

Internet Marketing Strategy Promotion of a Book in Social Media

Tetiana Bilushchak ^[0000-0001-5308-1674] and Olena Radkovets ^[0000-0002-3784-4587],

Yuriy Syerov ^[0000-0002-5293-4791]

Lviv Polytechnic National University, Ukraine

tetiana.m.bilushchak@lpnu.ua, olena.radkovets.dk.2018@lpnu.ua,
yurii.o.sierov@lpnu.ua

Abstract. The interest of Internet users in multimedia formats representing the author's work is defined. The stages of the marketing strategy of promotion by using multimedia format are outlined, the range of problems and advantages of the multimedia products functioning in social media by using the SWOT-analysis method is determined. Based on scientific investigation, the process of creating a multimedia format for popularizing the book in social media was developed for the first time with the help of structural modelling DFD. This model will allow at the stage of functional modelling to determine the basic requirements for the creation of a multimedia format and reflect in which way happens information is exchanged both inside multimedia resource, which projected and the resource as a whole with the external information environment. Based on the analysis of the investigation, a project document of the PRB is proposed, which contains certain criteria by using which a book trailer is created - a multimedia format of book promotion in social media. By using the monitoring of hashtags revealed the popularity and interest among users of social networks Instagram and Twitter the multimedia format as a book trailer.

Keywords: Internet marketing strategy, multimedia format, media resource, multimedia history, Internet marketing tools, social communication, book trailer, social media.

1 Introduction

Establishing an effective communication process between the target audience is one of the main elements in the information policy of the author. The rapid development of information technology and the use of social media has led to the fact that in the last few years for book authors there is a need of using modern multimedia formats for the promotion of books in social media.

The urgency of the investigation topic is due to the need to find new ways and forms of popularization in society to their work and to involve young people in this

Copyright © 2020 for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0). COAPSN-2020: International Workshop on Control, Optimisation and Analytical Processing of Social Networks

type of activity, who now focuses mainly on obtaining information in a virtual environment and prefers visual format than text.

The purpose of this investigation is to determine the multimedia format of book promotion based on the analysed searching trends of demand and on this basis the formation of the appropriate target audience in social media.

To achieve this goal it is necessary to perform the following tasks: to make analysis of modern investigation Internet marketing strategies for promoting books in social media; to determine the interest of Internet users in multimedia formats of representation of the authors work; outline the stages of a marketing strategy for promotion using a multimedia format, identify the range of problems and benefits of the multimedia products functioning in social media using the method of SWOT-analysis; to develop using the means of structural modelling DFD process of creating a multimedia format of book promotion; create a template "Book trailer development plan" for realization promotion of the book; to define popularity and interest among users of social networks in multimedia format - a book trailer using hashtags.

The investigation methodology was committed out using the method of functional modelling, namely the use of the DFD data flow diagram to developing a multimedia format of book promotion on the Internet marketing strategy of the author. This method visualizes how each process converts its input data to output, and also detects the interconnection between these processes. Thus, this method will allow you to study in detail and analyse the features of creating a multimedia format for book promotion on the Internet marketing strategy of the author. Statistical method - for finding out of the level the popularity of searching for multimedia formats of presenting textual information among Internet users, which is used using the analytical tools for collecting Google Trends statistics. To solve the tasks set in the work was conducted a theoretical analysis of the scientific literature and used and comparative and review-analytical monitoring of the state of modern multimedia formats of book promotion on the Internet marketing strategy of the author. For arranging according to certain criteria and creating book trailers were used system-typological and classification methods. Also, for generalization and formulation of conclusions used methods of analysis and synthesis.

2 Related Works

Comprehensive analysis and investigation of the multimedia format of popularization of the book in social media as an author's Internet marketing strategy for a long time is not revealed. All investigations, which in one way or another is affected by the study of multimedia formats for the promotion of the book was performing within certain themes, however, are no less important for our study.

Analysis of social media for the use of marketing activities is considered in [1-3]. In particular, define marketing communication strategies for increasing sales of children's books through social media. Also in [2] it was found that multimedia is currently used in various contexts, from social interaction to education and business. It has been defined that strategy design and innovation in multimedia presentations, com-

binesthe latest scientific investigation and proven strategies for the development and implementation of multimedia technologies for various applications in social media.

A separate direction of investigation is formed by scientific works [4-9] about marketing services of university libraries in the new media environment. It is established that the marketing strategy and lists the specific applications of various new media technologies in the marketing of university library services.

Investigation of information and communication potential of social networks in the study of historical processes and popularization of historical and cultural heritage, which include book editions studied in [10-13]. In particular, the classification of Internet sources into six groups depending on their location and method of reproduction of information material has been established.

An effective strategy for using hashtags in Internet communication for personal and corporate branding was considered [14-18].

3 Determining the trend of popularity of searching for multimedia formats of book promotion on the Internet

Considering an increase of competitiveness among the Ukrainian book production and development of information and communication technologies in the popularization of the book by the author its promotion is important. Analysing modern technologies as promotion of the book by the author, gets attention modern trend - the use of Internet marketing. To conduct successful advertising activities using the author's Internet marketing strategy we allocate means of promotion of the book in the form of multimedia formats as book trailers, storytelling and long grids.

For the purpose of determining the interest of Internet users about the functioning of such multimedia products, we were made an analysis of search queries. Queries were formed using the entered criteria - search on the Internet for the last 12 months on the territory of Ukraine (Fig. 1.)

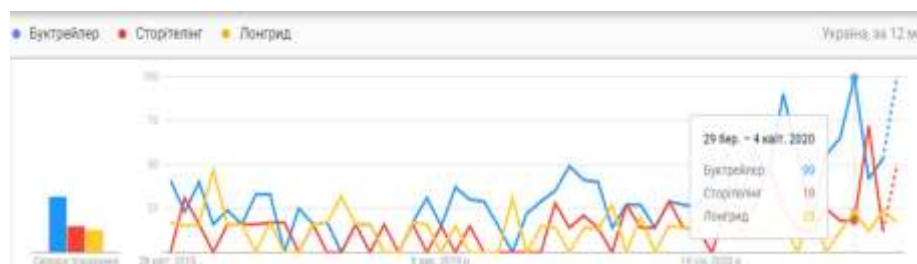


Fig.1. Determining the trend of popularity of search "book trailer", "storytelling" and "long grid" according to the entered criteria.

From the analysis of the investigation shows that such multimedia stories as storytelling and long grids are quite new phenomena and are just beginning to develop in Ukraine and be used in media resources. At the same time, as we can see from the

analysis of search queries, the tendency of active interest among the Internet audience in such a multimedia product as a book trailer is gaining momentum/to become popular. Based on the obtained data, where we observe the dynamics of periods of interest we can conclude, that for Internet users is a topical issue of finding such a type of multimedia format as a book trailer.

Having identified the trend of popularity of searching for user queries on the Internet, our next stage of investigation is to use the SWOT-analysis technique to understand the process of the Internet marketing strategy of using this multimedia format in popularizing the book by the author (Table 1).

Table 1. SWOT-analysis of the functioning of the book trailer as a multimedia format of book promotion in the author's Internet marketing strategy

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Attracting additional audience. 2. Use of multimedia content. 3. Visual content in cross-media. 4. Placement at free video hosting.x. 	<ol style="list-style-type: none"> 1. Insufficiently high level of qualification skills of the developer in creating multimedia content..
Opportunities	Threats
<ol style="list-style-type: none"> 1. Distribution on various information resources, social networks. 2. Involvement of convergent media. 3. Analysis of statistics 4. Unlimited term of promotion the book 5. Interaction with the target audience 	<ol style="list-style-type: none"> 1. Continuous observation and analysis of other book trailers on the video hosting. 2. Lack of creative team

According to the results of the conducted SWOT-analysis, it should be noted that the functioning of the book trailer as a multimedia format has a number of strengths and opportunities as a tool for promoting the book on social media. Given the prospects of strengths and opportunities and subject to taking into account and limiting the influence of weaknesses and threats, the result will be an effective author's Internet marketing strategy in the promotion of the book on social media.

4 Functional model for creating a multimedia format to promote a book by the author

An important aspect for every writer who published his book is to establish an effective communication process between the target audience and to stimulate interest in his published work.

For implementation create a multimedia format book promotion, it is proposed to create a book trailer, which will open a wide range of opportunities for the promotion of books, increase competitiveness and attract readership. In order to see the process of creating a multimedia format for the promotion of the book, namely the trailer, we propose to consider the diagram of data flows using the notation of Jordan-De Marco (Fig. 2).

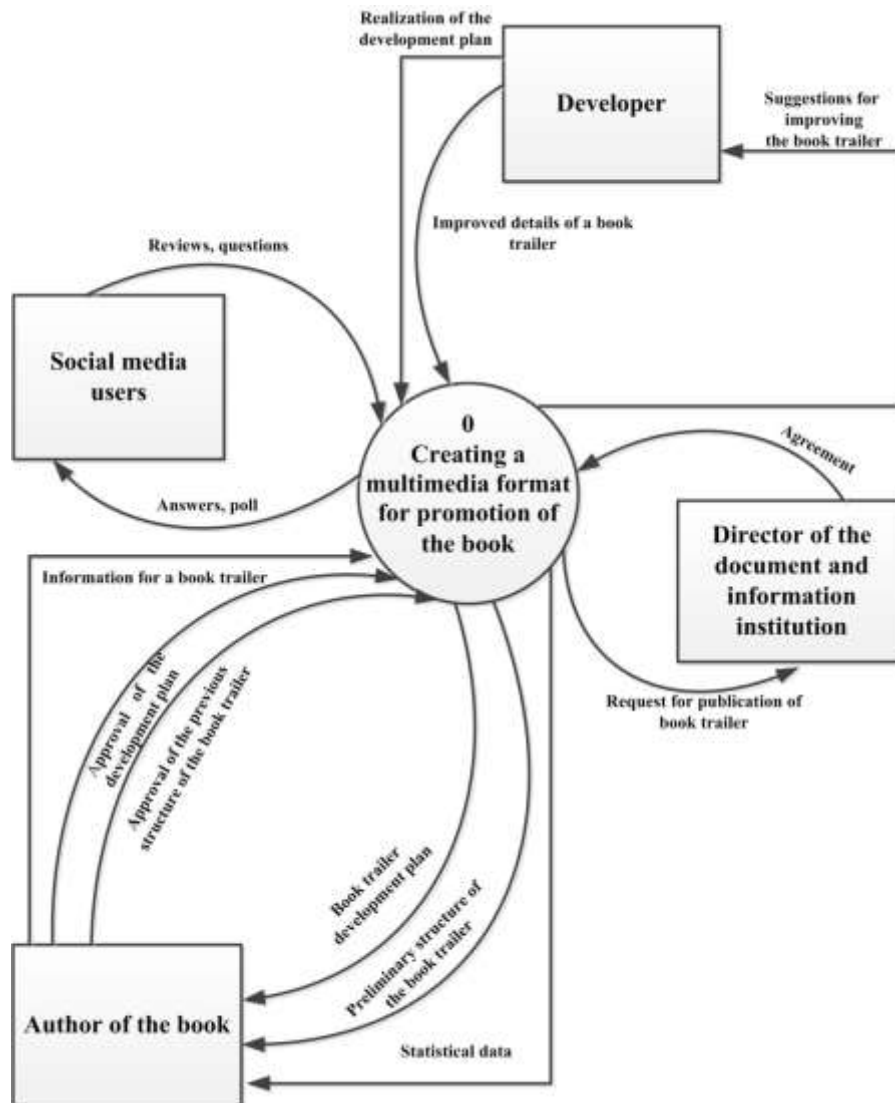


Fig. 2. Context diagram "Creating a multimedia format for promotion of the book"

Data flow diagrams are the main means of modelling the functional requirements for the project being developed. With their help, these requirements are divided into functional components (processes), which are presented as a network connected by data flows. The main purpose of such tools is to demonstrate how each process converts its input data to output data and to identify the interconnection between these processes.

In Fig.1 shows a context diagram that contains one main process - "Creating a multimedia format for promotion of the book", which by means of data streams is connected to four external entities - author of the book, developer, social media users

and director of the document and information institution. Consider the interconnection of each external entity to the main process.

The external essence of the "*Author of the book*" - is a person, using her creative work is created a book. Accordingly for creating a multimedia format of the promotion of the book from this external essence output data streams are information for creating a trailer, which is the basis for its implementation. Then the given external essence receives the plan of development of the book trailer and approves it. Accordingly, later from the main process comes the previous structure of the book trailer and as the output data stream is the approval of the previous structure. Also, the output data streams from the main process are the statistics data of the already implemented multimedia format of promotion of the book.

"*Developer*" - a person who is a specialist and projecting multimedia formats to promotion of the book. The implementation of the development plan is the input data stream to the main process, where the developer takes into account all the information given to him by the author of the book. Also, the improved details of the book trailer are the input data streams to the main process, which were formed after the output streams of suggestions for improving the book trailer.

"*Director of the document and information institution*" - a person who carries out all control over the library institution. This essence receives a request for publication of a book trailer in their institution on the information resource in order to attract the target audience and popularize the artistic word and as a response to the main process, approval is received in the form of an input stream.

"*Social media users*" - people who will visit social media, information resources of the library, where they will leave their feedback and questions about watching the book trailer. According to the main process, answers and polls will be received.

Consider the DFD of the first level of decomposition of the main process "Creating a multimedia format for promotion of the book" (Fig. 3).

In Fig 3. shows the decomposition of the context diagram. It depicts 4 sub-processes: "Creating the idea of promotion of the book", "Creating content for a media resource", "Developing a media resource" and "Interaction with readers and promotion". There is a certain interconnection between these subsystems, due to they form one main process.

In order to organize the promotion of the book, the best idea is to create a book trailer. To implement the idea, we get information about the book trailer, and the initial data of the essence "Creating the idea promotion of the book" is a plan for the development of a book trailer. To implement the following essence of "Creating content for a media resource" incoming the input stream, namely the approval of the development plan, and the output is the previous structure of the trailer. In order to develop an effective media resource in the promotion of the book on social media, we receive approval of the previous structure and implement a plan for the development of the book trailer and the initial data of the essence are suggestions for improving the book trailer.

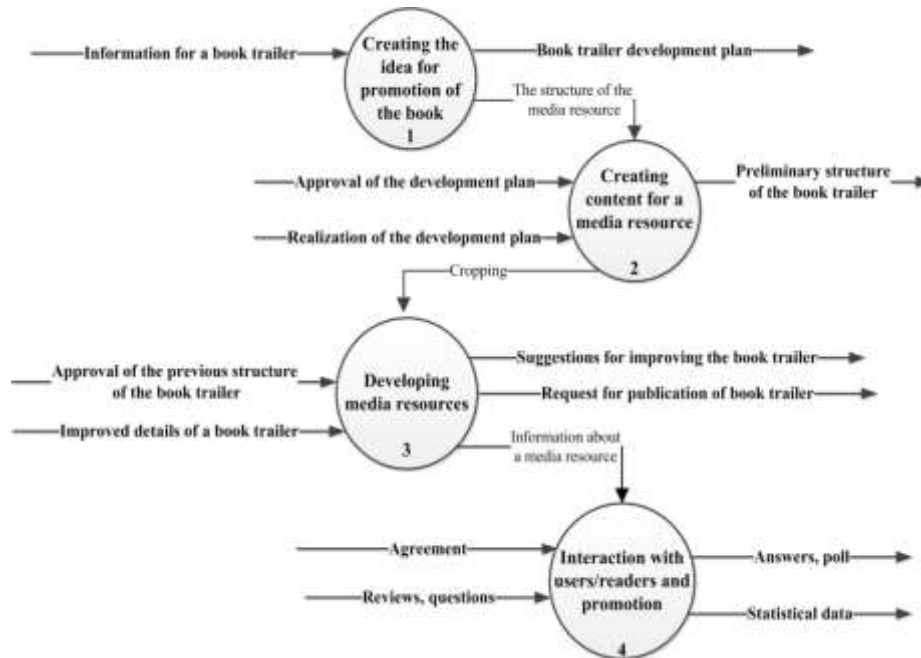


Fig.3. The DFD of the first level of decomposition of the main process "Creating a multimedia format for promotion of the book "

Then the input data of the essence is the improvement of the details of the book trailer, and the source data is the request to publish the book trailer on the information resources of libraries and social media. To implement the fourth essence of interacting with library readers and users on social media and conducting promotion of the book, there is an agreement to publish a book trailer. Also, the input data of the essence is the feedback and questions of users/readers, and the output of the essence will be the answers, polls, and statistics received on social media.

5 Research results

Given the current trends in social-communication technologies, to attract a larger readership, it is proposed to develop a book trailer based on the created template, namely the "Book trailer development plan".

The book trailer development plan (BDP) is a project document that must contain certain criteria by which the book trailer is created. Thanks to the proposed template for creating a book trailer, the developer allow to automate and facilitate the process of creating a multimedia format for the promotion of the book because attention is on certain criteria of creation paid. Figure 4 shows the stage work of creating a book trailer and the involvement of the target audience in social media (Fig. 4).

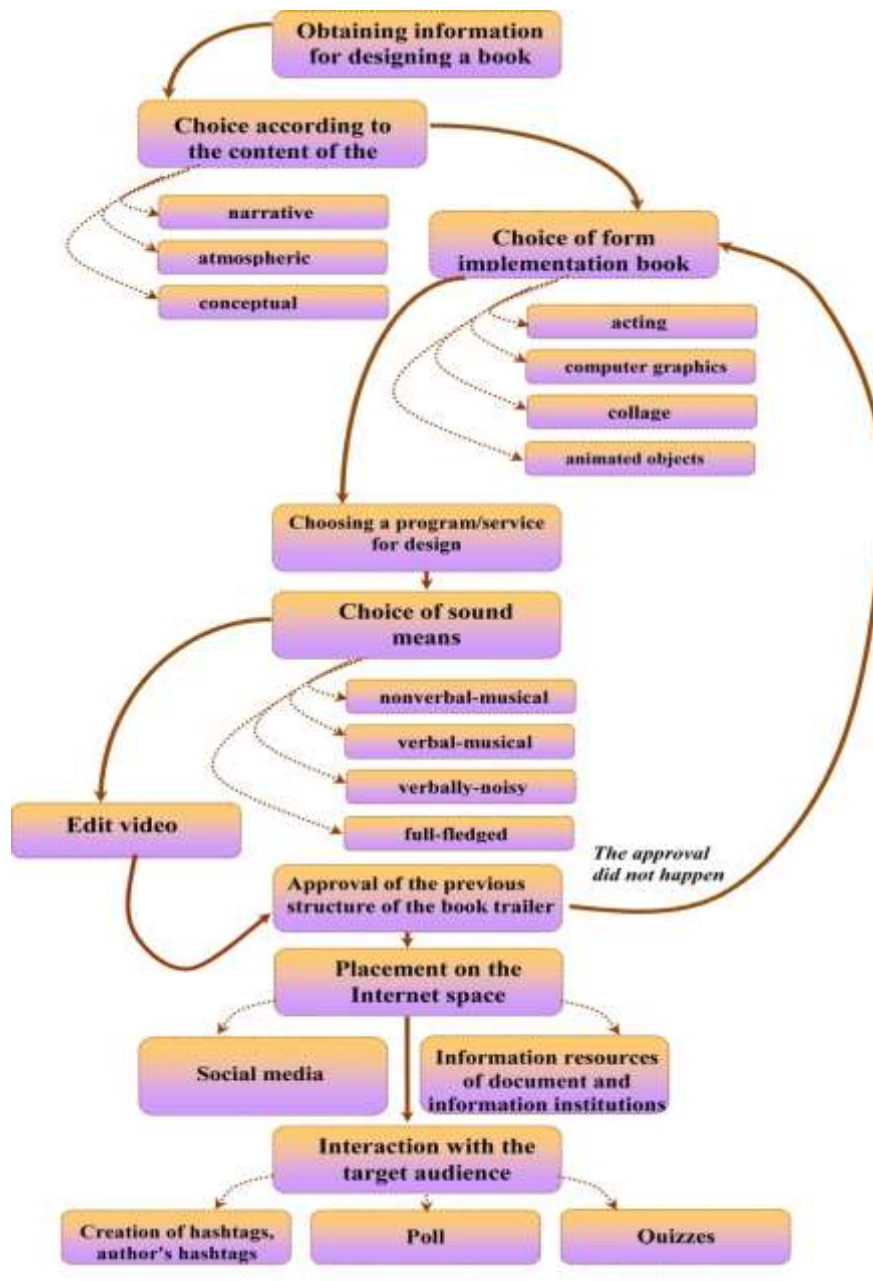


Fig. 4. The scheme of step-by-step design for the creation and functioning of the author's book trailer

As we can see from the scheme, after receiving the information in the BDP, we determine the content of the book trailer narrative (factual), atmospheric (emotional-sensory) and conceptual (ideological). Narratives are more designed to inform, atmospheric and conceptual - to intrigue. Based on the previous step, we choose the form of execution of the book trailer: computer graphics, collage, animated objects and, only, the format - acting, which requires the involvement of an additional team to implement the written plot in the video. The next step is a choice of software for design and sound means. The above steps are recorded, created sketches in the BDP and agreed with the author of the book. In this case, if the author has remarked, the developer takes into account all remarks and finalizes and proceeds to the next stage of implementation of the book trailer.

The created book trailer is placed on the Internet with a promotion in social media and on information resources of documentary and information institutions.

Social media is the main online communication channel among the younger generation, which should be considering when creating a multimedia format to promote their work in the author's Internet marketing strategy.

We used a statistical study of hashtags to find out the number of distributions and exchange of information in a multimedia format in the form of a book trailer on social networks. The hashtags #Буктрейлер and #booktrailer were chosen for the investigation. The analysis was made by hashtags that were published within 2 weeks and we received the following results (Table 2, 3 and Figure 5, 6):

Table 2. Monitoring the hashtag #Буктрейлер

Criteria	Instagram	Twitter
	#Буктрейлер	
Users who used the hashtag	10	15
Posts with hashtags	18	22
Coverage / reactions	3,277	8,013

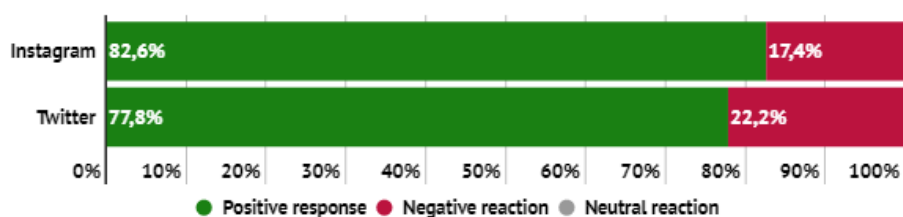


Fig. 5. Dynamics of the post that are positive, neutral and negative, based on the total sample of tracked posts with hashtag #Буктрейлер

The results of the analysis of the hashtag #Буктрейлер showed that it is used the most by users of the social network Twitter. The most popular social media-related following the link on YouTube, TikTok. It is established that the largest coverage by

the number of reactions is not only in Ukraine, but also abroad in those countries where the Cyrillic alphabet is widespread.

Table 3. Monitoring the hashtag #booktrailer

Criteria	Instagram	Twitter
	#booktrailer	
Users who used the hashtag	110	242
Posts with hashtags	70	352
Coverage / reactions	2070	2340

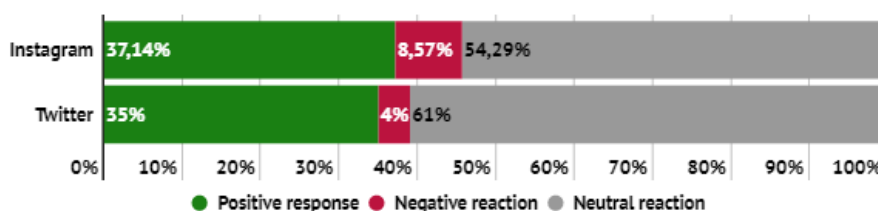


Fig. 6. Dynamics of the post that are positive, neutral and negative, based on the total sample of tracked posts with hashtag #booktrailer

According to the results of the analysis of the hashtag #booktrailer, we also see the greatest use by users of the social network Twitter. Among popular social media following the link is YouTube video hosting. As a result of a successful Internet marketing strategy is the creation of hashtags, polls, voting, which allow to potentially increase visiting pages on social networks and reaching the audience.

By creating hashtags implemented:

- distribution of messages by topics;
- finding thematic information using search;
- structures information on specific queries.

As an opportunity to influence the involvement of the target audience and improve the strategy of promotion of the book, it is proposed to create a questionnaire using an interactive form of the poll.

6 Conclusions

In the marketing strategy of the representation of works in multimedia, format use social media to involve the target audience, spread and exchange information, promote creativity and shape their image, brand, communication and online dialogue. To conduct successful advertising activities using the author's Internet marketing strategy, the means of book promotion in the form of multimedia formats such as book trailers, storytelling and long grids have been emphasized. The results of the analysis

showed a high level of interest among search queries for such a multimedia product as a book trailer.

Based on the trend of search query popularity among Internet users, we used the method of SWOT-analysis for understanding the process of the Internet marketing strategy of using this multimedia format in the promotion of the book by the author. It is established that the functioning of the book trailer as a multimedia format has a number of strengths and capabilities as a means for promoting the book on social media. Given the prospects of strengths and opportunities and provided consideration and limiting the influence of weaknesses and threats.

Based on scientific research the first time was developed using means of structural modelling DFD process creating a multimedia format to promote the book on social media. This model allows on the stage of the functional modelling to determine the basic requirements for creating multimedia format and display, how the exchange information happened both inside of the multimedia resource, which is projected and resource in general with the external information environment. Based on the analysis investigation were proposed a project document of the BDP, which contains certain criteria by which the book trailer is created. Due to the proposed developer's book trailer creation template will allow to automate and facilitate the process of creating a multimedia format for book promotion, because, emphasized is made to certain criteria of creation. As a result of statistical investigation of hashtags #Буктрейлер and #booktrailer on social Instagram and Twitter over the past two weeks, which showed a high audience reach and dynamics of discussion.

References

1. Wardaya, M. Marketing Communication Strategy Through Social Media To Increase Children Book Sales. *The Winners* 17 (2) 155-163 (2016).
2. Shalin, Hai-Jew Design Strategies and Innovations in Multimedia Presentations (1st. ed.). IGI Global, USA. (2015).
3. Shakhovska, N., Peleshchyn O., Myna Zh., Bilushchak T. Online community information model for use in marketing activities. In *Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019)*, pp. 263–272. Lviv (2019).
4. Petrushka, A., Komova M., Demydov I. Social Networks as an Alternative Environment for the Implementation of Scientific Communication. In *Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019)*, pp. 79-94. Lviv (2019).
5. Trach, O., Peleshchyn, A., Korzh, R. Methods for creating a team for managing a virtual community. *Proceedings of the 1st International Workshop IT Project Management (ITPM 2020)*, p.83-92. Slavsko (2020).
6. Davydova, I., Marina, O., Slianyk, A., Syerov, Y. Social Networks in Developing the Internet Strategy for Libraries in Ukraine. In *Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019)*, pp. 122-133. Lviv (2019).
7. Zheng, Y., Du, L. A Study on Service Marketing of University Libraries in the New Media Environment. *Journal of Social Sciences* 6 (11) 223-233 (2018).

8. Yavorska, T., Prihunov, O., Syerov, Y. Libraries in Social Networks: Opportunities and Presentations. In Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019), pp. 242-251. Lviv (2019).
9. Hatyan, O., Ryabyy M., Fesenko, A., Kyschenko, Y., Bauyrzhan, M., Petrov, A. Experimental Study of Information Technology for Detecting the Electronic Mass Media PR-effect based on Statistical Analysis. In Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019), pp. 172-183. Lviv (2019).
10. Bilushchak, T., Peleshchysyn, A., Komova, M. Development of method of search and identification of historical information in the social environment of the Internet. Proceedings of the 12th International Scientific and Technical Conference on Computer Sciences and Information Technologies, CSIT 2017, pp. 96–199. Lviv (2017).
11. Fedushko S., Davidekova M. Analytical service for processing behavioral, psychological and communicative features in the online communication. *Procedia Computer Science*. Volume 160, 2019, Pages 509-514. <https://doi.org/10.1016/j.procs.2019.11.056>
12. Zhezhnych, P., Khymytsia, N., Lisina, S., Morushko, O. Analysis of computer-based methods for processing historical information. Proceedings of the 12th International Scientific and Technical Conference on Computer Sciences and Information Technologies, CSIT 2017, pp. 365–368. Lviv (2017).
13. Bilushchak, T., Myna, Zh., Yarka, U., Peleschysyn, O. Integration processes in the archival section of Lviv polytechnic national university. In Proceedings of the 12th International Scientific and Technical Conference on Computer Sciences and Information Technologies (CSIT 2017), pp. 200–203. Lviv (2017).
14. Fedushko, S., Kolos, S. Effective Strategies for Using Hashtags in Online Communication. *International Journal of Computing and Related Technologies*. 2 (2) pp. 82–90. (2018). [Electronic resource] Available at: <http://www.smiu.edu.pk/images/PDF/ijcrt-Volume-2-Issue-2.pdf>
15. Fedushko, S., Syerov, Y., Kolos, S. Hashtag as a Way of Archiving and Distributing Information on the Internet. *CEUR Workshop Proceedings*. 2019. Vol. 2386: Workshop Proceedings of the 8th International Conference on “Mathematics. Information Technologies. Education 2019. [Electronic resource] Available at: <http://ceur-ws.org/Vol-2386/paper20.pdf>.
16. Fedushko, S., Kolos, S., Malynovska, Yu. MBTI Principles in Detecting Emotional Manipulators among Digital Platforms Users. Proceedings of the International Workshop on Conflict Management in Global Information Networks, CMiGIN 2019, pp. 346-359. Lviv, (2019).
17. Fedushko, S., Trach, O., Kunch, Z., Turchyn, Y., Yarka, U. Modelling the Behavior Classification of Social News Aggregations Users. In Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019), pp. 95–110. Lviv (2019).
18. Markovets, O., Pazderska, R., Dumanskyi, N., Dronyuk, I. Analysis of citizens’ appeals in heterogeneous web services. In Proceedings of the 1st International Workshop on Control, Optimization and Analytical Processing of Social Networks (COAPSN-2019), pp. 184-198. Lviv (2019).
- 19.