Digitalization of Marketing as an Innovation Tool for Customers' Evaluation

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Abstract: This paper analyses the digitalization of museum marketing as an innovative tool for customer evaluation. The content analysis of digital tools created by the most visited museums in the world on social networks such as Facebook, Twitter and Instagram were carried out. To obtain statistical information about the pages of museums in social networks, the social media analytics and management tool Fanpage Karma was used. According to the selected indicators, Fanpage Karma filters the rating of the networks' current strongest content. The correlation between the number of museum visits and indicators showing the interaction of the museum with visitors using social networks, such as the number of fans, the page performance index, the number of posts per day, the growth rate of followers, post interactions, and the number of total reactions and comments, was evaluated. The aim of this paper is to analyse the impact of museum marketing digitalization processes on museum visits by tourists and, as a result, the economic development of the museum business. To monitor the digitalization strategy of the museum's marketing activities, a mixed approach based on qualitative and quantitative analysis was used. Multivariate analysis was carried out to determine the relationship between museum attendance and the interaction between museums and subscribers in social networks. It has been proven that the introduction of digital technologies in museum marketing can attract visitors and put the institution at the new informational level. The number of museum visits and the number of fans, the number of posts per day, interactions, and the number of reactions and comments are the same across all social networks. The paper allows us to know the potential audience of the museum and its needs and requests and to predict the interests of certain categories of museum visitors. The scientific novelty and originality of the research consists of the use of digital marketing tools for evaluating their influence on client behaviour. The results of the study may be useful for the development of monitoring systems and strategic management of marketing when evaluating the behaviour of consumers on the content of social networks at enterprises in various industries.

1. Introduction. Museum tourism is of particular importance in positioning the city, region, and country; in addition, attracting tourists contributes to the development of the economy. Today, museum tourism occupies a significant niche in the international market of tourist services in some regions and cities. On the one hand, museums can be symbols of certain cities, and on the other hand, they can be a tool for attracting tourists. The global role of the museum is to develop social and cultural space and interaction between civilizations. Each country or region, with the help of a museum with national value, attracts tourists and develops an international tourism business. The priority direction of museum activity is the preservation of people's cultural values and customs. To develop museum tourism, a strategic approach and a special marketing system are needed. Since cultural institutions face funding problems, they are forced to look for creative approaches to solving these problems and attracting new groups of visitors. Such a creative approach can be the digitalization of museum marketing. The COVID-19 pandemic was a powerful stimulus for the intensification of the digitalization of museum activities. All stages of the marketing activities of the museum business can be enhanced by digitalization, from marketing research, museum product presentation, pricing and online ticket sales to promotion and branding. Today, none of the most visited museums in the world are complete without social networks. Therefore, on Facebook, museum visitors can become acquainted with their brand, find the necessary contacts, and see the list of services and reviews of other users. The museum visitors associate Twitter with texts in which the museum presents its news, characterizes the creative process, and provides links to blog posts, products and services, and promo codes. Instagram is also interesting for museum marketing because it allows enhancing the attraction of customers with the help of images. Thus, the digitalization of museum marketing is based on the new relationship between the museum and visitors through a more dynamic approach. Social bookmarking, podcasting, blogging, photo sharing, etc., increase the degree of awareness, motivation, and attraction of tourists and allow the addition of dynamics to exhibitions, permanent collections, and master classes. Thus, the issue of digitalization of the marketing activities of the museum business is quite relevant today.

The aim of this paper is to analyse the impact of museum marketing digitalization processes on museum visits by tourists and, as a result, the economic development of the museum business. The study allows us to determine the potential audience of the museum and its needs and requests and to predict the interests of certain categories of museum visitors. The structure of the article is as follows: first, the research on the theoretical aspects of the digitalization of museum marketing; second, the monitoring of the main indicators of the activity of museum visitors on the social networks Facebook, Twitter and Instagram and the study of their relationships with the increase or decrease in actual visits to museums; and third, the formation of recommendations for further digitalization of the museum business. The scientific novelty and originality of the research consists of the use of digital marketing tools for evaluating their influence on client behaviour. Numerous scholars and researchers have studied the role of digitalization in the marketing strategy development process. Previous studies focused on identifying the advantages and disadvantages of digital marketing, characterizing the directions and types of digital marketing, identifying digital marketing channels and tools, and describing criteria (metrics) for assessing the use of digital marketing tools. However, despite these contributions, there remains a need to further study the specific problems faced by enterprises in different fields of activity, for example, museums, and to develop a methodology for developing marketing strategies based on digital tools. The research gap is the lack of factor analysis and identification of patterns between indicators for assessing the effectiveness of social networks and the number of clients, which would allow the formation of a marketing strategy for working with consumers. This research examines the relationship between social media activity metrics and a business's marketing strategy in assessing customer behaviour. Based on the literature and previous research, our research aims to identify key digital indicators that influence consumer behaviour and evaluate them. Comprehensive research will provide information on how digital indicators influence the formation of a marketing strategy. This information will empower businesses to make informed marketing decisions. The proposed methodology will not only contribute to academic research but also offer practical applications for businesses operating in various fields. The results of this research can be useful for developing monitoring systems and strategic marketing management when assessing consumer behaviour based on social network content in enterprises in various industries.

2. Literature Review. Tourism is an integral part of the life of people on our planet. This complex, highly profitable interindustry complex is one of the main sectors of the world economy and contributes to a high level of employment, social welfare and quality of life for people, as well as economic unity and cultural diversity of states and regions of the world. In the 21st century, the museum became a global competitive player in the service market. The presence of the museum in the city is understood as an emphasis on the

presence of something valuable and relevant here that can be shared with the public (Pekarik, 2011). The museum, as a cultural institution, is engaged in the collection, study, storage and exhibition of objects recognized as monuments of natural history and culture. The main tasks of the museum are educational and popularizing activities (Komarac et al., 2019).

As defined by the International Council of Museums, the museum is a nonprofit institution open to the public that preserves, explores, and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment (ICOM, 2013). Museums play an essential role in cultural tourism and are important attractions in their own right. Tourists leave a significant amount of money when visiting museums as a payment for entrance tickets and expenses for visiting restaurants and shops located in the territory of museums (Czerwinski, 2022). Museum products include not only services but also experiences and impressions that are difficult to find in other places (Kotler et al., 2008). Thus, the museum works for a person and provides a cultural need and psychological support (Kotler & Kotler, 2007). The main task of museum tourism is to introduce the achievements of culture, science and technology to visit historical places and buildings (Shao, 2019). Museum marketing is the system of techniques and methods that provides a study of the needs for museum services and the best opportunities to meet them by means of museum activities. To fully fulfil its function, the museum must do everything necessary in two directions. First, it must arrange its content so that it can be viewed. Second, he must provide a detailed interpretation of the content (Black, 2010). For the successful operation of a museum and maintenance of its position in the market of museum services, it constantly has to carry out analytical activities, predict the needs of consumers who will become in demand in the future, and work on attracting. Museum marketing is financed by selling its own products and services, as well as attracting grants, sponsorships, and budgetary funds. The key factors that explain visitors' reasons for visiting museums are cultural values, archaeology, motivation, aesthetics, services, education and advertising. The dominant factor of museum visits is cultural values (Parkhomenko, 2019). The service factor makes it possible to expand the museum audience using new digitalization tools. The museum marketing strategy consists of the following components: promotion strategy, service delivery strategy, and consumer attitude strategy, which help to understand and inform visitors, satisfy their motivational and psychological needs, facilitate learning, and ensure pleasant service delivery (Kamall & Pramanik, 2015). The issue of determining the target audience for the positioning of a museum has attracted the attention of many scientists. Modern museum marketing is based on macro- and microsegmentation strategies (Plaza et al., 2021). Macrosegmentation is the division of the potential audience according to geographical, psychological, biological, behavioural and demographic principles. Microsegmentation clarifies this division at the subculture level. Anderson (2004) suggested that despite the museum's publicity, the museum still remains a visiting place for the elite.

The demand for visiting museums is growing due to the development of the international tourism business. Thus, museum marketing is aimed at improving the provision of services and improving their quality, increasing competitiveness in the international tourism market. Due to museum activities, the possibility of digitalization, and modern technologies, a wide range of customers can be attracted to museums. With the growth of visiting museums, the role and importance of the city grow. The city, in turn, is tied to the region and the country; therefore, in parallel, the city, region, and country are advertised, and their social and cultural significance in the world system has increased. Many countries around the world use museums as tools to attract tourists. Most museums develop and occupy the leading position in the world due to tourism and its involvement in their own business strategy. With the advent of modern technologies, there has been global modernization of museum activities, which has attracted visitors and provided them with modern services.

The active development of digital technologies in the field of museum marketing has allowed for the achievement of promising results. Digital technologies make it possible to inform visitors about upcoming events such as exhibitions, master classes, lectures, learning about opening hours and ticket prices, and signing up for a tour. Thus, the digitalization of museum marketing provides information to the public. A person who has received information in comfortable conditions without leaving home can sign up for an exhibition, obtain detailed information by contacting the administration and visit a cultural event in the future. The digitalization of the information process allows for finding a relationship with the consumer and attracting more visitors. Social networks actively interact with museum audiences (Pekarik, 2011). Information through social networks occupies one of the leading places in promotion. Instagram and Twitter have become the key social networks for museum digital content management during the COVID-19 pandemic (Heras-Pedrosa et al., 2022). Moreover, virtual museums and online services help attract people and are marketing system tools but cannot replace real museum visits and interactions with historical values. Through social media marketing,

visitors have rich and colourful visual experiences, and museums can quickly and effectively convey information to visitors (Luo et al., 2022).

The digital interaction with museum content changed, and digital methods of organizing access to collections for both employees and the general public became the most important. The rise of online interaction changed traditional audience profiles, forcing museums to find ways to adapt to new forms of interaction to survive and thrive in the postpandemic period (Noehrer et al., 2021). The use of audio-visual and multimedia technologies in modern museums has increased interest in the study of art and made it easier to remember information. The effect of the most voluminous reality is provided by immersive technologies, which are displayed in the form of audio, video, and 3D. AR technologies supplement reality with virtual objects, thereby enriching it and forcing the viewer to connect with the imagination. A museum is also an informal learning environment that creates a certain experience and a new understanding of reality. The good thing about learning is that the visitor can stay in the museum for a long time. Learning objectives, intrinsic and extrinsic motivation, and museum architecture are positively correlated with museum visits, as quantified by visit intent, customer satisfaction and loyalty (Nguyen, 2021). Digital innovations, virtual environments, and social media platforms can greatly enhance the competitive advantage of museums and their ability to attract new visitors. Improving the experience, increasing loyalty and overall satisfaction of visitors visiting museums is the result of the introduction of Internet communication technologies in museums (Zollo et al., 2021). Insufficiently studied is the assessment of the relationship between indicators of digitalization of museum marketing, namely, visitors' use of social networks, such as the number of fans, the page performance index, the number of posts per day, the growth rate of followers, post interactions, the number of total reactions and comments, and the activity of visiting museums.

3. Methodology and research methods. This research uses various methods and approaches to analyse the digitalization of marketing as an innovative tool for customer assessment. The museum industry was chosen as the research object. For research and calculations, 15 museums that were in the top position over the past five years were selected. All these museums have official pages on major social networks, namely, Facebook, Telegram and Instagram. The methodology for monitoring consumer behaviour using digitalization tools for marketing activities involves the following sequence of actions. The first step is to identify the main goals and objectives that should be achieved through the digitalization of marketing activities while assessing consumer behaviour, such as increasing the number of visitors, attracting new audiences, and increasing awareness. Next, specific indicators that can be used to measure the achievement of these goals were identified. The static data for each of the 15 museums, such as the number of fans, the page performance index, the number of posts per day, the growth rate of followers, the number of post interactions, and the number of total reactions and comments, were presented to contextualize the activities of the museums. A content analysis of the digital content created by the most visited museums in the world on the social networks Facebook, Twitter and Instagram was carried out. The next step is to develop a data collection system that will provide information on the necessary indicators. To obtain statistical information about museums' social media pages, we used the social media analytics and management tool Fanpage Karma, which allows us to analyse the results of content and visitor interactions. After data collection, analysis and evaluation of the results were carried out. Multivariate analysis was conducted to determine the relationship between museum attendance and the interaction between museums and subscribers on social networks. Tendencies, as well as successful and unsuccessful strategies and tools for marketing activities, were identified. Based on the results obtained, it is possible to adjust the strategy and make decisions to optimize the marketing efforts of the museum. To monitor the digitalization strategy of the museum's marketing activities, a mixed approach based on qualitative and quantitative analysis was used. The results were compared with those of previous studies to draw meaningful conclusions.

An important component of the monitoring methodology is also feedback from visitors. This methodology allows us to determine the effectiveness of using digital tools and evaluate their impact on attracting visitors and increasing interest. The proposed methodology allows us to understand the needs and preferences of the audience, evaluate the effectiveness of advertising campaigns, evaluate customer behaviour in certain situations, determine competitive advantages, plan marketing activities and formulate an effective marketing strategy.

4. Results. The largest number of visited museums in the world is located in the USA and Europe. Table 1 shows the average number of museums per inhabitant according to the regional classification according to UNESCO calculations.

Table 1. Number of museums per million inhabitants worldwide in 2021 by UNESCO regional classification

Regions	Population (millions)	Museums per million inhabitants
Western Europe and Canada	544.41	56.30
Eastern Europe	346.25	32.80
Latina America and the Caribbean	637.58	13.70
Asia Pacific	4 255.48	4.30
Africa	1 012.83	0.90
Arab States	402.96	1.90
Israel	8,88	25.40
United States	327.17	101.10
Total	7 535.55	13.80

Source: Developed by the authors based on Statista (2023).

The information about the countries in which the largest number of museums are located is presented in Table 2.

Table 2. Countries ranked by estimated number of museums in 2021

№	Country	Number of museums	№	Country	Number of museums
1	United States	33 082	13	Mexico	1 320
2	Germany	6 741	14	Poland	1 233
3	Japan	5 738	15	Argentina	1 183
4	China	5 535	16	Switzerland	1 129
5	France	4 811	17	Republic of Korea	1 102
6	Brazil	3 906	18	Australia	919
7	Italy	3 195	19	Belgium	912
8	UK and Northern Ireland	3 183	20	Hungary	813
9	Canada	2 245	21	Austria	776
10	Spain	1 732	22	Netherlands	688
11	Sweden	1 600	23	Portugal	662
12	Thailand	1 526	24	Ukraine	647

Source: Developed by the authors based on Statista (2023).

The United States has the largest number of museums, more than 5 times the number of museums in Germany, which is the second largest number of museums in the world. The largest number of museums are located on the European continent, namely, in Germany, France, Italy, Great Britain, Spain, Sweden, Poland, Switzerland, etc. In accordance with the objectives of the research, the comparison and analysis of the most visited museums in the world, which have official pages on Facebook, Telegram and Instagram social networks, were carried out. Table 3 shows the most visited museums in the world for 2019-2021 according to the AECOM.

Table 3. Dynamics of the most visited museums in the world from 2019 to 2021 (in millions)

Title of the museum	Year			Title of the museum	Year		
	2021	2020	2019		2021	2020	2019
Louvre, France	2.83	2.70	9.6	National History Museum, UK	1.56	1.20	5.42
National Museum of China, China	2.39	1.60	7.39	British Museum, UK	1.33	1.28	6.21
Shanghai Science and Technology Museum, China	2.37	1.35	4.82	Tate Modern, UK	1.16	1.43	6.1
China Science Technology Museum, China	2.36	0.69	3.89	Musée d'Orsay, France	1.04	0.87	3.65
Nanjing Museum, China	2.03	1.52	4.17	National Museum of Natural History, US	0.98	0.57	4.2
Metropolitan Museum of Art, US	1.96	1.13	6.77	Zhejiang Museum, China	0.93	1.11	4.15
National Gallery of Art, US	1.71	0.73	4.07	Victoria & Albert Museum, UK	0.86	0.87	3.92
Reina Sofía, Spain	1.64	1.25	4.43	National Gallery, UK	0.71	1.20	6.01
Vatican Museums, Vatican	1.61	1.30	6.88	National Palace Museum, Taiwan	0.42	0.64	3.83

Source: Developed by the authors based on Statista (2023).

For research and calculations, 15 museums were selected that were at the top of attendance in the last five years; in addition, they have official pages on Facebook, Telegram and Instagram. The list of museums studied includes Galleria degli Uffizi, Royal Castle, National Gallery of Art, National Gallery, National Museum of Korea, Musee du Louvre, British Museum, Musee d'Orsay, Center Pompidou, Museo Nacional del Prado, Somerset House, Museum of Modern Art, Reina Sofia, Metropolitan Museum of Art, and Tate Modern. The global museum tourism market reached an estimated US$20 billion in 2020. From 2022-2032, the museum tourism market in North America is predicted to grow at a CAGR of 26.0% over the forecast period. In turn, the European museum tourism market will grow by 20.0% per annum during the forecast period (Museums Tourism Market, 2021). Static data on the number of fans, the page performance index, the number of posts per day, the growth rate of followers, post interactions, and the number of total reactions and comments are presented to contextualize the activities of museums. The analysis focuses on Instagram, Facebook and Twitter. Instagram was chosen because of its high follower count, significant amount of time the social network is used by followers, and photosharing functionality. Facebook is characterized by having the largest number of registered users in the world, a user-friendly interface, the ability to filter content in feed, the ability to provide templates for business pages, and extensive analytics for promotional events. Twitter is designed to publish short messages, tweets, announcements, and create blogs and has a clear interface. To increase the number of fans and attract more museum visitors, it is advisable to use various social networks.

To obtain statistical information about the pages of museums in social networks, the Fanpage Karma social media analytics and management tool was used, which allows the analysis of the results of the content and the interaction of visitors with it. The Fanpage Karma analytical tool allows the comparison of the official accounts of various museums in different social networks, the identification of flaws in the profile, and the creation of reports. According to the selected indicators, Fanpage Karma filters the rating of the networks' current strongest content. Table 4 presents the statistical marketing indicators on the social network Facebook for 15 museums obtained using Fanpage Karma.

Table 4. Statistical marketing indicators of the interaction of 15 museums with users on Facebook based on Fanpage Karma

Museum	Fans	Page Performance Index	Posts per day	Follower Growth (in %)	Post interaction	Total Reactions, Comments, Shares
Galleria degli Uffizi	15319	97	1.07	1.98	9.25	65881
Royal Castle, Warsaw	78468	49	2.02	1.4	0.16	11183
Museo Nacional del Prado	1121768	23	0.82	0.33	0.34	135360
Tate Modern	1225523	20	1.70	0.46	0.09	78646
Reina Sofia	404253	17	2.59	0.37	0.07	30279
National Museum of Korea	33800	13	0.57	0.2	0.27	2151
Centre Pompidou	728314	13	1.18	0.37	0.06	22930
Musée d'Orsay	875473	11	1.25	0.2	0.07	33690
National Gallery	1026801	11	0.80	0.27	0.09	33027
Museum of Modern Art	2205570	11	1.32	0.53	0.03	38423
British Museum	1639446	10	0.52	0.28	0.13	49353
Metropolitan Museum of Art	2052599	9	1.07	0.27	0.05	43245
Somerset House	126774	5	0.82	0.41	0.01	602
Musée du Louvre	2614504	4	0.45	0.12	0.07	35933
National Gallery of Art	890266	3	1.09	0.01	0.08	34597

Source: Developed by the authors based on Fanpage Karma software package calculations.

Thus, the Musée du Louvre, the Museum of Modern Art, and the Metropolitan Museum of Art are leading in terms of the number of Facebook followers. According to the Page Performance Index, Galleria degli Uffizi has the greatest advantage compared to the museums under consideration. According to the number of posts per day, Reina Sofia, Royal Castle and Warsaw had the highest values. The subscribers of the Museo Nacional del Prado had the greatest number of interactions with the site. Table 5 presents the statistical marketing indicators obtained from the Instagram social network for 15 museums using Fanpage Karma.

Thus, the Museum of Modern Art, Musée du Louvre, and Tate Modern are leading in terms of the number of followers on Instagram. According to the Page Performance Index, Royal Castle, Warsaw, has the greatest

advantage compared to the museums under consideration. According to the number of posts per day, Reina Sofia and Tate Modern have the highest values.

Table 5. Statistical marketing indicators of interactions between museums and Instagram users for 15 museums based on Fanpage Karma

Profile	Fans	Page Performance Index	Posts per day	Follower Growth (in %)	Post interaction	Total Reactions, Comments, Shares
Royal Castle, Warsaw	9831	60	1.18	2.18	1.46	7404
National Museum of Korea	133675	41	0.61	2.05	1.22	43540
Galleria degli Uffizi	737394	26	1.00	0.65	1.01	319172
Tate Modern	4249512	21	1.70	0.88	0.27	845855
National Gallery of Art	517328	18	1.09	0.77	0.36	89164
Centre Pompidou	1222769	18	1.02	0.7	0.4	219297
British Museum	2132307	18	0.52	0.98	0.56	272678
Reina Sofia	463558	16	2.43	0.51	0.19	93198
National Gallery	1966758	14	0.98	0.58	0.36	300989
Musée d'Orsay	1358025	13	0.68	0.57	0.4	162100
Museo Nacional del Prado	1026225	12	0.75	0.29	0.61	200822
Museum of Modern Art	5666005	11	1.16	0.36	0.22	646655
Somerset House	212664	10	0.84	0.78	0.12	9653
Musée du Louvre	4937478	8	0.45	0.24	0.53	533806
Metropolitan Museum of Art	4190053	7	1.00	0.22	0.24	440856

Source: Developed by the authors based on Fanpage Karma software package calculations.

Tate Modern subscribers had the largest number of interactions with the site, and Royal Castle and Warsaw had the smallest number of interactions with the site. Table 6 presents the statistical marketing indicators on the social network of Twitter for 15 museums obtained using Fanpage Karma. New paragraph: use this style when you need to begin a new paragraph.

Table 6. Statistical marketing indicators of the interaction of museums with users on Twitter for 15 museums based on Fanpage Karma

Profile	Fans	Page Performance Index	Posts per day	Follower Growth (in %)	Post interaction	Total Reactions, Comments, Shares
Galleria degli Uffizi	72818	91	1.77	3.30	0.43	24091
Royal Castle, Warsaw	5253	60	1.39	1.92	0.16	523
National Gallery of Art	313190	73	2.61	1.08	0.11	40126
National Gallery	931890	18	10.43	0.46	0.01	37994
National Museum of Korea	103484	11	0.50	0.81	0.08	1853
Musée du Louvre	1580493	10	4.23	0.26	0.01	34627
British Museum	2072838	9	1.52	0.24	0.03	43525
Musée d'Orsay	756710	7	2.98	0.25	0.01	8884
Centre Pompidou	1082247	5	2.52	0.13	0.01	12144
Museo Nacional del Prado	1313698	5	3.84	0.16	0.01	15391
Somerset House	275691	1	1.34	-0.06	0.00	315
Museum of Modern Art	5274411	1	2.05	-0.01	0.00	19426
Reina Sofia	776848	1	2.89	0.01	0.00	4160
Metropolitan Museum of Art	4286593	1	1.95	-0.08	0.00	13606
Tate Modern	4703762	1	3.18	-0.09	0.00	18815

Source: Developed by the authors based on Fanpage Karma software package calculations.

Thus, the Museum of Modern Art, Tate Modern, and the Metropolitan Museum of Art are leading in terms of the number of followers on Twitter. In terms of the Page Performance Index, Galleria degli Uffizi has the greatest advantage compared to the museums under consideration. According to the number of posts per day, the National Gallery and Museo Nacional del Prado have the highest values. The British Museum subscribers had the greatest number of interactions with the site, while Somerset House had the least.

In addition to the statistical analysis of Fanpage Karma, content analysis was used, which made it possible to evaluate the content of the social networks of the studied museums. The quantitative analysis was a multivariate analysis to determine the correlation between museum attendance and indicators of museum interaction with social media followers. The results of the statistical analysis showed that reactions and engagement are greater on Instagram than on Facebook and Twitter. The Museum of Modern Art (Instagram and Twitter), Musée du Louvre (Instagram), Tate Modern (Twitter and Instagram), and Metropolitan Museum of Art (Twitter and Instagram) have the most followers. That is, these two social networks are more popular than Facebook in the museum business. In terms of the number of interactions (posts, likes), the leader is Instagram Tate Modern with a maximum of 845855, with a maximum of the Museo Nacional del Prado on Facebook of 135360 and a maximum on Twitter of the British Museum of 43525.

The results of the statistical analysis showed that reactions and engagement are greater on Instagram than on Facebook and Twitter. The Museum of Modern Art (Instagram and Twitter), Musée du Louvre (Instagram), Tate Modern (Twitter and Instagram), and Metropolitan Museum of Art (Twitter and Instagram) have the most followers. That is, these two social networks are more popular than Facebook in the museum business. In terms of the number of interactions (posts, likes), the leader is Instagram Tate Modern with a maximum of 845855, with a maximum of the Museo Nacional del Prado on Facebook of 135360 and a maximum on Twitter of the British Museum of 43525.

An interesting question is the coincidence of content in various social networks. In some museums, the level of uniformity is very high, approximately 100%, while some museums publish different information, differentiating subscribers of various social networks. Most often, the size of the publication differs due to the requirements of the social network for content. The correlation between the number of museum visits ($x1$) and the interaction of the museum with visitors using social networks (based on statistical indicators such as the number of fans ($x2$), page performance index ($x3$), number of posts per day ($x4$), growth rates of followers ($x5$), interactions ($x6$), and number of reactions and comments ($x7$)) was obtained on the basis of correlation analysis. Spearman's correlation coefficient refers to nonparametric measures of associations between variables. When calculating this coefficient, no assumptions are required about the nature of the distribution of features in the general population. This coefficient determines the degree of tightness of the connection of ordinal features, which are the ranks of the compared values. Table 7 presents the results of the correlation between the studied indicators in various social networks.

Table 7. Spearman rank order correlations

Spearman Rank Order Correlations Marked correlations are significant at p <0.05000 (for Facebook)						
X1	X2	X3	X4	X5	X6	X7
	0.58	0.40	*0.70*	0.49	*0.51*	*0.73*
Spearman Rank Order Correlations Marked correlations are significant at p <0.05000 (for Twitter)						
X1	X2	X3	X4	X5	X6	X7
	0.68	0.31	*0.64*	0.41	*0.55*	*0.61*
Spearman Rank Order Correlations Marked correlations are significant at p <0.05000 (for Instagram)						
X1	X2	X3	X4	X5	X6	X7
	0.61	0.41	*0. 536190*	0.28	*0.51*	*0.70*

Sources: developed by the authors.

The number of museum visits ($x1$), the number of fans ($x2$), the number of posts per day ($x4$), interactions ($x6$), and the number of reactions and comments ($x7$) are the same across all social networks. Everywhere the correlation is direct, that is, the value of the correlation coefficient is positive. There was not a high degree of correlation between the number of museum visits ($x1$) and the page performance index ($x3$) or the growth rate of followers ($x5$), although this correlation still existed. Thus, each social network is important for the museum and has its own impact on the growth of visitors. Visitors follow information portals in the form of social networks, react differently to announcements and photos, and interact with museums. Considering the obtained results, it should be noted that museum attendance depends both on the content of information in social networks and on the number of subscribers and the regularity of publications.

5. Discussion. The changing global situation associated with digitalization requires a special approach to strategic marketing for enterprises in different fields. This discussion is deepened by the difficulties and problems faced by enterprises seeking to operate in international markets while not taking into account modern trends in the digital development of business and society.

To operate successfully and maintain its position in the market, an enterprise must constantly analyse development indicators, predict customer needs, and work to attract consumers (Black, 2010). Indeed, appropriate measures are necessary, but they must take into account modern trends in the formation and implementation of marketing strategies. The key factors explaining why visitors visit museums are cultural values, archaeology, motivation, aesthetics, services, education and advertising (Parkhomenko, 2019). At the same time, it is advisable to identify the significance of each of these factors for a particular subject, which digital tools can do. Museum marketing strategy consists of the following components: promotion strategy, service delivery strategy, and consumer strategy (Kamall & Pramanik, 2015). This set of strategic activities involves the use of various marketing tools. The choice of these tools depends on the capabilities of the subject, the specifics of its activities, and resources. The choice of these tools depends on the capabilities of the subject, the specifics of its activities, and resources. Museum marketing is based on macro- and microsegmentation strategies (Plaza et al., 2021). Studying the behaviour of various consumers allows for segmentation and orientation of marketing strategies for various segments.

In conclusion, assessing consumer behaviour and accordingly developing a marketing strategy requires a multifaceted approach. In conclusion, assessing consumer behaviour and accordingly developing a marketing strategy requires a multifaceted approach. By predicting customer behaviour, enterprises can regulate supply and demand, income, and build their development trends. This discussion highlights the importance of digitalization, innovation and strategic management in the marketing activities of any enterprise.

6. Conclusions. In light of the research and analysis conducted, assessing consumer behaviour through innovative marketing tools is of utmost importance. The results showed that the use of innovative digital tools can significantly influence consumer behaviour and, accordingly, the marketing strategy of an enterprise. The step-by-step methodology presented in this research includes the identification of the main goals and objectives to be achieved through the digitalization of marketing activities, the identification of specific indicators that will be used to measure the achievement of these goals, content analysis, the development of a data collection system and obtaining statistical information, multivariate analysis to determine the relationship between museum attendance and the interaction of museums with subscribers on social networks, identifying trends and justifying the strategy of marketing activities. This comprehensive approach allows you to evaluate a potential client and make informed marketing decisions. By integrating insights from this study and drawing on lessons from previous research, businesses can better position themselves in the marketplace in today's environment. Museums should continue to work related to the preservation and increase of visitors, which requires innovative approaches and technologies for effective interaction between the consumer and the museum. The objectives of museum marketing are to expand the audience, establish international relations, attract visitors and sources of funding, analyse consumer needs, improve services and update consumer products. Accessible and complete information, created and distributed using digital technologies, allows for the expansion of relationships with consumers. The innovative technologies and digitalization tools for the museum business include audio and video elements in museums, online exhibitions, visual information displays (touch screens), smart objects (such as QR codes, RFID, NFC), interactive surfaces, augmented reality, virtual reality, spatial sound space, 3D elements (e.g., moving image), gesture and movement control, holographic images, speech interaction, and 4D elements. Interactive installations, sculptures, and sensor technologies are elements of the digitalization of museum activities that contribute to the growth of museum attendance. In turn, in addition to such a digitalization of museum activities, there may be a digitalization of museum marketing. Such digitalization marketing tools include social media analytics, customer relationship management (CRM), website analytics, social media content management, online surveys, content management systems (CMSs), and web/mobile app analytics. The digitization of museum collections makes it possible to show the features of the museum collection on social networks to focus on the features hidden from the eyes. Customer focus and customer centricity increase the image of the museum, contributing to the growth of visitors.

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Діджіталізація маркетингу як інноваційний інструмент оцінювання клієнтів
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Франтішек Ольшавскі, Університет Коменського в Братиславі, Словаччина
У статті аналізується цифровізація музейного маркетингу як інноваційного інструменту оцінки клієнтів. Проведено контент-аналіз цифрових інструментів, створених найбільш відвідуваними музеями світу в соціальних мережах Facebook, Twitter та Instagram. Для отримання статистичної інформації про сторінки музеїв у соціальних мережах використовувався інструмент аналітики та управління соціальними мережами Fanpage Karma. Fanpage Karma фільтрує рейтинг сторінок компаній в соціальних мережах за обраними показниками. Кореляція між кількістю відвідувань музею та показниками, що демонструють взаємодію музею з відвідувачами за допомогою соціальних мереж, такими як кількість шанувальників, індекс ефективності сторінки, кількість публікацій на день, темпи зростання підписників, взаємодії з публікаціями, загальна кількість оцінених реакцій

і коментарів. Метою роботи є аналіз впливу процесів цифровізації музейного маркетингу на відвідування музеїв та, як наслідок, економічний розвиток музейного бізнесу. Для моніторингу стратегії цифровізації маркетингової діяльності музею використано змішаний підхід на основі якісного та кількісного аналізу. Проведено багатофакторний аналіз для визначення зв'язку між відвідуваністю музеїв та взаємодією музеїв із підписниками в соціальних мережах. Доведено, що впровадження цифрових технологій у музейний маркетинг може залучити відвідувачів і вивести заклад на новий інформаційний рівень. Дослідження показує однаковий високий рівень впливу всіх соціальних мережах на кількість відвідувань щодо показників кількість шанувальників, кількість постів на день, взаємодія із підписниками, кількість реакцій і коментарів. Робота дозволяє пізнати потенційну аудиторію музею, її потреби, запити, спрогнозувати інтереси окремих категорій відвідувачів музею. Наукова новизна та оригінальність дослідження полягає в використанні цифрових маркетингових інструментів для оцінювання їх впливу на поведінку клієнтів. Результати дослідження можуть бути корисними для розробки систем моніторингу та стратегічного управління маркетингом при оцінці поведінки споживачів на контент соціальних мереж на підприємствах різних галузей.

Ключові слова: діджиталізація; інноваційні маркетингові інструменти; музейний маркетинг; аналітика та управління соціальними мережами; соціальні мережі.