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THE ROLE OF DIGITAL MARKETING TOOLS IN ENHANCING REGIONAL TOURISM DEVELOPMENT

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Abstract: The article examines the current level of knowledge and practical application of digital marketing tools in the development of regional tourism. In particular, it explores the role of digital technologies in shaping the image of tourist destinations, attracting potential visitors, and improving communication between tourism service providers and customers. The research analyzes existing academic studies and practical cases to identify both achievements and challenges in the implementation of digital marketing in the tourism sector.

Special attention is given to the effectiveness of such instruments as content marketing, social media platforms, search engine optimization (SEO), online advertising, and influencer marketing in promoting regional tourism products and services. The study also highlights the importance of integrating traditional and digital marketing approaches to create a sustainable and competitive tourism marketing strategy.

Based on the findings, the article identifies opportunities for regional tourism development through the application of innovative digital tools, emphasizing the need for capacity building, professional training, and infrastructure improvement to enhance the visibility and attractiveness of regional destinations in the global tourism market.

Key words: traditional marketing, digital marketing, tourism marketing, digital technologies, content marketing, social media marketing, SEO, influencer marketing, regional development.

INTRODUCTION

Modern tourism has become a global phenomenon of the 21st century, representing not only a highly profitable sector of the economy, but also a social activity that serves as a means of purposeful travel, leisure, and effective use of free time. In recent years, the development of digital technologies, particularly the internet, has necessitated the use of digital tools in the tourism industry—just as in other sectors of the economy—for attracting, retaining, and fully meeting the needs of consumers.

The adoption of Presidential Decree No. PF-6079 by the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, on the approval and effective implementation of the “Digital Uzbekistan – 2030” strategy, has created wide-ranging opportunities for the active development of information technologies across all sectors, transforming them into a true driver of economic growth.

Focusing tourism activities on customer demands and needs, and developing conceptual approaches through marketing tools, play a crucial role in the advancement of the sector. The emergence of new information technologies and the shift of modern consumers from traditional media to digital communication channels further increase the relevance of digital marketing strategies in the tourism industry.

LITERATURE REVIEW

In the context of virtualization, the emergence of the Internet and new information technologies has elevated the role of marketing in economic relations to a new level. Today, many economists and scholars are focusing their research on the study and improvement of digital marketing practices.

One of the most simplified definitions of digital marketing was provided by Alan Charlesworth (2020), who stated: “Digital marketing is marketing that makes use of digital technologies.” Although he generally associates the term with online marketing, he emphasizes that the definition should not exclude the use of digital technologies beyond the internet.

Andrey Gavrikov (2019) defines digital marketing as "a marketing mix that can be implemented through electronic means (such as computers, phones, smartphones, tablets, smartwatches, televisions, and touchscreens) and digital devices." Digital marketing involves practices that utilize digital communication tools such as websites, digital advertising, social media, email, and mobile communication to establish connections with consumers, attract them, and maintain long-term engagement.

One of the most comprehensive definitions of the term was given by Philip Kotler (2007), who described digital marketing as "a form of human activity aimed at satisfying needs and demands through the use of digital technologies and mass media."

In tourism, marketing can be understood as a continuous sequence of activities aimed at identifying, implementing, monitoring, and evaluating actions to meet tourist needs. It is a system of continuously aligning the services offered with market demands. Ultimately, digital marketing in tourism refers to the implementation of marketing strategies using digital tools, with the goal of increasing the attractiveness of a chosen region or destination, stimulating demand, and enhancing the destination's reputation. Digital marketing is increasingly becoming a key factor in gaining competitive advantage in the tourism industry.

Thus, digital marketing in tourism represents an advanced form of traditional marketing and is considered a crucial element of the modern marketing mix.

ANALYSIS AND RESULTS

In many studies, regression analysis methods are widely used to assess the impact of various sectors and industries on economic growth. Accordingly, the following functional model is constructed:

Where:

– denotes the Gross Regional Product (GRP);
– represents the number of domestic tourists;
– indicates the number of foreign tourists;
– refers to the volume of tourism-related services;
– stands for the volume of communication and information services.

Typically, three main statistical models are applied for the estimation of panel data sets:

1. Pooled Ordinary Least Squares (POLS),
2. Fixed Effects Model (FEM or FES), and
3. Random Effects Model (REM or RES).

The primary differences between these models lie in the assumptions regarding the strength of inter-variable relationships and the nature of the error terms. In this particular study, the POLS and FES models are employed. The RES model is not applicable due to the fact that the number of independent variables exceeds the number of time periods (t), which violates the model's assumptions.

Based on data from 2010 to 2021, the effect of the identified factors (denoted by "U") on the GRP of the Khorezm region was assessed using the Pooled Ordinary Least Squares (POLS) method. The estimation results of this model are presented in Table 1.

Table 1. Regression Analysis Results (POLS)[1]

Regression statistics	
R^2	0,979238
Normalized R^2	0,968857
Standard error	0,134016
Observations	13

Variance analysis					
	df	SS	MS	F	Ahmiyatli- F
Regression	4	6,776668	1,694167	94,32	9,13
Residual	8	0,143682	0,01796		
Total	12	6,92035			

	Coefficients	Standard error	*t-statistic*	P-value

1 Prepared by the author

Y- residual value	3,227	0,801	4,029	0,004
HT	0,033	0,083	0,394	0,104
IT	0,049	0,041	1,179	0,072
TH	-0,112	0,125	-0,893	0,098
AH	1,116	0,167	6,687	0,000

Initially, using panel data collected over the period, the following model (2) was estimated through the Ordinary Least Squares (OLS) method in Excel:

$$YIM_{1-pols} = 3{,}227 + 0{,}033HT + 0{,}49IT - 0{,}112TH + 1{,}1169AH \quad (2)$$

The results of the presented model allow us to assess the impact of selected factors on the Gross Regional Product (GRP). According to the findings, the volume of tourism services has a negative effect on GRP growth. This situation can be explained by the decreasing share of tourism services in the value added of GRP. Additionally, the decline in the volume of tourism services in recent years due to the pandemic has caused a negative correlation with GRP growth.

All other factors show a positive correlation, with communication and information services identified as having a significant positive impact. The increasing number of tourists positively influences the GRP.

The results indicate a high coefficient of determination with R2=0.979R^2 = 0.979R2=0.979. The Fisher statistic calculated at the 0.10 significance level is smaller than the critical table value, and all variables have p-values below 0.10, suggesting that the model results are reliable and statistically significant.

The impact of tourism development on GRP, particularly through the communication and information services sector, was further analyzed using the Fixed Effects Model (FEM). This model enables us to evaluate how effectively the communication and information sector has developed and allows us to distinguish the growth of tourism with and without the influence of this sector.

Based on data from 2010 to 2021, the re-estimated model assessing the impact of the factors denoted as (U) on the GRP of Khorezm region, specifically considering the output of communication and information services, is presented in Table 2.

Table 2. Regression Analysis Results (FES)[2]

Regression statistics	
R^2	0,863197
Normalized R^2	0,817597
Standard error	0,324332
Observations	13

Variance analysis					
	df	SS	MS	F	Ahamiyatli- F
Regression residual	3	5,973629	1,99121	18,92	0,0003
	9	0,946721	0,105191		
Total	12	6,92035			

	Coefficients	*Standard error*	*t-statistic*	P-value
«Y-residual value	8,387	0,521	0,088	0,000
HT	-0,331	0,151	0,101	0,056
IT	0,188	0,087	0,051	0,059
TH	0,455	0,224	0,035	0,072

The model results based on the data from Table 2 indicate a negative impact of foreign tourists on the growth of Gross Regional Product (GRP). However, the inflow of domestic tourists and the volume of tourism services show a strong positive effect on the GRP.

2 Prepared by the author

Using panel data collected for the second case, we estimate the following model through the Ordinary Least Squares (OLS) method using Excel. (3):

$$YIM_{2-pols} = 8{,}387 - 0{,}331HT + 0{,}188IT + 0{,}45TH \quad (3)$$

The obtained results indicate a coefficient of determination R2=0.863R^2 = 0.863R2=0.863. The calculated F-statistic at a 0.10 significance level is lower than the critical value from the table, and the p-values for all variables are below 0.10. This suggests that the results of the estimated model can be considered reliable.

Based on the above, the comparative model results assessing the impact levels of tourist inflows and tourism services development on the GRP are presented in Table 3.

Table 3. Results of evaluating the impact of tourism on the changes in Khorezm region's GRP [3]

Variables	Symbol	1-POLS model	t-test	r-test	2-POLS model	t-test	r-test
the region's Gross Regional Product (GRP)	YHM	3,227	4,029	0,004	8,387	0,088	0,000
number of foreign tourists	HT	0,033	0,394	0,104	-0,331	0,101	0,056
domestic tourists	IT	0,049	1,179	0,072	0,188	0,051	0,059
volume of tourism services	TH	-0,112	-0,893	0,098	0,455	0,035	0,072
volume of communication and information services	AH	1,116	6,687	0,000			
R^2		0,979			0,863		
Normalized R^2		0,968			0,817		
Standart xatolik		0,134			0,324		

In the results of the selected 2-POLS model, a negative correlation was observed between the number of foreign tourists and the GRP (Gross Regional Product) of the region when the development of information technologies was not taken into account. This is explained by the decrease in the number of foreign tourists. The development of communication and information technologies facilitates foreign tourists in locating tourist sites and tourism complexes within the region. Additionally, the presentation of digital marketing tools in English and Russian provides broader opportunities for tourists to find information online. Meanwhile, tourism services have a positive effect on the growth of GRP. These cases are considered without accounting for other factors.

Taking the above into account, the development of ICT and communication and information services will lead to an increase in the number of foreign tourists visiting the region.

Based on the conducted research, it is possible to observe development trends by determining forecast values under two scenarios. In order to assess the impact of tourists attracted to the Khorezm region on the socio-economic development of the region, the changes in the GRP under the influence of selected factors in the future are identified. The forecast values for the period 2022–2026, based on regression equations (2) and (3), and obtained through patterning, are presented in Table 4. The models reflecting the time-dependent changes of the factors are provided in the appendix.

These forecast models were determined based on the following patterning models of linear regression:

$$YHM_{2-pols} = \frac{e^{8{,}387} * IT_t^{0.188} * TN_t^{0{,}455}}{HT_t^{0.331}} YHM_{2-pols} = \frac{e^{8{,}387} * IT_t^{0.188} * TN_t^{0{,}455}}{HT_t^{0.331}} \quad (4)$$

"The results of the forecast indicate that there is a strong correlation between the development of tourism and information and communication technologies."

3 Calculated by the author using the 'Pooled Least Squares' module of the Eviews software.

Table 4. Forecast scenarios of the growth in Khorezm region's GRP based on the development of tourism [4]

Years	GRP at current prices, billion UZS	GRP at current prices, billion UZS
	YHM (1-POLS based on the model)	YHM (2-POLS based on the model)
2022*	31963,1	31963,1
2023	32503,3	31150,0
2024	35117,3	32421,7
2025	37751,3	33638,1
2026	40404,1	34805,1
2027	43074,8	35927,3
2028	45762,5	37009,0
2029	48466,6	38053,9
2030	51186,3	39064,8

Note: actual value

According to the forecast results, the Gross Regional Product (GRP) of the region, driven by the development of tourism, is expected to reach 39,064.8 billion soms by 2030.

CONCLUSION AND RECOMMENDATIONS

This scenario assumes that the volume of communication and information services remains unchanged, and growth occurs solely through tourism.

If, however, the tourism services market undergoes a high level of digital transformation based on the effective use of information technologies and digital marketing tools, the GRP of Khorezm region is projected to reach 51,186.3 billion soms by 2030. The successful implementation of information technologies and digitalization efforts will particularly increase the number of foreign tourists visiting the region, thereby enabling a higher growth rate of the GRP.

It can be concluded that the effective utilization of digital marketing tools — including content marketing, social media marketing, viral marketing, influencer marketing, email marketing, and search engine marketing — is essential for the further development of the tourism sector in the region. This, in turn, contributes to an increase in the gross regional product (GRP), a reduction in unemployment rates, and an overall improvement in the standard of living of the population.

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