



Publisher

<http://jssidoi.org/esc/home>



THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT GOALS THROUGH COMMUNICATION TOOLS

Kristina Samašonok ¹, Margarita Išoraitė ²

^{1,2} *University of Applied Sciences, Saltoniškių Str. 58, Vilnius, Lithuania*

E-mails: ¹k.samasonok@vuf.viko.lt; (Corresponding author); ²m.isoraite@vuf.viko.lt

Received 18 November 2022; accepted January 30 2023; published 30 March 2023

Abstract. The article validates the assumptions of implementing sustainable development goals (SDGs) using communication tools from a theoretical point of view. The research investigates the possibilities of implementing the SDGs through communication tools. 198 respondents took part in the study. Analytical descriptive, quantitative and statistical methods were used. The quantitative research strategy (questionnaire survey) was used to determine respondents' attitudes towards the SDGs in the environmental, social and economic spheres, to identify their experiences of engaging with the SDGs and to explore the possibilities of managing the SDGs using communication tools. Quantitative data analysis was carried out by calculating the analysis of variance (ANOVA) and percentage distribution (frequency). The results showed that more than two-thirds of the respondents were self-critical about their efforts to engage with the SDGs, with an overall mean score of $M = 4.81$ out of a maximum of 10. The research also found that more than half of the respondents are sometimes influenced and encouraged to act by the information provided on sustainable development and its implementation, and almost a quarter of the respondents are strongly influenced by the information towards the implementation of sustainable development principles. This confirms the importance of communication as one of the possible solutions to the implementation of the SDGs and indicates the need to find more effective means of information to enable the use of the chosen means of communication to shape attitudes towards sustainable development by exploiting the potential of television and websites, which, according to respondents' assessments, are the most frequent means of receiving information on sustainable development processes. The research results also revealed the need to strengthen the social responsibility of organizations and organize courses and training, which, according to the participants, need to be sufficiently exploited in the context of the prerequisites for disseminating sustainable development objectives and their implementation. The research results will have a lasting value for the scientific debate on the impact of the communication tools used in the implementation of the SDGs and their practical implications for the provision of guidelines for the management of sustainable development processes through communication tools.

Keywords: sustainable development; social dimension; economic dimension; environmental dimension; communication tools

Reference to this paper should be made as follows: Samašonok, K., Išoraitė, M. 2023. The implementation of sustainable development goals through communication tools. *Entrepreneurship and Sustainability Issues*, 10(3), 102-122. [http://doi.org/10.9770/jesi.2023.10.3\(8\)](http://doi.org/10.9770/jesi.2023.10.3(8))

JEL Classifications: M30, M31

Additional disciplines: information and communication

1. Introduction

Melting glaciers, polluted water and air, and economic and social problems are growing concerns and prompt everyone to think and constantly look for solutions. The importance of sustainable development is emphasized to ensure the well-being of society for present and future generations and the survival and prosperity of humanity within the limits of acceptable environmental impacts. The United Nations General Assembly adopted 17 Sustainable Development Goals back in 2015, which are based on environmental, social and economic dimensions, covering the reduction of poverty and social exclusion, improvement of quality of life, health and education, sustainable management of resources, environmentally friendly production and use of resources, combating climate change, gender equality, peaceful societies, and others.

Research on the SDGs and their implementation has been carried out by Kates et al. (2005), Alraja et al. (2022), Arief et al. (2022), Burns (2016), Díaz-López et al. (2018), and others. There are also documents related to sustainable development, such as the National Sustainable Development Strategy (2009; 2011), and the Report on the Implementation of the National Strategy for Sustainable Development (2012)), which discuss possible ways to implement and manage sustainable development, develop models, and focus on sustainable production and consumption, among other topical issues. However, it should be acknowledged that, despite the efforts made, environmental problems, air pollution, climate change, the waste of natural resources and irresponsible consumption, poverty, unemployment, social inequalities, and educational deficiencies continue to be a challenge today. The subject of the SDGs and their implementation, and the theoretical and practical issues related to it, therefore, remain relevant and oblige the search for ways and means of tackling poverty and hunger reduction, health and education, sustainable management of resources, the fight against climate change, and other problems. One possible approach to managing sustainable development processes is using communication tools. By examining their impact on changing people's thinking and behaviour, it may be possible to predict the extent of the influence of communication and marketing in managing the SDGs. The added value of this type of research is to provide theoretical arguments on the preconditions for the use of communication and marketing tools in the implementation of the SDGs, as well as to identify the most effective ways and means of managing the implementation of the SDGs and of promoting consumer involvement in the SDGs through the results of an empirical study.

Janoušková et al. (2019) investigate how the media worldwide communicate on sustainability issues. The authors analyze the news media on sustainability issues over the last ten years in their paper. Janoušková et al. (2019) observe that while a few studies on the role of the media in sustainability communication have emerged recently, they tend to analyze the content (how a chosen topic such as climate change is conveyed) or explore particular communication theories. In the abovementioned article, the authors provide insight into how the media harnesses the communication potential of the holistic concept of sustainable development by examining global newspaper articles covering sustainability topics. Arief et al. (2022) point out that sustainability communication can be divided into participation and empowerment. From a social, regional or environmental perspective, any intervention must be based on a participatory model to be sustainable. Future concerns are expected to be linked to current needs through communication. The authors examine how sustainability communication contributes to children's knowledge. This study focuses on learning systems, processes and management in response to sustainability concerns.

The paper concretizes the problematic question: what are the preconditions for implementing the SDGs using communication tools?

The research explores the potential of communication tools to achieve Sustainable Development Goals.

Objectives of the research:

1. To identify the prerequisites for using communication tools to implement Sustainable Development Goals through an analysis of the scientific literature on the topic.
2. To determine respondents' attitudes towards the SDGs in the environmental, social and economic spheres.
3. To identify the participants' experiences in the study regarding their involvement in implementing the SDGs.
4. To explore the potential of communication tools to promote engagement in sustainable development processes.

2. The Sustainable Development Goals and their implementation: theoretical aspects

Scientific conceptualization of sustainable development, historical approach and research issues. Interest in sustainable development emerged in the 20th century. Lélé (1991) argues that in the last few years, "sustainable development" (SD) has become the latest development buzzword. Many NGOs and governmental organizations have adopted it as a new development paradigm (Zheng et al., 2020). A review of the literature on sustainable development shows that its interpretation is inconsistent. The current formulation of sustainable development is seriously flawed. These include an incomplete understanding of the problems of poverty and environmental degradation and confusion about the role of economic growth and the concepts of sustainability and participation. International trade, agriculture and forestry illustrate how these shortcomings can lead to weaknesses and contradictions in policy-making. The subject of Sustainable Development Goals and their implementation cannot be addressed without clarifying the concept of sustainable development. Žičkienė et al. (2019) argue that translating the term sustainable development into the Lithuanian language raises many debates. According to the authors, various Lithuanian versions of the term have been proposed: *harmoningas vystymasis*, *subalansuota plėtra*, *tausojančias vystymasis*, *tolydi plėtra*, *darni plėtra*, *tvari plėtra* etc. Other non-English-speaking countries also have difficulties with the national equivalent of the first word sustainable. English-Lithuanian dictionaries offer the following translations of the word sustainable: "išlaikantis ekologinę pusiausvyrą", "vykstantis pastoviai", "vykstantis nuosekliai", "išlaikomas", "palaikomas", "nuosekliai perteikiamas", "tvarus", "darnus", "tausojančias", "tausus". Burns (2016) observes that the concepts of "sustainability" and "sustainable development" have been extensively analyzed in the academic literature. These concepts have emerged from political and administrative processes. There has been a diversity of approaches to defining sustainable development. Environmental problems have been added to the previous issues under discussion. Meanwhile, Klarin (2018) argues that the concept of sustainable development is based on the concept of development (socio-economic development that meets ecological constraints), the concept of needs (redistribution of resources to ensure the quality of life) and the concept of future generations (the possibility of long-term use of resources to ensure the necessary quality of life for future generations). Kiselakova et al. (2020) note that in the international literature, attempts to operationalize the level of sustainable development in different countries around the world could be found. Difficulties in measuring sustainable development arise from the diversity of definitions and factors of this development. The choice of indicators to measure the implementation of the concept of sustainable development is the subject of ongoing debate. Mensah et al. (2019) argue that sustainable development has become a buzzword in development discourse, associated with different definitions, meanings and interpretations. SD would mean development that can continue indefinitely or for a certain period (Dernbach, 2003; Stoddart, 2011). Structurally, the concept can be seen as a phrase consisting of the two words "sustainable" and "development". Just as each of the two words that together make up the concept of sustainable development, "sustainable" and "development", have been defined from different perspectives, so too has the concept of sustainability been approached from various perspectives, resulting in a plethora of definitions.

Ministry of Environment of the Republic of Lithuania (2022) states that sustainable development is a path for the modern and responsible development of the state and its society, based on three equal policy areas - environmental protection, economic development and social well-being. In sustainable development, a historical retrospective is necessary to understand the relevance of developing and implementing strategies to achieve the SDGs in the scientific debate. Over 25 years ago, the first steps were taken to establish sustainable development worldwide. The Rio Declaration was adopted in Rio de Janeiro, listing the principles of sustainable development.

Subsequent international documents - the Johannesburg Plan of Implementation, the Rio+20 conclusions and others - have consolidated national agreements towards a more sustainable world. However, the growing human population, the depletion of natural resources, the increasing pollution of the environment, and other environmental, economic and social problems beyond national borders, call for a constant reminder and a more responsible implementation of the principles of sustainable development.

Kates et al. (2005), in their analysis of "what is sustainability", identified three main categories - nature, life support systems and community - as well as intermediate categories for each, e.g. land, environment and culture. Based on the literature reviewed, these authors found that the most common focus was on life support systems defining nature or environment. Meanwhile, Misiūnas et al. (2009) note that sustainable development must ensure economic growth and the compatibility of economic activities with environmental, social and intellectual aspects. This now widely accepted idea implies that economic growth, as the primary and only development goal, is insufficient to ensure the well-being of present and future generations.

Płonka et al. (2022), in their analysis of sustainable development, point out that the modern world increasingly desires sustainable development, which encompasses a clean and friendly environment; stability of living conditions; and health, energy and food safety. Meanwhile, Basheer et al (2022) note that the world is facing significant pressures and threats to sustainable development. Population growth, rising inequalities, climate change and emerging zoonotic diseases undermine many recent gains in human well-being, and the planet's health is deteriorating rapidly.

Jamoussi et al. (2022) note that a new approach is appropriate, expressing the need to integrate sustainable development and territorial attractiveness. The authors show the extent to which an evidence-based analysis of the SDGs influences the ranking of countries according to their level of development and their ability to move up the ranking of their performance. Based on data from a group of 52 countries observed over the last ten years and explicitly taking into account the "auxiliary" variables of sustainability, attractiveness and economic growth linked to measurable indicators, the paper aims to assess the main trends in sustainability. The authors' study confirms the growing gap between countries regarding their social, economic and environmental policies.

Sari Hassoun and Ayad (2020) claim to have examined the relationship between renewable energy and sustainable energy development. The authors used an endogenous variable as a driver of sustainable development, renewable energy consumption as an exogenous variable, and control variables such as gross fixed capital formation and labour force.

Sustainable development goals. Klarin (2018) argues that another way to define sustainable development is to consider what it aims to achieve. To illustrate, it is helpful to examine the three sets of goals used for different time horizons: the short-term (2015) goals of the United Nations Millennium Declaration, the short-term (2015) goals of the United Nations Millennium Declaration; the two-generation transition goals of the Council for Sustainable Development (2050); and the long-term (post-2050) goals of the Great Transition of the Global Scenario Group.

Fayomi et al. (2018) argue that the eight MDGs are: to reduce deprivation significantly; achieve the learning goals; promote gender equality; reduce child mortality; improve maternal well-being; combat HIV/AIDS, intestinal diseases and various ailments; ensure ecological support; and to create a universal development organization.

Díaz-López et al. (2021) argue that the article comprehensively analyses the MDGs. The literature review shows that discourses on sustainable development have evolved in transitioning from the SDGs to the MDGs. The MDGs had some shortcomings. It was recognized that the implementation of the SDGs needed to be improved.

The MDGs thus mark a historical and practical approach to global mobilization to achieve critical social priorities worldwide. They express broad public concern about poverty, hunger, diseases, gender inequality and environmental degradation. The SDGs help to promote global awareness, political ownership, improved indicators, social feedback and public pressure.

Sustainable development marketing. Kumar et al. (2012) and Belz, Peattie (2012) argue that a sustainability marketing strategy not only adds value to the customer but also builds long-term relationships with customers, which is good for business, society, and ecology. "Sustainable marketing is the marketing that effectively builds long-term relationships with customers - without any specific reference to sustainability or consideration of sustainability issues." Meanwhile, Danciu (2013) notes, that green marketing is an integral part of green development solutions, although sustainable marketing should also be part of and support sustainable development. To meet the challenge of sustainable development, sustainable marketing can promote more sustainable consumption levels and patterns. As Danciu (2013) states, citing Belz and Karstens (2010), sustainable marketing is "a management concept that takes care of environmental and social needs and ultimately transforms them into competitive advantages, providing value and satisfaction to customers". Green marketing is a set of practices aimed at increasing the value of brands, goods, information products and services related to environmental aspects and environmental and social responsibility. It also includes environmentally friendly products, information products and services, and practices that promote preserving the environment. Choudhary et al. (2013) argue that today green marketing encompasses a wide range of activities, including product modification, manufacturing process modification, packaging modification, and advertising modification. Other related green marketing terms are eco-marketing, environmental marketing and sustainable marketing. According to the American Marketing Association (AMA), green marketing can be defined in three ways: first, green marketing is the marketing of products that are safe for the environment (Retail Definition). Secondly, green marketing is the development and marketing of products designed to reduce the negative impact on the physical environment or to improve its quality (Social Marketing definition). Thirdly, green marketing is the efforts of organizations to produce, promote, and package products in a way that is sensitive or responsive to ecological processes (definition of the environment). Hsiao (2013) argues that to understand consumer behaviour, we should know how much consumers know about an eco-friendly product, what information they will pay attention to and which information will influence their choice, which will reflect what product characteristics the consumer has observed and what information has been used to assess the product's environmental performance. Dyma (2015) notes that sustainability initiatives should be initiated by senior management and supported by other employees. Partners and competitors also play an essential role in this process. Potential employees, investors, partners and other stakeholders are beginning to pay more attention to the company's sustainability initiatives.

Zhang et al. (2020) analyzed five significant emerging trends that will have a lasting impact on marketing theory and practice over the next decade and beyond: (1) market changes influencing the emergence of new business models and market dynamism; (2) technological developments driving consumer privacy and surveillance concerns; (3) socio-economic changes associated with increasing income inequality; (4) geopolitical changes and increased levels of international protectionism; and (5) environmental developments related to the sustainability of natural resources.

Matharu et al. (2020) note that the idea of sustainable marketing is to promote the development of the concept of sustainability and seeks to meet the needs of consumers without compromising the needs of future generations.

Papadasa et al. (2020) analyze that as green marketing becomes an essential tool for sustainable business strategy, companies are adopting green marketing practices to achieve better business results. However, research still needs to validate all the organizational aspects required to become a green marketing-oriented company.

Lee (2016) evaluated corporate sustainability marketing communications on social media implemented by "Fortune 500" companies. The results reveal significant differences between sustainability marketing communications on blogs and Facebook. This study makes a theoretical contribution by proposing a consumer-oriented framework that incorporates sustainability issues, the promotion of sustainable thinking and the promotion of sustainable consumption. It also shows how companies' sustainability marketing communications vary across different social media. Galiano-Coronil et al. (2021) argue that social networks have been described as part of political campaign strategies because they allow political leaders to establish a two-way connection with citizens. This study aims to empirically investigate leading Spanish political publications from a social marketing perspective. This way, it will be possible to verify how the Sustainable Development Goals (SDGs) are addressed. It should be noted that this study's results show differences between the social issues published by political parties, those that receive a better public response, and those that are most frequently posted on Facebook.

Tiagoa et al. (2021) note that in many sectors, consumers consider eco-labels to guarantee that companies are operating according to sustainability principles. The same is partly true in the tourism sector. The results show that (1) eco-label promotion by local official entities does not have a significant impact on the certification rates of local accommodation, but (2) smaller companies value eco-labelling when promoting their offerings on the Internet.

Alraja et al. (2022) argue that the Covid-19 pandemic has dynamically changed the business environment and raised sustainability as an issue in the business world. Business activities that challenge environmental stability have become exposed to more significant risks. Organizations have committed to being environmentally friendly and have adopted technologically advanced approaches to conducting sustainable operations.

The impact of communication and awareness-raising measures on the Sustainable Development Goals. Sustainable development initiatives will achieve the desired result with active and effective communication. Internal and external communication must reinforce the commitment of all parties to the idea of management based on the principles of sustainable development. Fischerabi et al. (2022) note that communication is essential in promoting sustainable consumption. Nadanyiova et al. (2020) analyze that green marketing, as part of socially responsible communication, can positively influence the attitudes of individual target groups towards a brand. Therefore, it is necessary to target communication to distinct target groups, which can be differentiated according to the consumer's age. However, how communication and sustainable consumption are conceptualized and linked in the academic literature still needs to be better understood, despite the growing number of communication research in the context of sustainable consumption. This paper provides the first comprehensive overview of sustainable consumption communication (SCC) research as a young and developing field of academic work.

Carrión-Martínez et al. (2020) point out that technological advances have played a critical role in our society in recent years and various educational contexts, including education for sustainable development. Information and communication technologies have made it possible to improve the quality of life of many people. The study by Carrión-Martínez et al. (2020) aims to review the scientific evidence on the use of ICT for sustainable development. The study results showed that mobile and distance learning are essential strategies for achieving the SDGs. Primožič et al. (2022) argue that communicators seek better communication strategies related to climate change, global warming, sustainability, etc. Today's issues related to climate change and sustainability are widespread across countries. In addition, the field of communication has undergone many changes due to technological developments and the speed of the Internet. Moser (2010) notes that social networks have become an important part of companies' marketing strategies. The development of communication technologies and digital platforms has brought many advantages, such as the ability to easily reach more people and create greater engagement; on the other hand, it has also led to the spread of misinformation without any control over what is being spread around. Kuzior et al. (2020) point out that the need to introduce and improve eco-marketing tools for the sustainable development of large industrial regions is essential. In the current context, it is in high demand. In

particular, the abovementioned authors note the social and economic efficiency of implementing the global sustainable development doctrine in regions with high industrial potential and thus impose a high ecological burden on the health of the socio-regional population and the community's living standards. Secondly, it is about the new challenges of globalization, linked to the introduction of the digital economy and new information technologies, without which intensive industrial development is taking place and the diversification of traditional energy-intensive industries in the light of innovations. García-Hernández et al. (2023) stated that in the last decade, new information and communication technologies have been widely used (ICT) in education has changed the nature of the teaching and learning environment in recent years. However, appropriate use of ICT is necessary to promote educational practices that contribute to this is sustainable development. Pilař et al. (2019) et al. stated that social media has become a particularly important platform for discussing sustainability in various contexts. Twitter's ubiquity makes it a handy tool for fostering a discussion that can lead to interactions with savvy users who hope to engage in dialogue on a topic. According Pilař et al. (2019) et al. based on this knowledge, the following key aspects of Twitter communication related to sustainability can be identified:

- The topic most related to sustainability is the area of innovation;
- Innovation is associated with technology (45% of all innovation-related tweets), which is most associated with the environment (26% of all technology-related tweets);
- Innovation in renewable energy is focused on mitigating climate change emissions of greenhouse gases;
- CSR, in terms of sustainability, is focused on ESG principles.

Cioacă et al. (2020) stated that the promotion of the ICT sector promotes the factors of sustainable development, but also changes the way added value is generated, resulting in increased productivity. With everyone these positive and negative aspects of digitization due to the complexity of the ICT sector, high qualification of the workforce and advanced technologies installed. The share of the ICT sector in the European economy has had and continues to have a positive impact. Development this sector led to GDP growth in less developed European countries.

3. The research methodology

Organization and sample of the study. The total sample consisted of 198 Lithuanian residents, of whom more than two-thirds were women (n=132 (66.7%)) and only 65 (32.8%) were men, and one respondent did not specify the gender. The analysis of the age distribution shows that more than half of the respondents were 36 years and older (n=115 (58.1%)), while a smaller proportion of the respondents belonged to the age group under 35 years (n=83 (41.9%)). The research sample is convenient.

The method of questionnaire distribution used was an online survey. The survey was conducted based on the ethical principle of voluntariness and free choice of participation. The survey was carried out anonymously, and the results were processed and presented in summary form.

Research methods. Analytical descriptive. The scientific literature related to the topic was analyzed, and the results were summarized. Scientific literature and documents on Sustainable Development Goals and their implementation through communication tools were analyzed. *Quantitative research method.* A quantitative research method (questionnaire survey) was used to analyze the opinion of the Lithuanian population towards the SDGs and their implementation, the experiences of the participants in the study in terms of their involvement in the implementation of the SDGs, and to predict the prerequisites for the implementation of the SDGs using communication tools. The questionnaire was constructed based on theoretical insights and the SDGs' social, economic and environmental dimensions identified in the scientific literature.

The validity of the questionnaire was established by calculating Cronbach's alpha values. The results of the statistical analysis of the data show that the overall internal consistency of the questionnaire's statements (number of variables = 54) is relatively high (Cronbach's alpha = 0.84) and ranges from 0.8293 to 0.8419. The internal

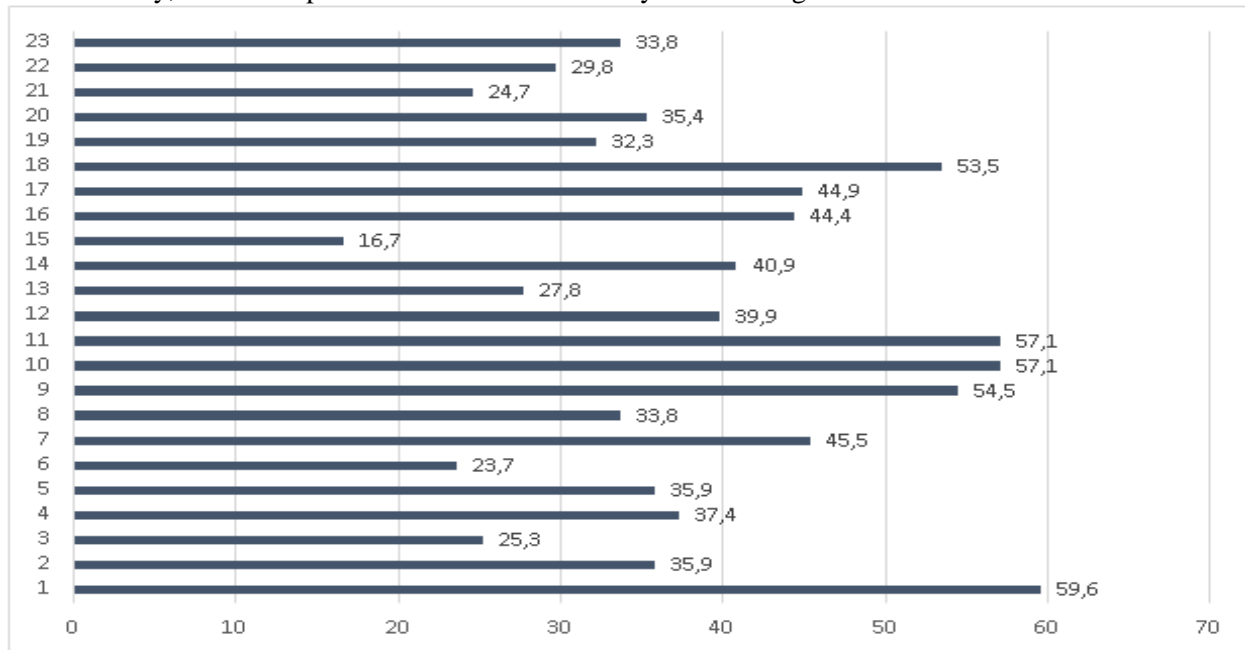
consistency of the variables was also checked for each group of questionnaires separately. In defining the SDGs and their implementation through communication tools, the questionnaire identified constructs covering: respondents' perceptions of the SDGs and their importance, how the SDGs and their implementation are communicated and disseminated, and the efforts made by the respondents to contribute to the SDGs. After calculating the values of Cronbach's alpha coefficient of the group of ways which consists of 11 statements of Communication and Dissemination of the SDGs and their implementation, Cronbach's alpha = 0.824 and varies from 0.816 to 0.831. The estimated internal consistency of the group of statements designed to assess the respondents' views on the implementation of the SDGs and their importance (number of variables = 23) has a Cronbach's alpha of 0.7439, ranging from 0.727 to 0.7461. The estimated internal consistency of the group of statements designed to assess the respondents' views on the implementation of the SDGs and their importance (number of variables = 23) has a Cronbach's alpha of = 0.9084, ranging from 0.9005 to 0.91. Based on the fact that internal consistency should be between 0 and 1 and a Cronbach's alpha of 0.60 is considered appropriate for research (Pakalniškienė, 2012), the Cronbach's alphas calculated in this study show the consistency of the groups of questions and the fact that the variables included in the constructed questionnaire are representative of the part under investigation and are oriented towards the study of the management of sustainable development processes through the use of communication tools. *Statistical research method*. Statistical analysis methods were used to process the data collected during the study: descriptive statistics (statistical averages, standard deviations). Quantitative data analysis was also carried out by calculating the analysis of variance (ANOVA) and percentage distribution (frequency). The difference was considered statistically significant when the significance level was less than 0.05. Data were processed using SPSS software version 17.

4. The research results and their analysis of the chapter

When examining the possibility of using communication tools to manage sustainable development processes, it is crucial to analyze this in an integrated way by looking at research participants' attitudes towards the importance of the SDGs and their implementation, as well as their assessment of the information they receive about the SDGs through various channels, and of the efforts they make to contribute to the SDGs.

The analysis of the participants' opinions on the implementation of the SDGs (see Picture 1) shows that more than half of the respondents think that in the implementation of the SDGs, it is important to ensure comprehensive and high-quality education (59.6%), healthy life and health for all age groups (54.5%), as well as reducing air (57.1%) and water (57.1%) pollution and promoting responsible consumption (53.5%). A slightly smaller proportion of respondents identify the importance of the SDGs with promoting economic growth (45.5%), innovation (40.9%) and environmentally friendly businesses (44.4%), as well as ensuring responsible production and services (44.9%). Thus, considering that marketing is becoming an essential tool of the sustainable development strategy, the promotion of responsible production and services and the creation of environmentally friendly businesses, as well as the use of technologically advanced methods and innovation to carry out sustainable activities, are identified as among the key aspects linked to the SDGs. On the other hand, more than a third of the respondents highlighted the importance of creating new jobs (33.8%), eradicating poverty in all its forms (37.4%), ensuring food supply and better nutrition (35.9%) and preserving oceans and marine resources (39.9%), as well as promoting lifelong learning (35.9%), and improving existing laws (35.4%) and strengthening instruments (33.8%) in the pursuit of the sustainable development goals. Thus, the results show that participants in the research identify the importance of the SDGs with the environmental, social and economic aspects and recognize the importance of promoting economic growth, protecting the environment, innovating and creating environmentally friendly businesses, and changing consumer attitudes towards responsible production, services and consumption. Meanwhile, only a small number of the research participants identified the creation of new laws (24.7%), the achievement of gender equality (25.3%) and the promotion of agriculture (23.7%) as essential objectives in managing sustainable development processes. And only 16.7% of respondents considered the development of transport diversity and the encouragement of a mix of modes of transport when travelling to be important for

implementing sustainable development objectives. Based on the latter result, it is important to point out that the content of communication in the context of the SDGs should not only focus on quality education, healthy living and health for all age groups, economic growth and sustainable marketing but also on the promotion of elements such as changes in the production process and the production of environmentally safe products, but should also address relevant issues and contribute to shaping people's attitudes and values by changing the public's daily transport habits, such as reducing air pollution, increasing emphasis on promoting sustainable mobility and multimodality, and the implementation of sustainability ideas through communication tools.



Picture 1. Attitude of research participants towards the implementation of SDGs (n=198; %)

Remark:

- | | |
|---|--|
| 1. Ensure comprehensive and high-quality education | 12. Preserve oceans and marine resources |
| 2. Promote lifelong learning | 13. Apply fines for environmental violations |
| 3. Achieve gender equality | 14. Promote innovation in sustainable development |
| 4. Eradicate poverty in all its forms | 15. Develop of transport diversity and encourage a mix of modes of transport when travelling |
| 5. Ensure food supply and better nutrition | 16. Encourage the creation of environmentally friendly business |
| 6. Promote agriculture | 17. Ensure the creation of responsible production and services (energy, food, tourism, etc.) without polluting the environment |
| 7. Promote economic growth, employment and job security | 18. Promote responsible consumption (waste sorting, recycling, etc.) |
| 8. Create new jobs | 19. Take urgent action to combat climate change and its effects: managing deforestation, restoring wildlife, combating desertification, halting soil erosion |
| 9. Ensure healthy life and health for all age groups | 20. Improve existing laws to promote the Sustainable Development Goals |
| 10. Reduce air pollution | 21. Create new laws to promote SDGs |
| 11. Reduce ocean pollution | 22. Promote cooperation with institutions pursuing sustainable policies |
| | 23. Strengthen measures to implement sustainable development |

The comparative analysis of the data showed that attitudes towards certain SDGs and the importance of their implementation are statistically significantly related to the age of the respondents (see Table 1). The results of the analysis of variance showed that a higher proportion of younger respondents in the age group under 35 years

consider gender equality (44.6%), food supply and better nutrition (44.6%), and the creation of new laws to promote the SDGs (34.9%) to be important in the implementation of the SDGs than was considered by the older participants (aged 36 years and over) (11.3%, 29.6% and 17.4%, respectively); using analysis of variance (ANOVA), these variables were statistically significantly related to the age of the participants ($F=32.654$, $p=0.001$, ($F=4.791$, $p=0.03$, and ($F=8.222$, $p=0.005$, respectively)). Meanwhile, promoting agriculture (29.6%), ensuring responsible production and service creation without polluting the environment (53.9%) and promoting responsible consumption (waste sorting, recycling, etc.) (60.9%) were all statistically significantly higher in the opinion of older respondents (aged 36 and over) than in the opinion of respondents aged 35 and under (15.7% and 15.7% respectively). These variables were statistically significantly related to the age of the respondents ($F=5.231$, $p=0.023$, $F=9.233$, $p=0.003$ and $F=6.054$, $p=0.015$, respectively).

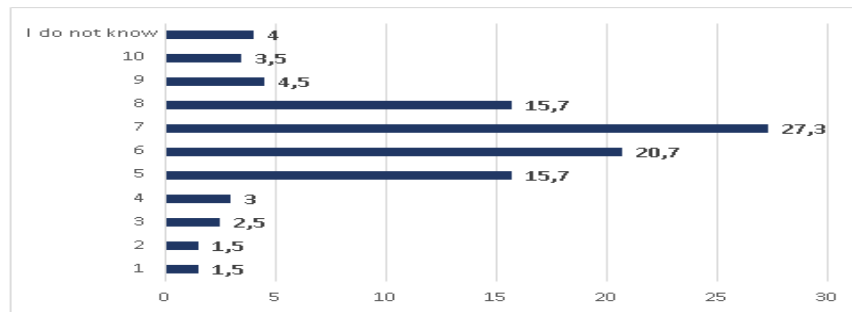
Variance analysis showed that ensuring comprehensive and high-quality education ($F=1.072$, $p=0.302$), promoting lifelong learning ($F=0.278$, $p=0.599$), as well as eradicating all forms of poverty ($F=3.188$, $p=0.076$), assessing the importance of promoting economic growth ($F=2.33$, $p=0.129$), creating new jobs ($F=3.261$, $p=0.072$) and ensuring healthy life and health for all age groups ($F=0.006$, $p=0.938$) in the implementation of sustainable development goals is not statistically significantly related to the age of the participants. Also, the analysis of variance (ANOVA) revealed that reducing air ($F=0.157$, $p=0.692$) and water ($F=0.033$, $p=0.855$) pollution, preserving the ocean and marine resources ($F=0.001$, $p=0.973$), promotion of innovation in the sustainable development ($F=2.108$, $p=0.148$), as well as the development of transport diversity and the encouragement of a mix of modes of transport when travelling ($F=0.004$, $p=0.949$), promotion of the creation of environmentally friendly businesses ($F=0.697$, $p=0.405$), improving existing laws by promoting the implementation of sustainable development goals ($F=0.636$, $p=0.426$), promoting cooperation with institutions implementing sustainable policies ($F=1.054$, $p=0.306$) and strengthening the means of implementing sustainable development ($F=1.543$, $p=0.216$) is not significantly related to the age of the respondents. Thus, after summarizing the results, it can be seen that the evaluation of the importance of implementing sustainable development goals differs slightly regardless of age and is characteristic on a similar level.

Table 1. Assessment of importance in the implementation of sustainable development goals (in the age group under 35 (n=83), in the age group over 36 (n=115); per cent; results of variance analysis of estimates and age, when $p<0.05$)

	Age group under 35	Age group over 36	F	p
Ensure comprehensive and high-quality education	63,9	56,5	1,072	0,302
Promote lifelong learning	33,7	37,4	0,278	0,599
Achieve gender equality	44,6	11,3	32,654	0,001
Eradicate poverty in all its forms	44,6	32,2	3,188	0,076
Ensure food supply and better nutrition	44,6	29,6	4,791	0,03
Promote agriculture	15,7	29,6	5,231	0,023
Promote economic growth, employment and job security	51,8	40,9	2,33	0,129
Create new jobs	41,0	28,7	3,261	0,072
Ensure healthy life and health for all age groups	54,2	54,8	0,006	0,938
Reduce air pollution	55,4	58,3	0,157	0,692
Reduce ocean pollution	57,8	56,5	0,033	0,855
Preserve oceans and marine resources	39,8	40,0	0,001	0,973
Apply fines for environmental violations	34,9	22,6	3,685	0,056
Promote innovation in sustainable development	34,9	45,2	2,108	0,148
Develop transport diversity and encourage a mix of modes of transport when travelling	16,9	16,5	0,004	0,949
Encourage the creation of environmentally friendly business	41,0	47,0	0,697	0,405
Ensure the creation of responsible production and services (energy, food, tourism, etc.) without polluting the environment	32,5	53,9	9,233	0,003
Promote responsible consumption (waste sorting, recycling, etc.)	43,4	60,9	6,054	0,015

Take urgent action to combat climate change and its effects: managing deforestation, restoring wildlife, combating desertification, halting soil erosion	38,6	27,8	2,543	0,112
Improve existing laws to promote the Sustainable Development Goals	38,6	33,0	0,636	0,426
Create new laws to promote SDGs	34,9	17,4	8,222	0,005
Promote cooperation with institutions pursuing sustainable policies	33,7	27,0	1,054	0,306
Strengthen measures to implement sustainable development	28,9	37,4	1,543	0,216

Sustainable development process management initiatives will only achieve the desired result with consumer awareness and responsibility for their actions, guided by the principles of sustainable development. When analyzing the overall perception of the participants in the research on their efforts to contribute to the SDGs, the results of the research (see Picture 2) showed that more than two-thirds of the respondents (79.4%) were self-critical in the assessment of their efforts (on a scale of 5-8 out of a possible 10 points). In contrast, only 8% of the respondents rated their efforts to contribute to the SDGs in the highest terms (3.7% with a score of 10 and 4.5% with a score of 9), with an overall mean score of $M = 4.81$ out of a maximum of 10. The results show the need to find more effective means of communication in managing sustainable development processes, enabling them to shape consumer attitudes towards sustainable development using the chosen communication message.



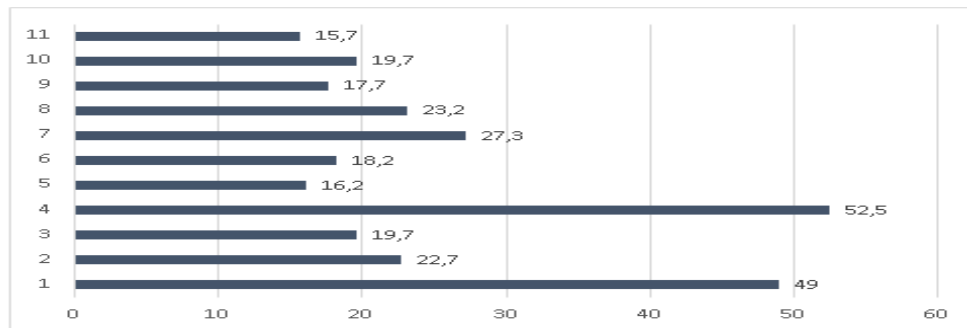
Picture 2. Assessment of involvement in the implementation of sustainable development goals (n=198, per cent)

Ecological, economic and social problems are worrying and show the need to promote global awareness in implementing the sustainable development paradigm. Sustainable development must be realized as a necessity that determines each person's choices and can contribute to improving the quality of life, improving health, protecting the environment, reducing poverty, economic development, ensuring justice guarantees and solving other problems. Therefore, in the creation of social, economic and ecological well-being, an important aspect to ensure sustainable development processes is the use of communication tools, which can be one of the prerequisites that enable the disseminated information to have an impact on the change in the mindset, attitude and attitudes of users, on decision-making, on the formation of awareness and responsibility, and as well as for the promotion of active involvement and participation in the processes of implementation of sustainable development goals.

Having assessed the fact that sustainable development process management initiatives will achieve the desired result by applying active and effective communication and selecting suitable means of information, the research aimed to find out the experience of the respondents, which means of communication they usually used to get information about the SDGs and their implementation. The analysis of the data in the general sample showed that according to the majority of respondents (see Picture 3), websites (52.5%) and television (49%) are the main channels from which the majority of research participants received information about the implementation of SDGs. By applying analysis of variance (ANOVA), the comparative analysis performed in groups of respondents of different ages revealed similar trends (see Table 2): both for research participants under the age of 35 and for respondents aged 36 and older, websites (respectively: 51.8 per cent and 53 per cent) and television (respectively:

51.8 per cent and 47 per cent) are named as the channels through which respondents mostly received information about the implementation of SDGs, and the differences in the evaluation of these channels are not statistically significantly related to the age of the respondents (respectively: websites (F = 0.029, p = 0.864), television (F = 0.45, p = 0.503)). Hence, regardless of age, websites and television are the most established and frequently used means of obtaining information about the implementation of SDGs. Undoubtedly, television broadcasting is still a popular and frequently used channel through which information on SDGs can be presented through the integration of both visual and audio means.

On the other hand, living in the age of information technology, a person is inseparable from social networks and technology; therefore, next to traditional means of disseminating information (television), providing information on the Internet becomes one of the main means that draws the most attention to the information provided and in today's context can be used to reach a wider audience of people, drawing their attention to the existing social, economic and ecological problems and shaping their attitude, encouraging them to follow the principles of sustainable development. Meanwhile, as the research results showed (see Picture 3), the smallest part of the research participants receives information about the implementation of SDGs in the organization where they work (17.7%) and by participating in training or seminars where sustainable development topics are discussed (16.2 per cent). Recent facts show the necessity of predicting the objectives of sustainable development and the prerequisites for their implementation to strengthen the social responsibility of organizations, to promote social dialogue and cooperation and active participation in the processes of learning the objectives of sustainable development, as well as to organize courses and training during which sustainable development topics would be discussed, encouraging attention to this problem, which can serve as a basis for a discussion on the reduction of social inequality and exclusion, protection of health, ensuring the quality of life, reduction of poverty, protection of the environment and other relevant issues.



Picture 3. Evaluation of the management of sustainable development processes using communication tools (n=198; per cent)

Remark:

- | | |
|--|---|
| 1. I heard/saw it on TV | 6. We talk about sustainable development as a family |
| 2. I heard it on the radio | 7. We talk about sustainable development topics with our peers and colleagues |
| 3. I read in books or other publications | 8. We discuss the topics of the implementation of SDGs during classes in an educational institution (school, higher education institution). |
| 4. I read on websites | 9. Knowledge of sustainable development is provided in the organization where I work |
| 5. I have participated in training and seminars where the topics of sustainable development were discussed | 10. I am interested in the topics of sustainable development independently |
| | 11. Nowhere did I hear/read about the implementation SDGs |

After conducting a comparative analysis, it became clear that the assessment of some channels through which one heard about the implementation of SDGs was statistically significantly related to age (see Table 2). The results of the statistical analysis showed that older study participants (36 years old and older), who more often receive

information about the implementation of SDGs by participating in training or seminars (20.9%), as well as in the organization where they work (22.6%) and independently (25.2%).), then it was named by the research participants under the age of 35 (respectively: 9.6%; 10.8%; 12%); using analysis of variance (ANOVA), these variables are statistically significantly related to the age of the subjects (respectively: (F=4.545, p=0.034), (F=4.647, p=0.032) and (F=5.376, p=0.021)). Meanwhile, the analysis of variance (ANOVA) revealed that a larger part of the research participants belonging to the age group under 35, obtained information by reading books or other publications (26.5%) and discussing sustainable development topics during classes at an educational institution (33.7%), than named by research participants aged 36 and older (respectively: 14.8% and 15.7%); these variables are statistically significantly related to the age of the subjects (respectively: (F=4.236, p=0.041) and (F=9.158, p=0.003)). In addition, it turned out that the assessment “I have not heard/read anywhere about the implementation of SDGs” is statistically significantly related to age (F=5.773, p=0.017): a higher proportion of research participants belonging to the age group under 35 admitted that they had never heard or read about the implementation of SDGs (22.9%), while only 10.4% older (over 36) age respondents admitted that they had never heard or read about SDGs. Thus, knowing that the role of communication is one of the essential aspects when information is not only transmitted to the public, but at the same time, changes in social, economic or ecological processes can be initiated, fundamental changes in people's mindset including changes in beliefs, attitudes, opinions, values and encouraged engagement to actively participate in the processes of sustainable development, to increase interest in the topics of implementation of SDGs, in providing information and to achieve the efficiency of its reach, it is especially important to choose suitable and effective means of communication, and also take into account individual characteristics, such as age.

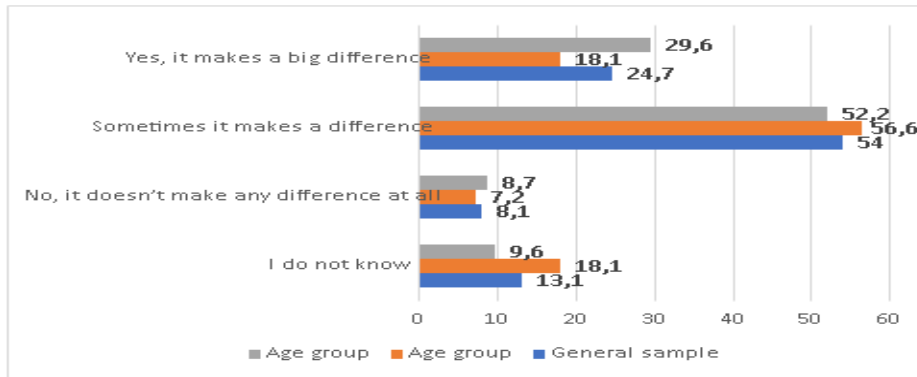
Table 2. Evaluation of the management of sustainable development processes using communication tools (in the age group under 35 years (n=83), in the age group over 36 years (n=115); per cent; results of variance analysis of estimates and age, when p< 0.05)

	Age group under 35	Age group over 36	F	p
I heard / saw it on TV	51,8	47,0	0,45	0,503
I heard it on the radio	22,9	22,6	0,002	0,963
I read in books or other publications	26,5	14,8	4,236	0,041
I read on websites	51,8	53,0	0,029	0,864
I have participated in training and seminars where the topics of sustainable development were discussed	9,6	20,9	4,545	0,034
We talk about sustainable development as a family	19,3	17,4	0,114	0,736
We talk about sustainable development topics with our peers and colleagues	22,9	30,4	1,379	0,242
We discuss the topics of the implementation of SDGs during classes in an educational institution (school, higher education institution).	33,7	15,7	0,9158	0,003
Knowledge of sustainable development is provided in the organization where I work	10,8	22,6	4,647	0,032
I am interested in the topics of sustainable development independently	12,0	25,2	5,376	0,021
Nowhere did I hear/read about the implementation SDGs	22,9	10,4	5,773	0,017

Summarizing the results, it can be seen that the chosen channel for providing information about the implementation of SDGs is a unique process based on many factors. Undoubtedly, in the era of information technology and social networks, information delivery channels change user engagement. As the platforms grow, the effect of social networks and traditional channels acquire undoubted importance and significance among users, regardless of their age. As the study results showed, television and websites are the channels from which the majority of younger and older study participants received the most information about the SDGs and their implementation. Meanwhile, the results of the comparative analysis in terms of age revealed that although a larger part of the younger research participants had not heard or read about sustainable development and the implementation of its goals, books or other publications and the topics of sustainable development discussed during classes in educational institutions are more often chosen channels for obtaining information about

management of sustainable development processes than was mentioned by older respondents, most of whom received information about the goals of sustainable development and their implementation in the organization where they work or by being interested in these topics independently. On the other hand, after evaluating the fact that training and seminars, which, although are a great place to communicate, you can hear the opinions of others when discussing the issues of sustainable development goals and their implementation possibilities, but they, according to the research participants, are not the place where they often heard about sustainable development (especially for younger research participants belonging to the age group under 35). Therefore, it would be expedient to organize more training and seminars, which would be attractive to both older and younger people in terms of their content and the topics of management of sustainable development processes. Also, the research results revealed the relevance of the development and implementation of social responsibility in organizations, which, according to the assessment of the research participants, needs to be sufficiently used. In the meantime, encouraging the unified application of sustainable development norms in the organization in all actions of employees, involving members of the organization's community in the formulation of an achievable and rational vision for the implementation of sustainable development goals in the organization, turning the vision into clearly defined goals and providing specific measures for their implementation, as well as motivating employees to foster a deeper sustainable learning about the importance of development through self-education, creating cognitive opportunities to participate in training, initiating inspiring stories and meetings with authoritative persons, creating traditions and rituals in the organization, encouraging sharing of good experiences can be one of the prerequisites for encouraging more active involvement in sustainable development processes and one of the factors that enable to follow the principles of sustainable development in personal life.

Communication is one of the possible essential parts of the decision on the implementation of SDGs, applied not only to familiarize individuals with the goals and principles of sustainable development but also to encourage them to be guided by them in their personal lives. Therefore, it is essential to apply such communication elements and methods of dissemination of SDGs and their implementation, which would draw attention, raise interest and become relevant to users and encourage them to decide to follow the principles of sustainable development. Analyzing the impact of communication on the behaviour of research participants (see Picture 4), the data analysis showed that more than half of the respondents (54%) received information about sustainable development and its implementation that sometimes influenced and encouraged them to follow the principles of sustainable development. Even for almost a quarter of the research participants (24.7%), the information provided significantly influences their behaviour to pursue sustainable development directions. Meanwhile, only 8.1 per cent of respondents admitted that information about sustainable development and its implementation has no influence on their behaviour to guide their lives based on the principles of sustainable development. A comparative analysis of the data in terms of age showed that for almost a third (29.6%) of the older (36 years and older) research participants, information about sustainable development and its implementation has a significant influence on their behaviour to follow the principles of sustainable development, while only for 18.1 per cent of the younger respondents (up to 35 years) information has a significant influence on their behaviour to follow the principles of sustainable development. The results obtained during the research revealed the impact of information on SDGs and their implementation on human behaviour. Based on the latter fact, it can be said that when managing the processes of sustainable development, the appropriate and acceptable selection of information tools and channels can be one of the aspects that enable the message spread by the chosen communication method to form the attitude of users to act following the principles of sustainable development.



Picture 4. Evaluation of the impact of communication on following the principles of sustainable development (in the total sample (n=198), in the age group under 35 (n=83), in the age group over 36 (n=115); per cent)

Summarizing the results, the communication tools can be used as a prerequisite to constructively orient and transform users' attitudes and value orientations and contribute to a change in mindset and perception by promoting the principles of sustainable development. Communication will be effective and reach the audience and get their response when the methods of disseminating information are appropriately selected and applied. Therefore, when implementing the SDGs, it is necessary to look for the most correct and effective communication solutions, use as many different communication tools as possible, take into account individual characteristics based on values, create innovations, initiate dialogue with interested parties, and also fostering a deeper understanding of the meaning of sustainable development through participation in training, using television and social networks, developing and implementing social responsibility in organizations.

The significance of this research is that theoretical and empirical arguments are based on the assumptions of implementing the SDGs through communication tools. In addition, the possibilities of implementing the goals of sustainable development using the communication system were examined in a complex way, including the channels that provide information about the SDGs and their implementation, communication methods and tools that encourage adherence to the principles of sustainable development, as well as efforts to contribute to the implementation of the SDGs evaluation groups. The research has shown that information on SDGs and their performance through various channels, using the possibilities of both traditional (television) and innovative methods of information dissemination, as well as the Internet and social networks, can be one of the prerequisites for the implementation of sustainable development goals. Meanwhile, the research revealed the relevance of the development and implementation of social responsibility in organizations and the relevance of new opportunities for training and seminars where sustainable development topics would be discussed.

The research results will have lasting value in the scientific discussion about the role of communication and its application possibilities in implementing sustainable development goals, as well as practical significance in providing guidelines for promoting the SDGs by applying a variety of channels and selecting communication tools and methods. When initiating changes in social, economic and ecological processes, predicting the prerequisites for the implementation of sustainable development goals, achieving greater consumer interest in the SDGs and their implementation topics, as well as the effectiveness of the availability of information about the SDGs and their implementation, the data of this research enables reviewing and improving communication tools, selecting appropriate and effective communication methods and tools, using various channels of dissemination of information about the SDGs and their implementation.

A limitation of the research is that it was an online survey by sending questionnaires by e-mail, so feedback was relatively low, and a sufficiently small sample group of respondents was reached. There is also a significant

difference in the number of men and women who participated in the research, which limited the possibility of performing a comparative analysis of the evaluation indicators regarding gender. To achieve greater data validity in the future, it would be appropriate to conduct a study by repeatedly expanding the sample with an equal number of subjects, distinguishing gender and other sociodemographic indicators, which would allow comparing the opinions of different groups of respondents. Also, when analyzing the goals of sustainable development and predicting the prerequisites for their implementation, it is appropriate to supplement the research results with other methods of information gathering, such as, for example, interviewing managers of organizations and organizing focus group discussions.

Discussion

The analysis of scientific research on the topic under consideration showed that communication plays an important role in the implementation of the SDGs, and the conducted research helped in comprehensively clarifying the respondents' attitude towards the goals of sustainable development and the importance of their implementation, as well as evaluating and determining their efforts in contributing to the implementation of the SDGs prerequisites for the application of communication tools in the implementation of SDGs. Since the SDGs and their implementation are addressed in both scientific studies (Kates et al. (2005), Alraja et al. (2022), Arief et al. (2022), Burns (2016), Díaz-López et al. (2018)) and documents, covering categories such as nature, life support systems and community, environment, amongst others, our study aimed to find out respondents' attitudes towards the SDGs and their implementation in the environmental, socio-economic domains. The results of our study revealed that the majority of respondents associate the SDGs and their implementation with reducing air and water pollution and encouraging responsible consumption. The latter results are in line with studies by Kates et al. (2005) and Płonka et al. (2022), which emphasise the importance of a life-support system that defines a clean and friendly environment. On the other hand, our research shows that the majority of respondents identify SDGs with the promotion of economic growth, innovation and the creation of environmentally friendly businesses, as well as the provision of inclusive and quality education and healthy living and health for all age groups. Similarly, other scholars have argued that sustainable development must ensure both economic growth and the compatibility of economic activities with environmental, social and intellectual aspects as essential (Misiūnas et al., 2009), while Papadasa et al. (2020) and Zhanga et al. (2020) emphasize the importance of implementing a sustainable business strategy and environmentally friendly marketing practices, as well as the initiation of the development of new business models and the development of technology. Thus, the results of our research and those of other authors have confirmed that some of the key aspects linked to the SDGs are the provision of responsible production and services and the creation of environmentally friendly businesses, as well as the use of technologically advanced methods and innovations to carry out sustainable activities. Meanwhile, the results of our research show that only a minority of respondents identified gender equality and the development of transport diversity to reduce air pollution as important objectives in managing sustainable development processes. This is inconsistent with the findings of other authors (Fayomi et al., (2018)), who identified the promotion of gender equality and ensuring ecological sustainability among the key objectives of sustainable development. Therefore, the aspects of gender equality and the promotion of sustainable mobility and multimodality in the implementation of the SDGs could be explored in further research.

Depleting natural resources, increasing environmental pollution and other environmental, economic and social problems are a cause for concern, and prompt us to constantly remember and strive for a more responsible implementation of the principles of sustainable development. It is clear that initiatives to manage sustainable development processes will not achieve the desired result without consumer awareness, responsibility for their actions and efforts to follow sustainable development principles. However, the results of our research showed that more than two thirds of the respondents rated their efforts in engaging with the SDGs as moderate (i.e. overall average rating of effort $M = 4.81$ out of a maximum of 10 possible). These results show the need to look for measures to ensure more effective management of sustainable development processes. Therefore, the use of

communication tools becomes an important aspect in the creation of social, economic and ecological well-being, and can be one of the ways of creating consumer awareness and attitudes towards sustainable development processes. The fact that active and effective communication and the selection of appropriate information tools can be a way of managing sustainable development processes was confirmed by the results of our research, which showed that more than half of the respondents are sometimes influenced and encouraged to act in a sustainable manner by the information they receive about sustainable development and its implementation, and that almost a quarter of the respondents have a strong influence on their behaviour towards sustainable development principles. These findings are supported by research by other authors (Lee, 2016; Galiano-Coronil et al., 2021) showing the important role of communication in the implementation of a consumer-oriented framework that includes sustainability issues, promoting sustainable thinking and sustainable consumption. Nadanyiova et al. (2020) also acknowledge that green marketing, as part of socially responsible communication, can positively influence the attitudes of individual target groups towards responsible consumption and can add value to goods, products and services that are related to environmental aspects and social responsibility towards the environment, while Primožič et al. (2022) point out the importance of a communication strategy related to climate change, global warming, sustainability etc. Other authors (Arief et al., 2022) also emphasise the importance of communication as one of the preconditions for encouraging greater involvement and participation in sustainable development processes and as one of the factors that empower consumers to adopt sustainable development principles in their personal lives.

Thus, communication tools can act as one of the preconditions for initiating changes in social, economic or ecological processes. Therefore, in order to achieve the objectives of sustainable development, it is necessary to seek the most appropriate and effective communication solutions, as well as to choose appropriate and acceptable means and channels of communication, which can be one of the key elements in enabling the message conveyed by the chosen means of communication to be used to shape consumers' attitudes towards the principles of sustainable development. By analysing the respondents' experience of the most frequent means of communication used to obtain information on the SDGs and their implementation, our research has shown that television, social networks and websites are among the most frequent means of communication used to obtain information on sustainable development processes. This is in line with the findings of other authors' studies, which provide insights into how the media harness the communication potential of the holistic concept of sustainable development (Janoušková et al., 2019), and highlight that in recent years, technological advances have played a very important role in our societies, and that social networks have become an important part of the strategies for managing sustainable development processes (Carrión-Martínez et al., 2020; Moser, 2010). Meanwhile, the results of our study showed that, from the point of view of the respondents, the opportunities for accessing information on the SDGs and their implementation in the organisation where they work or by attending trainings and seminars on sustainable development are not being used. It is therefore necessary to strengthen the social responsibility of organisations by providing the preconditions for disseminating the SDGs and their implementation. This is supported by the findings of Dyma (2015), who argues that more attention should be paid to corporate initiatives to implement the SDGs and to the development and implementation of social responsibility in organisations, while Carrión-Martínez et al. (2020) point out the relevance of education on sustainable development topics in different educational contexts.

In terms of the possibility of implementing the SDGs, this research supports the notion that the use of different communication tools, through the use of television and social networks, as well as the initiation of dialogue with stakeholders and the fostering of a deeper understanding of the meaning of sustainable development through participation in training, can be some of the key prerequisites for the implementation of the SDGs. Our research has complemented some of the results obtained by other authors and the findings have confirmed the importance of the communication tools used in managing sustainable development processes.

Conclusions

1. The analysis of scientific literature showed that communication plays an important role in the implementation of SDGs. Sustainable development initiatives are achieved through active and effective communication. Communication is essential in promoting sustainable consumption. Green marketing, as part of socially responsible communication, can positively influence the attitude of individual target groups towards the brand. Therefore, it is necessary to direct communication to separate target groups, which can be differentiated according to the age of the user. However, there is still a need for a better understanding of how communication and sustainable consumption are conceptualized and linked in the academic literature, despite the growing number of studies on communication in the context of sustainable consumption.
2. The results of the research showed that the majority of respondents associate the SDGs and their implementation with ensuring comprehensive and quality education and healthy life and health for all age groups, reducing air and water pollution and promoting responsible consumption, as well as economic growth, innovation and encouraging the creation of environmentally friendly businesses. Meanwhile, a small part of the research participants identified the design of new laws, the pursuit of gender equality, the promotion of agriculture and the development of the diversity of transport, and encouraging the mix of modes of transport when travelling as essential goals in managing sustainable development processes.
3. The research found that more than two-thirds of the respondents evaluated their efforts in implementing sustainable development goals self-critically, and the overall average of effort evaluation was $M = 4.81$ out of a maximum of 10 possible.
4. As the research results showed, the information provided employing communication about the SDGs and their implementation sometimes (54%) or very often (24.7%) influenced the research participants' behaviour and encouraged them to follow the principles of sustainable development. According to the respondents' assessment, television, social networks, and websites are the means of communication that most often provide information about sustainable development processes. Meanwhile, from the respondents' point of view, the opportunities to obtain information about the SDGs and their implementation in the organization where they work or by participating in training and seminars where sustainable development topics would be discussed, have yet to be used.

References

- Alraja, M., N., Imran, R., Khashab, B., M., Shah, M. (2022). Technological Innovation, Sustainable Green Practices and SMEs Sustainable Performance in Times of Crisis (COVID-19 pandemic). *Information Systems Frontiers*, 24, 1081-1105. <https://doi.org/10.1007/s10796-022-10250-z>
- Arief, N.N., Famiola, M., Pratama, A.P., Anggahegari, P., Putri, A.N.A. (2022). Sustainability Communication through Bio-Based Experiential Learning. *Sustainability*, 14, 5204. <https://doi.org/10.3390/su14095204>
- Basheer, M., Nechifor, V., Calzadilla, Ringler, C., Hulme, D., Harou, J. (2022). Balancing national economic policy outcomes for sustainable development. *Nat Commun*, 13, 5041. <https://doi.org/10.1038/s41467-022-32415-9>
- Belz, F., M., Peattie, K. (2012). Sustainability Marketing: A Global Perspective, Business & Economics. *Information Systems Frontiers*, 24, 1081-1105. <https://doi.org/10.1007/s10796-022-10250-z>
- Belz, F.M., Karstens, B. (2010). Strategic and Instrumental Sustainability Marketing in the Western European Food Processing Industry: Conceptual Framework and Hypothesis. In: Proceedings of the Corporate Responsibility Research Conference, Euromed Management School Marseille France, September, 15-17.
- Burns, T.R. (2016). Sustainable development: Agents, systems and the environment. *Current Sociology Review*, 64(6), 875-906. <https://doi.org/10.1177/0011392115600737>

- Carrión-Martínez, J.J., Luque-de la Rosa, A., Fernández-Cerero, J., Montenegro-Rueda, M. (2020). Information and Communications Technologies (ICTs) in Education for Sustainable Development: A Bibliographic Review. *Sustainability*, 12, 3288. <https://doi.org/10.3390/su12083288>
- Zheng, X., Wang, Z., Zhai, Y., An, Y., Zhang, J. (2020). Online Sustainability Reporting of Chinese Universities: A Comparative Analysis. *Transformations in Business & Economics*, Vol. 19, No 3 (51), pp.38-57.
- Choudhary, A., Gokarn, S. (2013). Green marketing: a means for sustainable development. *International Refereed Research Journal*, IV, 3(3).
- Cioacă, S.-I., Cristache, S.-E., Vuță, M., Marin, E., & Vuță, M. (2020). Assessing the Impact of ICT Sector on Sustainable Development in the European Union: An Empirical Analysis Using Panel Data. *Sustainability*, 12, 592. <https://doi.org/10.3390/su12020592>
- Danciu, V. (2013). The contribution of sustainable marketing to sustainable development. *Management & Marketing Challenges for the Knowledge Society*, 8(2), 385-400.
- Dernbach, J. C. (2003). Achieving sustainable development: The Centrality and multiple facets of integrated decision making. *Indiana Journal of Global Legal Studies*, 10, 247-285. <https://doi.org/10.2979/gls.2003.10.1.247>
- Díaz-López, C., Martín-Blanco, C., De la Torre Bayo, J.J.; Rubio-Rivera, B.; Zamorano, M. (2021). Analyzing the Scientific Evolution of the Sustainable Development Goals. *Appl. Sci.*, 11, 8286. <https://doi.org/10.3390/app11188286>
- Dyma, O. (2015). Role of the intermediary in implementation of the principles of sustainable development. *Marketing and Management of Innovations*, 4, 260-275. <https://doi.org/10.21272/mmi.2015.4-22>
- Fayomi, O., S., I., Okokpujie I., P., Mfon, U. (2018). The Role of Research in Attaining Sustainable Development Goals. IOP Conf. Series: Materials Science and Engineering 413, 012002 <https://doi.org/10.1088/1757-899X/413/1/012002>
- Fischerabi, D., Reinermann, J., L., Mandujano, G., G., des Roches, S., T., Diddigi, S., Vergraghi, P., J. (2022). Sustainable consumption communication: A review of an emerging field of research. *Journal of Cleaner Production*, 300, <https://doi.org/10.1016/j.jclepro.2021.126880>
- Galiano-Coronil, A., Jiménez-Marín, G., Zambrano, R., E., Tobar-Pesántez, L., B. (2021). Communication, Social Networks and Sustainable Development Goals: A Reflection from the Perspective of Social Marketing and Happiness Management in the General Elections in Spain. *Front. Psychol.*, Sec. Organizational Psychology, Vol. 12 <https://doi.org/10.3389/fpsyg.2021.743361>
- García-Hernández, A., García-Valcárcel Muñoz-Repiso, A., Casillas-Martín, S., Cabezas-González, M. (2023). Sustainability in Digital Education: A Systematic Review of Innovative Proposals. *Educ. Sci.* 2023, 13, 33. <https://doi.org/10.3390/educsci13010033>
- Hsiao, M., K. (2013). Current sustainability marketing and communications effect to consumers attitude to purchase sustainable products. *International Journal of Research in Business Management (IJRBM)*, 1(2), 45-55.
- Kates, R., W., Parris, T., M., Leiserowitz, A., A. (2005). What is sustainable development? *Environment: Science and Policy for Sustainable Development*, 47(3), 8-21. <https://doi.org/10.1080/00139157.2005.10524444>
- Kiselakova, D., Stec, M., Grzebyk, M., Sofrankova, B. (2020). A Multidimensional Evaluation of the Sustainable Development of European Union Countries – An Empirical Study. *Journal of Competitiveness*, 12(4), 56–73. <https://doi.org/10.7441/joc.2020.04.04>
- Klarin, T. (2018). The Concept of Sustainable Development: From its Beginning to the Contemporary Issues. *Zagreb International Review of Economics & Business*, 21(1), 67-94. <https://doi.org/10.2478/zireb-2018-0005>
- Kumar, V., Rahman, Z., Kazmic, A., A., Goyal, P. (2012). Evolution of sustainability as marketing strategy: Beginning of new era. International Conference on Emerging Economies - Prospects and Challenges (ICEE-2012), Procedia - Social and Behavioral Sciences 37 482-489. <https://doi.org/10.1016/j.sbspro.2012.03.313>
- Kuzior, A., Lobanova, A. (2020). Tools of Information and Communication Technologies in Ecological Marketing under Conditions of Sustainable Development in Industrial Regions (Through Examples of Poland and Ukraine). *J. Risk Financial Manag.*, 13, 238. <https://doi.org/10.3390/jrfm13100238>

- Lee, Y. Ch. (2016). Corporate Sustainable Development and Marketing Communications on Social Media: Fortune 500 Enterprises. *Business Strategy and the Environment*, 26(5), <https://doi.org/10.1002/bse.1936>
- Lélé, Sh., M. (1991). Sustainable development: A critical review. *World Development*, 19(6), 607-621. [https://doi.org/10.1016/0305-750X\(91\)90197-P](https://doi.org/10.1016/0305-750X(91)90197-P)
- Lietuvos Respublikos aplinkos ministerija (2022). Darnus vystymasis ir Lietuva. <https://am.lrv.lt/lt/veiklos-sritys-1/es-ir-tarptautinis-bendradarbiavimas/darnus-vystymasis/darnus-vystymasis-ir-lietuva>
- Matharu, M., Jain, R., Bulsara, H. (2020). Review article Underpinning the emergence of sustainability marketing: A comprehensive review of literature & future research agenda. *Journal of Sustainability Science and Management*, 15(6), 207-221.
- Mensah, J., Casadevall, S., R. (2019). Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review. *Cogent Social Sciences*, 5(1) <https://doi.org/10.1080/23311886.2019.1653531>
- Misiūnas, A., Balsytė, I. (2009). The essence of sustainable social development and possibilities for measuring it. *Intellectual economics*, 1(5), 61–71.
- Moser, S.C. (2010). Communicating Climate Change: History, Challenges, Process and Future Directions. *Wiley Interdiscip. Rev. Clim. Chang.*, 1, 31-53. <https://doi.org/10.1002/wcc.11>
- Nadanyiova, M., Gajanova, L., Majerova, J. (2020). Green Marketing as a Part of the Socially Responsible Brand's Communication from the Aspect of Generational Stratification. *Sustainability*, 12(17), 7118. <https://doi.org/10.3390/su12177118>
- Jamoussi, H., B., J., Hichri, S., M., Nijkamp, P., Keraani, W. (2022). Territorial Development at the Crossroads of Attractiveness and Sustainability. *Journal of Sustainable Development Archives*, 15(6) <https://doi.org/10.5539/jsd.v15n6p24>
- Pakalniškienė, V. (2012). Tyrimo ir įvertinimo priemonių patikimumo ir validumo nustatymas. Metodinė priemonė (Determining the reliability and validity of research and evaluation tools. Methodological tool). Vilnius: Vilniaus Universiteto leidykla.
- Papadasa, K., K., Avlonitis, J., G., Carriganc, M. (2020). Green marketing orientation: Conceptualization, scale development and validation. *Journal of Business Research*, 80, 236-246. <https://doi.org/10.1016/j.jbusres.2017.05.024>
- Pilař, L., Kvasničková Stanislavská, L., Pitrová, J., Krejčí, I., Tichá, I., & Chalupová, M. (2019). Twitter Analysis of Global Communication in the Field of Sustainability. *Sustainability*, 11, 6958. <https://doi.org/10.3390/su11246958>
- Płonka, A., Dacko, M., Satoła, Ł., Dacko, A. (2022). The Idea of Sustainable Development and the Possibilities of Its Interpretation and Implementation. *Energies*, 15, 5394. <https://doi.org/10.3390/en15155394>
- Primožič, L., Kutnar, A. (2022). Sustainability Communication in Global Consumer Brands. *Sustainability*, 14, 13586. <https://doi.org/10.3390/su142013586>
- Janoušková, S., Hák, T., Nečas, V., Moldan, B. (2019). Sustainable Development—A Poorly Communicated Concept by Mass Media. Another Challenge for SDGs? *Sustainability*, 11, 3181. <https://doi.org/10.3390/su11113181>
- Sari Hassoun, S., E., Ayad, H. (2020). Renewable energy and sustainable development: Evidence from 17 OECD countries. *International Journal of Economics, Business and Politics*, 4(1), 41-60. <https://doi.org/10.29216/ueip.653074>
- Stoddart, H., Schneeberger, K., Dodds, F., Shaw, A., Bottero, M., Cornforth, J., & White, R. (2011). A pocket guide to sustainable development governance. Stakeholder Forum 2011.
- Tiagosa, F., Gilb, A., Stemberger, S., & Borges-Tiagosa, T. (2021). Digital sustainability communication in tourism. *Journal of Innovation & Knowledge*, 6(1), 27-34. <https://doi.org/10.1016/j.jik.2019.12.002>
- Zhanga, J., Z., Watson, G., F. (2020). Marketing ecosystem: An outside-in view for sustainable advantage. *Industrial Marketing Management*, 287-304 <https://doi.org/10.1016/j.indmarman.2020.04.023>
- Žičkienė, S., Guogis, A., & Gudelis, D. (2019). Darna vystymosi teorinė samprata ir jos praktinė reikšmė. *Tiltai*, 1, 108-123. <https://doi.org/10.15181/tbb.v82i1.1970>

Funding: This research was funded by Vilnius University of Applied Sciences, Lithuania

Data Availability Statement: More information can be obtained from the authors on a reasonable request.

Author Contributions: Conceptualization: Samašonok, K., Išoraitė, M, methodology: Samašonok, K.; data analysis: Samašonok K., writing—original draft preparation: Smašonok, K., Išoraitė, M., writing; review and editing: Samašonok, K., Išoraitė M.; visualization: Samašonok, K., Išoraitė, M.. All authors have read and agreed to the published version of the manuscript.

Kristina SAMAŠONOK, Doctor of Social Sciences (Educology), Docent of the Faculty of Business Management of Vilnius University of Applied Sciences, Didlaukio Str., 49, Vilnius, e-mail: administracija[eta]vuf.viko.lt; research interest areas: social exclusion risk for adolescence adaptation, institutional development and adaptive behaviour modelling, the first year students' adaptation to the study process, motivation factors for choosing studies, developing students' creative thinking in a higher school.

ORCID ID: <https://orcid.org/0000-0002-8985-6942>

Margarita IŠORAITĖ, Doctor of Social Sciences in Vilnius Gediminas Technical University, the Associate Professor was given by Mykolas Romeris University in Lithuania. Associate Professor is her title in Vilniaus kolegija/ Vilnius University of Applied Sciences. Research interests: human resource management, strategic marketing, marketing management, advertising, entrepreneurship.

ORCID ID: <https://orcid.org/0000-0001-9108-0525>

Copyright © 2023 by author(s) and VsI Entrepreneurship and Sustainability Center

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

