Communication of Slovak Eco-innovation Companies with Social Media Users

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Abstract: Social media is widespread worldwide and firmly defined in today’s communication. Available resources point to dynamic changes in consumer behavior, to which even ecologically oriented business entities must respond. Therefore, it is appropriate and necessary to look for innovative solutions that will contribute to improving the communication of eco-innovative businesses with social media users. The communities that are emerging on social media are the driving force behind today’s market environment. Communities can be talked about in connection with the pressure they exert on eco-innovation businesses, entities and other business areas. At the core, the authors focus on the interpretation of partial results from their own pilot survey, which serves as an input survey for mapping the current communication and will be a key basis for subsequent research. The interpreted findings from the survey come from a quantitative survey using a standardized questionnaire, which was answered by a total of 142 respondents, who represent representatives of Slovak eco-innovation business entities. From the author’s research, we can define which digital platforms use subjects to communicate with their followers, how often they communicate with them, through what type of contributions and with what frequency they publish contributions. The results indicate reserves in the given issue. For this reason, further research and education of subjects is important. The limits of the investigation are in a smaller number of business entities and in the possibility that business entities did not provide true information. The authors of the article did not come to the conclusion that someone would carry out a similar survey within the Slovak eco-innovation entities, and therefore they point to the results of their own pilot survey. Eco-innovation entities do not currently have information on the communication process with their followers on social media. The authors consider the interpreted results from the pilot survey to be original and necessary due to the absence of marketing statistics, which would subsequently help businesses to set up the right online marketing strategy.

Keywords: Eco-innovation Performance of Slovakia. Online marketing communication. Social media marketing. Social Media as a Communication Channel. Social media users. Types of Social Media

1. Introduction

Changes in consumer behavior in the current period open up space for innovation of the current communication strategy. Communication is a key task for any business that intends to sell its products or services, with the goal of interpreting the information in a language that is acceptable to the target audience. The communication of eco-innovation activities of entities is more dynamic than in the past, due to the technological innovations that are used for online communication in the whole spectrum of the environment. For this reason, in the article we present the results of the secondary research, focused on the communication of business entities on social media, the frequency of publishing contributions, their interaction with users and the types of published contributions.

2. Literature review

Eco-innovation plays an important role in all business activities, as it is clear that a sustainable future also depends on the success of eco-innovation. Environmentally oriented entities focus primarily on innovative approaches to the production of their products or the ecological provision of services, while seeking to eliminate harmful environmental impacts and also to increase their economic potential (Huong Tran, Paparoidamis, 2020).

Based on the above, it is necessary to think about the recipient of this innovation, focusing on online consumers who can learn about eco-entities through a selected communication platform - social media. Several world-renowned authors write about eco-business entities. In their study, Gurtner and Soyez (2016) state that the success of eco-innovation depends mainly on individual acceptance by the final beneficiaries of eco-innovation, which is transformed into a final product or service. From the point of view of the practical application of innovations in eco-innovative business entities, we would add that the public is interested in information about the production processes and products of eco-innovative companies. It is important to include in the concept of
solving environmental problems the losses of economic competitiveness, which is transformed in the core of the so-called eco-innovation. In the context of the place of scientific research, it is crucial to define the current view of the studied country. According to the European Innovation Scoreboard (EIS), the Slovak Republic is currently one of the moderate innovators, ranking 21st in the EU (Eraportal, 2022). According to available statistics published under the auspices of the Slovak Business Agency, it is important to note that SMEs (small and medium-sized enterprises) make up more than 99% of all enterprises that contribute to GDP, which is associated with creating a suitable competitive environment. The application of eco-innovation, or green innovation (GI) in its business activities, helps to build awareness of the subject for various stakeholders (Gürlek, Ali Koseoglu, 2021). In the article, Vanko and Zaušková state that the current trend of using social media offers opportunities for communication of emerging ecological problems and eco-innovations (Vanko, Zaušková, 2019). According to research conducted under the auspices of the Slovak Business Agency (2018), the second most common indicator according to which it is possible to evaluate the innovation activities of Slovak SMEs is that these companies have introduced marketing or organizational innovation in their business (Slovak Business Agency, 2018). Based on the statements of several authors, we came to several findings, which we would supplement by the fact that in order to set up the right communication strategy on social media, it is necessary to introduce a suitable communication model of interaction with social media users. As the authors Ščepková, Zaušková and Kubovics state, social media are based mainly on the sharing of emotions, opinions but also on user experience, which creates space for the emergence of user communities (Ščepková, Zaušková, Kubovics, 2021). Communication media have become a part of our lives, and therefore it is desirable for business entities to adapt to this trend and communicate where their customers or potential customers are located. The advantage of digital marketing can be observed especially in the availability of tools that individual digital communication platforms offer. In their scientific contribution, Krizanova and the team of authors state that the Internet offers innovative marketing tools through which information can be shared globally (Krizanova et al, 2019). According to statistics from Datank (2020) it can be interpreted that 31% of business entities in Slovakia have implemented steps and measures in the past period that should lead to reducing the negative impact on the environment and according to the same statistics about 46% of Slovak entities have implemented such measures in the last period. One of the goals of communication, as we have already said, is to respond to current social events and, through appropriate tools, to attract the target audience and ‘draw them into the story’. This process is much easier to implement in the online space than in the offline environment. Based on our findings from various researches to date, we can define that visual content is interesting to the audience and people are looking for it. With the advent of the technological era, information retrieval and sharing has become faster and more accessible than ever before (Hrdináková, Fázík, 2021). The author Marková classifies among the advantages of digital marketing communication indicators such as: availability, diversity, coverage, targeting, personalization, interactivity, collection of valuable data, measurability, efficiency, easy start-up, and possibility of updating and relatively low costs (Marková, 2021). In this context, we consider the threats and, conversely, the opportunities that the development and continuous improvement of technological communication platforms brings to business entities. Businesses are constantly exposed to possible confrontation with the recipients of their communication messages. So it is clear that in today’s world marked by technological change but also by the coronavirus pandemic, people spend much more time online. This statement is confirmed by statistics according to which the average number of active internet users is at the level of 62.5% of the world’s population, i.e. 4.95 billion people worldwide (Datareportal, 2022). Based on the above, it can be stated that if the number of digital technology users is growing worldwide, it is essential that businesses also communicate their eco-innovation activities through online communication platforms.

It is also necessary to interpret current statistics on the current use of social media. According to GlobalStats statistics, the latest results published in February 2022 can be interpreted. The results of the research interpret that 76.51% of the total market share of the social network Facebook, 10.79% Pinterest, 4.54% Instagram, and 3.38% is for Twitter, 2.5% YouTube and the smallest market share is Reddit 0.98% (GlobalStats, 2022).
Go4insight conducted a survey on a sample of 1,000 respondents aged 15-79 in the period February-March 2021, among other things, asked about the frequency of use of social networks in Slovakia at least once a day.

The most numerous was Facebook, followed by YouTube, Instagram, Pokec, Pinterest (Go4insight, 2022). These facts are also confirmed by statistics from Datareportal (2021) and NapoleonCat (2022). In addition to the findings we have made so far, it is interesting to follow the visual content that is best for communicating with users on social media (Socialbakers, 2022). Murár states that the principle of active content creation as one of the mainstays of social media has influenced the liberalization of the publishing industry but also mass communication as such (Murár, 2021). According to the authors of the article, social media can influence people and transform their opinions. Dean states that 4.48 billion people currently use social media worldwide, more than double that of 2015 (Dean, 2021). These statistics also reflect the fact that people prefer communication over social media over personal communication, which can be an opportunity for marketers. We believe that visual content is an important factor for the communication of entities with users, it would be interesting to find out what visual content users consider most appropriate.

3. Methodology

An examination of the resources within the theoretical background has revealed less covered areas, which is important to examine to complement the knowledge. The aim of this paper is to find out the current state of communication of Slovak eco-innovation companies with social media users, through the analysis of theoretical knowledge and the results of our own research. The working procedure focused on the study of available resources with a focus on statistical research of scientific and professional sources, especially from scientific journals, proceedings of international scientific conferences and other scientific publications. Subsequently, the authors identified the output questions they derived from the authors’ previous research. Behind this, a research design was established based on the best possible verification and explanation of the identified research issues.

The next stage was the collection of questionnaires and subsequent evaluation. The next part is the survey method, which the authors define as standardized query. The form of the survey was set for an electronic questionnaire due to the circumstances of the ongoing pandemic during the limitation of closer contact. Due to the defined type, method and form, the questionnaire will be used as a research technique which helps to achieve the set goals with regard to research design. The form and type of the questionnaire resulted from the available data collection tools. The questionnaire was conducted anonymously and took place on an online platform. In summary, the questionnaire contained 27 questions, from which the authors selected 6 questions.

All selected questions were closed. As already mentioned, the target group consisted of business entities that implement eco-innovations and are located in Slovakia. The research was maximally adapted to the required topic and reliability was defined as quantitative. The questionnaire survey was focused on finding out the current state of communication of Slovak eco-innovation companies with social media users, in which respondents operating at the levels of management or leading positions of the respondents participated in the survey. The representation of enterprises was segmented as an ordinal variable into a division into micro (1 - 9 employees), small (10 - 49 employees), medium (50 - 249 employees) and large (250 - higher - employees). The questionnaire was distributed within Slovakia by random sampling, for reasons of statistical fairness, because this method eliminates all undesirable influences affecting the selection of business entities, and therefore we can mark the research sample as unaffected. The total collection time was set at 3 months.

The questionnaire subsumed to six survey areas:
- through which social media business entities communicate and interact with users,
- how business entities communicate their business activities on social media,
- what reactions do business entities encounter in connection with the communication of their eco-innovation activities on social media,
- whether business entities monitor and evaluate data obtained from implemented eco-innovation activities,
- what awareness do businesses have about the "groundswell" phenomenon,
- what tools from the SOLOMO concept (social, local, mobile) are used by business entities within the framework of internal communication.
In the article we present only the results of the survey from the first area "through which social media business entities communicate and interact with users", where we set three research questions:

RQ1: Which digital social media platforms are most often used by eco-innovative companies to communicate with internet users?
RQ2: In what timeline do eco-innovative companies communicate with users on social media?
RQ3: Is visual content on the social media of eco-innovative businesses at the highest frequency?

In the discussion and conclusions, the authors mainly use a comparison with previously published studies and bring a result with a deeper critical assessment and recommendation for the future.

4. Results and discussion

The resulting part contains partial results of the survey, which was carried out in the period from November 2021 to the end of January 2022. The respondents were Slovak eco-innovative business entities. The specific places of operation of business entities - respondents, are shown in Figure 1. Based on the findings, we can point out that the respondents carry out their business activities mainly in the western part of Slovakia. The most frequent cities in terms of the performance of their business activities of the respondents are the cities of Bratislava, Trenčín, Trnava and Žilina, which also includes the overall representation of businesses in Slovakia (SBA, 2019).

![Figure 2: Map of areas in the survey of involved business entities in the Slovak Republic](source: Own processing and Google Maps, 2022)

The number of respondents who completed the complete questionnaire was 142. The answers for the given size of the company at micro 59.40% followed by small (10 - 49 employees) 18.20%, the penultimate was medium with 7.00% and finally large with 15.40%. The representation of enterprises in the survey copies the number of enterprises according to information provided by the SBA, where there are the most micro (230,054) and small enterprises (13,099), the least are medium-sized enterprises (2,900). However, the statistics show the number of all business entities and do not specify eco-innovation entities. There are no similar statistics to examine eco-innovative businesses. Large companies (669) are specific because they mostly use marketing agencies to communicate with users, and for this reason the ratio has been greater for us to capture large companies that operate on social media themselves. The narrow specification for ecologically oriented subjects was conditioned by a question in the questionnaire. The wording of the question was "Do you implement eco-innovation as part of your business?" with the answer "yes" and "no". The result was a breakdown of the subjects with subsequent selection. The nominal variable in this case has quantitative binary characteristics. The result of the values "yes" was 94.4% and the answer "no" was 5.60%. Only positive answers are placed in the next selection, as a result of which the results of values for business entities with a focus on environmental activities are ensured. Given the
defined goal and the first research question identified, it was important to identify specific platforms that eco-innovative companies prefer for their communication with users. The following Graph 1 visualizes respondents’ answers to the question of what digital social media platforms they use to present their eco-innovative business. The research is an ordinal variable where it is possible to mark multiple answers from "Facebook", "Instagram", "TikTok", "Snapchat", "Clubhouse", "Blog", "LinkedIn", "Twitter" and "None". By examining the published statistical data, the most used social networks in Slovakia were selected. Specifically, it is Facebook, Instagram, TikTok, Snapchat, Clubhouse, Blog, LinkedIn, Twitter and the last option was "no option".

Graph 1: Use of digital platforms by eco-innovative businesses
Source: Own processing, 2022

In the results of the questionnaire survey, it is possible to observe the highest frequency in two answers, which have a share of over 80.00%. It is a social platform Facebook with a share of 93.70% and then Instagram with a share of 85.30%. The most widespread social medium within eco-innovative business entities that implement eco-innovations is in the home environment of Facebook and Instagram. LinkedIn with a share of 17.50% and Blog with a share of 16.10% are represented to a lesser extent. TikTok is represented to a minimal extent with 7.00%, followed by Twitter with 4.90%. Snapchat and Clubhouse were not recorded between responses. On the other hand, 4.20% of respondents stated that they do not use any social media. The results showed that the most used social media across eco-innovative companies are Facebook and Instagram. The theoretical level led to the finding that Facebook is the most used social network in all segments worldwide. The discrepancy arises in the use of other social media, where YouTube is the second platform on a global and Slovak scale, and Pinterest is the market share.

Another area to be explored is the availability of financial resources that businesses can invest in the development of communication on social media platforms. We consider it important to deal with the issue of education in the field of online marketing communication. Subsequently, subjects will be able to communicate more easily with their followers also through new social media. From the point of view of the focus of the surveyed business entities, it is necessary to take into account the specific demographic composition of the target group, which needs to be adapted to the type of content. Based on the findings of the new available study NapoleonCat, it can be stated that the most numerous target group for the social network Facebook are users aged 25-34 years, in the second 35-44 years and the third category are users aged 18-24. The most represented users on Instagram are 25-34 years old, the others are aged 18-24 and the third are aged 35-44 (NapoleonCat, 2022). On the other hand, we can discuss the target group for eco-innovative businesses. Harker (2021) states that there are different typologies of target groups of eco-innovation actors. One mentioned is the target group of 35-44 years. On the other hand, Fisher, Bashyal and Bachman (2012) list the 21-25 target group as the most numerous, but the latest Responsesource surveys (2020) list 18-24 years as the largest target group. For this reason, we can also discuss the involvement of other social media for younger age groups, e.g. TikTok. Another area that we examined was the frequency of communication of eco-innovative business entities with social media users; the visualization is shown in Graph 2.

Graph 2: Frequency of communication of eco-innovative business entities with social media users
Source: Own processing, 2022
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As Postrcon (2022) says, regular communication with users is very important because it encourages users on company profiles to be more engaged and more fans (Southern, 2019). However, we must point out that if operators do not communicate regularly and consistently, they will lose their followers, who are attracted by the competition. The results show that eco-innovation entities communicate on Facebook 2-5 times, which seems to be sufficient, as this statement is also confirmed by the author Persico (2021), who says that on the social network Facebook and Instagram, entities should communicate at least in range 3-7 times a week. The blog responded less than 4 times a month. According to Blog Hubspot (2020), it is advisable to blog to communicate with your readers at least once to four times a week. According to the author Gannon, it is also necessary to communicate at least 3 times a week on the social network LinkedIn. It follows from the above that eco-innovation entities communicate in sufficient frequency on the social networks Facebook and Instagram, and this is insufficient within Blog and LinkedIn. In view of the findings, eco-innovation actors should pay attention to the sufficient frequency of contributions to social media that have an intersection with their target communication group, but also to other social media that have an intersection with their target groups. The third area of research is the type of content and the frequency of publishing on social media. The following chart is devoted to the type of content that companies publish on social media. The breakdown is based on the percentage of post types for the selected content types. We observe the highest values for text posts with an image, where it is noticeable that the highest value is for a text post with an image at a frequency of at least 2 times a week. Other noticeable increased values are especially in the area of publishing types of contributions less than 4 times a month, where the mood within the video is dominant, followed by a photo album and a 360-degree photo.

Graph 3: Types of content and frequency of publishing articles on social media
Source: Own processing, 2022

Graph 4 complements the breakdown with other categories of contribution types. We can observe the highest frequency response we contribute less than 4 times a month. The highest frequency is in competition, where it is possible to achieve higher interaction with communities on social media. In the curtain behind the competition
is an event where it is possible to see a value higher than 25%. On the other hand, there is specificity in the area of links in posts where the limit of 25% is exceeded in the answer at least 2 times a week. According to Biteable (2022), visual posts work best for users. This is mainly due to the attractiveness of the content type. Business entities engaged in eco-innovation activities show the right contribution with respect to the types of contributions. On the other hand, businesses should also publish tenders that result in a dominant amount contributed less than 4 times a month.

5. Conclusion

Communication of eco-innovative business entities on social media is an important part of creating communication strategies (Rezníčková & Zaušková, 2021). This is mainly due to the use of social media as a tool for awareness raising, interactive communication with the customer and, ultimately, sales. Social media users can very easily meet their needs or requirements by connecting with business entities. It is also important for businesses to monitor, analyze and evaluate the behavior of social media users, as users may have either a positive or adverse effect on the entity and its subsequent communication or business activities. Based on the results of the survey, we can delve deeper into the communication of Slovak eco-innovation entities with users of various social platforms, as a result of which we can proceed to specific research of selected areas of communication on the platform, which should help research subjects to set the right communication strategy.

At the end of this paper, it is necessary to point out the needs of further research of eco-innovation entities and also their necessity of education in the field of research, which should help entities to solve various situations that entities may face in the online environment of their business.

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