motre often advertise
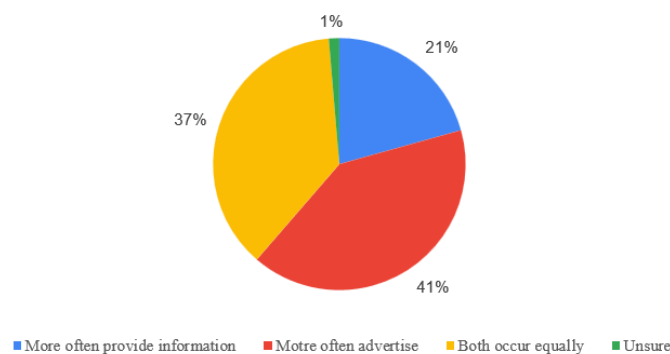- Both occur equally
- Unsure

Fig. 4. Accuracy vs. Promotion in Sustainability Messages
Source: designed by the authors

When asked whether the sustainability commitments communicated by companies reflect the company's real concern for sustainability or are just image-building, most respondents answered that it is more of a positive image-building (Fig. 5). They also believed that the answer depends on the specific company, and these facts cannot be generalized. A small part of the respondents believe that companies sincerely care about nature. Several respondents have no opinion. This attitude of the respondents towards companies' commitments and public declaration of sustainability, revealed in the last two questions, shows that consumers are quite

sceptical about companies' activities in the sphere of sustainability. Consumers are critical of companies' responsibility in the area of sustainability, which indicates that in the future, businesses must apply such sustainability communication tools that would promote customer trust and loyalty.
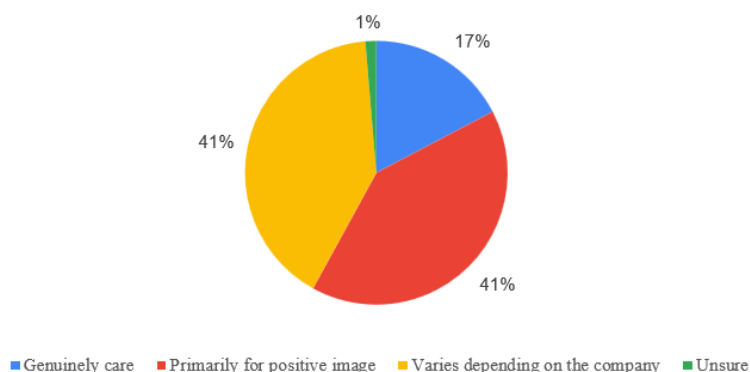

Fig. 5. Companies' Motivation: Genuine Care or Public Image
Source: designed by the authors

When asked what would encourage consumers to choose sustainable services or products, the most common reasons cited were the desire to contribute to environmental protection and the more affordable price of sustainable products/services (Fig. 6). Clear and understandable information about the sustainability of goods/services and the influence of family members were also often mentioned. The least likely to encourage respondents to live more sustainably would be a positive example from celebrities. A small proportion of respondents said that nothing would encourage them to choose sustainable products/services. It can be said that hand in hand with efficient sustainability communication, the internal, moral stimulus of consumers and the people around them to live more sustainably also goes hand in hand with the move towards a greener planet. The financial aspect is equally important. Therefore, businesses must not only play on the goodwill of consumers but also apply sustainability communication tools that reach consumers with different incomes.

Respondents were asked in the questionnaire to assess which forms and tools of sustainability communication were most convincing to them (Fig. 7). Most indicated numbers and statistics. Personal stories were also indicated as an efficient tool. Respondents were equally efficient at influencing spreadsheets, tests and emotional messages. Opinion leaders' messages and brand videos and advertisements were indicated as much less efficient. This shows that the efficiency of sustainability communication tools also depends on the credibility of those tools, which is achieved by providing unfalsified information and creating a circle of loyal users who later share their experiences.
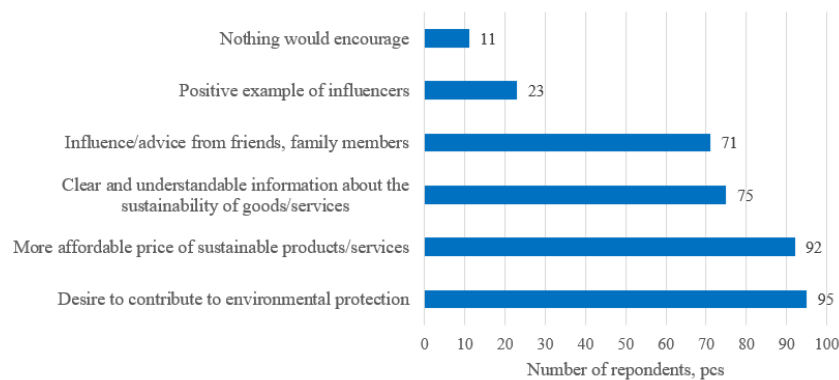
Fig. 6. Factors Encouraging the Choice of Sustainable Products/Services
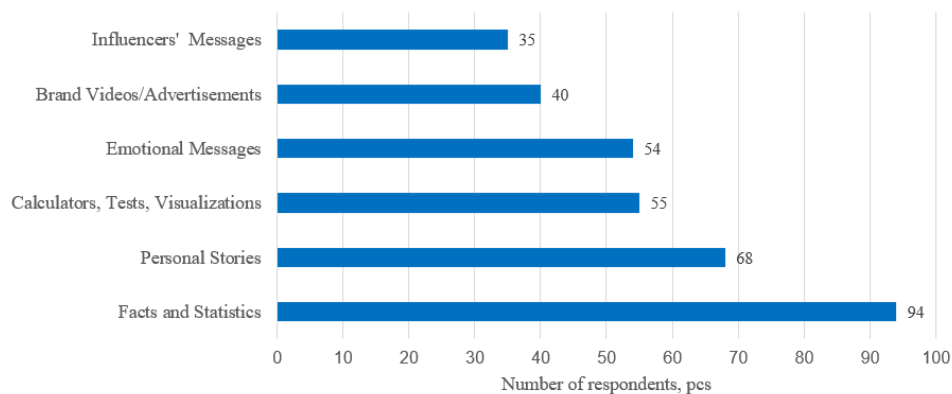Source: designed by the authors

Fig. 7. Most Persuasive Forms of Sustainability Messaging
Source: designed by the authors

When asked whether efficient sustainability communication is necessary for a company's successful operations, 80% answered in the affirmative, 20% chose the answer "No". Such answers only prove how important the selection and use of appropriate communication strategy tools are in creating a company's success.

At the end of the survey, respondents were asked to write about sustainability communication tools that product suppliers/service manufacturers do not use or use insufficiently. 32 responses were received to this question. Respondents identified three main tools. Some said that television or social media-type advertising could be transferred to the radio and broadcast in an audio format rather than a visual one. A large part mentioned children's education and information in schools as one of the most efficient and untapped ways to promote sustainability communication. It was suggested to introduce ecology lessons in schools, give lectures to students about sustainability, and otherwise introduce useful habits that they could later start using at home. The third measure is a greater amount of information in public catering establishments: nutritional value displays, display of the composition of dishes, declaration of origin of the products from which the dishes are made, or posters inviting people to choose a healthy diet.

Thus, the results of the study allow us to conclude that sustainability communication is noticeable in society. The answers to the questionnaire most often indicate the most efficient means of sustainability communication - social networks. Of course, there are many other channels through which companies successfully reach consumers with sustainability information: website content, packaging labels, outdoor advertising. However, consumers tend to be critical of business activities in this area, so it is important for companies to find and improve the most appropriate and efficient means of sustainability communication.

5. Conclusions

Sustainability communication in the twenty-first century consumer society has already become an important tool for achieving sustainable consumption and reducing the burden of human activity on nature. Today, sustainability communication is becoming an integral part of companies' activities, shaping their reputation and competitive advantage. Therefore, it is important that sustainability is communicated uniquely, consistently, and most importantly - transparently, in order to avoid greenwashing, which encourages consumer distrust. It is necessary to choose the right strategy for appropriate sustainability communication. Research shows that despite the wider use of perception and inclusion strategies, the key and main one is the information strategy that allows companies to properly inform their customers about their sustainability commitments. The implementation of each strategy requires choosing the most efficient means. Researchers and business representatives note that visual communication conveyed through online content is the most efficient. The most efficient means include communication on social networks and information provided on websites.

The results of the research revealed that sustainability communication is quite widely observed among some consumers in Lithuania. Most often, consumers notice sustainability messages on social networks, websites or on product packaging. This shows that visually attractive, easily accessible and integrated tools are most efficient. However, a significant number of consumers remain sceptical and tend to believe that sustainability communication carried out by companies is often just creating a positive image of the company, which does not reflect the real situation and actions. The most reliable tools for respondents are those based on real facts, statistics or personal stories. The respondents usually choose sustainable products for moral reasons and claim that not all sustainability communication channels, such as radio or education in schools, are fully utilized. In summary, it can be stated that sustainability communication in Lithuania is quite efficient, but companies should focus on transparency and real actions in order to ensure maximum consumer engagement and trust.

In order to examine in more detail, the efficiency of sustainability communication tools for consumers, it would be necessary to discuss this topic in more depth with both parties: the receiver of information (consumers) and the provider (producers). This would allow us to observe not only which form of communication, and its

channels reach consumers, but also through which means companies receive the most feedback from their consumers. It would be possible to analyse the situation in different sectors. It is also recommended to study a larger group of consumers and conduct such studies periodically.

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