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Perceived Impact of Digital Marketing Practices on Travel Agency Performance*

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Abstract

Measuring marketing performance has been a matter of interest for professionals and stakeholders. In this study, a scale was developed to measure the perceived effect of digital marketing applications on travel agency performance. The sample test was applied to 461 A group Travel Agency officials. In the study, normality, correlation, exploratory factor and parallel analyzes were performed with the use of the SPSS program, and confirmatory factor and invariance analyzes were performed with the use of AMOS program. Skewness and Kurtosis values between ±1.96 indicate that the sample is normally distributed. KMO=0.912 (KMO > 0.60), Bartlett's sphericity test result=0.000 (Bartlett's < 0.05), Cronbach Alpha=0.924, AVE > 0.50 and CR > 0.70. As a result of the analysis, X^2(df) value was below 5; $p < 0.05$; RMSEA < 0.08; CFI > 0.90; GFI > 0.85 and SRMR < 0.08. The developed scale was gathered under a total of 4 factors: product development (7 items), cost (5 items), sales (4 items) and Publicity (4 items) and met the validity and reliability conditions. Since the ΔCFI value was below 0.01, it can be stated that the developed scale has invariance and is suitable for use by large masses. Regarding the use of scale, the items will be evaluated over the averages rather than the total score.

Keywords: Digital Marketing, Marketing Performance, Scale Development, Tourism Marketing, Travel Agencies.

JEL Code: Z30, Z33, L83, M31

1. Introduction

There has been an increase in the use of the internet and technological devices in the last 30 years. Accordingly, the number of businesses that have become digital has increased. Thanks to digitalization, jobs and transactions have begun to be carried out independently of time and place. Businesses that want to

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gain a competitive advantage have turned to innovation and increased their technology investments, especially in the 2020s. These developments have triggered the revival in the markets (Ugurlu, 2022). Digitalization is the quickest, least expensive, and most effective method to reach consumers. Marketing environments have become increasingly dynamic, particularly due to the acceleration of digital transformation and real-time consumer interaction (Paradova, 2020). In addition to causing change, this feature allows digital marketing to replace traditional marketing. Today, businesses are attempting to establish a brand and reach their target audience using digital marketing techniques as much as possible (Hoi, 2020). In addition, businesses use digital marketing techniques to increase marketing effectiveness and efficiency, and to achieve targeted marketing performance values (Kotane et al., 2019; Sarikaya, 2022).

Marketing performance represents a measurable subset of overall firm performance, particularly in terms of market outcomes and customer-related indicators (Harjadi et al., 2020). Marketing performance measurement is difficult and time-consuming. For that reason, marketing performance is a short-term performance that is adjusted by an increase or decrease in brand value over a specific time period (Clark and Ambler, 2001). According to Wardaya et al. (2019), marketing performance measurement incorporates various dimensions of organizational performance. These are financial and non- financial measurements. According to Clark (1999), cash flow, market share, sales, and profit are financial measures, whereas market orientation, brand equity, customer loyalty, and customer satisfaction are non-financial measures. According to Clark and Ambler (2001), the following are examples of non-financial marketing performance criteria:

- Intermediaries (quality perception, brand/product knowledge, perceived differentiation, relevance to the consumer, satisfaction of customer, awareness),
- Customer behaviour (loyalty of customer, retention, conversions, number of new customers),
- Final customers (number of complaints, satisfaction of customer),
- According to competitors (quality perception, relative consumer satisfaction),
- Innovation (new products' margin, new products' revenue, number of new products),
- Financial (profitability, gross margins, product sales).

In the evaluation of marketing performance, organizations have traditionally prioritized financial indicators and tended to assess outcomes by benchmarking them against predefined marketing plans. Within this framework, metrics such as sales volume and profitability are generally regarded as the most critical performance criteria. In contrast, non-financial indicators (particularly those related to customers) are typically evaluated through longitudinal comparisons, often using

prior-year data as a reference point (Clark and Ambler, 2001). But marketing performance can't be fully measured by visible metrics. Gupta and Zeithaml (2006) note that perceptual constructs such as customer satisfaction are important for performance evaluation, but are not directly measurable.

Thus, the need to study the correlation of financial results at the organizational level with the help of behavioral metrics, such as customer loyalty and the lifetime value of a customer. The literature of previous studies demonstrates that customer satisfaction is a strategic asset. Research has shown that customer satisfaction enhances loyalty, and improves cost efficiency and revenue growth (Clark, 1999 In addition, the empirical literature suggests the use of a number of metrics to assess the effectiveness of companies' marketing retention rate, conversion rate, product performance, revenue from new products, return on investment, website traffic, brand awareness, market share, profitability.

Previous studies indicate that the firm's product development capabilities are positively related to marketing performance results (Mustika et al., 2018; Sookbumroong and Phornlaphatrachakorn, 2023). Through marketing performance measurement, businesses gain feedback on the effectiveness of their marketing activities (Clark et al., 2006). Marketing performance has been a subject of extensive academic inquiry for decades. Evaluating the efficiency and effectiveness of resources allocated to marketing has long been a concern for managers.

Historically, performance measurement was perceived as unnecessary or unachievable. Prior to digitalization, assessing marketing performance was time-consuming and imprecise due to the absence of reliable reporting systems. However, over the past 30 years, digital transformation has revolutionized marketing. With every activity recorded in a virtual environment, digitalization has enabled precise, real-time measurement. Each comment, click, and interaction in the digital space can now be tracked using various analytics tools.

There is a substantial body of literature on digital marketing techniques; however, relatively few studies explore the role of digital technologies in enhancing marketing performance. According to Seggie et al. (2007), marketing performance should be evaluated using modern criteria. The evolution of information and communication technologies, increased demand for measurability, and the limitations of traditional tools have all contributed to a growing need for innovative approaches.

This study aims to design and validate a scale to measure the impact of digital marketing techniques on travel agencies' marketing performance. Previous scale development studies related to marketing performance are outdated, lacking sufficient dimensions and items to effectively measure today's digital marketing performance. Many earlier studies treated marketing performance as a single dimension rather than focusing on its multifaceted nature. For instance, Thomas (2000) identified six performance measurement items; O'Sullivan et al. (2009) proposed three; Low et al. (2016) listed fifteen; and Ambler et al. (2004) also presented fifteen in a single dimension.

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These studies distinguish between qualitative and quantitative, as well as financial and non-financial metrics. Common indicators include sales volume, customer count, profitability, cash flow, customer satisfaction, loyalty, complaints, perceived quality, and brand image. Aydin's (2019) categorized marketing performance into five areas—financial, customer, process, product, and pricing—each with five sub-criteria. Kirci (2021) approached marketing performance as a single dimension encompassing nine financial and non-financial metrics. Similarly, Kahraman (2022) categorized it into eight qualitative and quantitative dimensions. Gursoy (2022) evaluated marketing performance with 17 items, emphasizing customer-related metrics relative to competitors and overall performance.

In practice, many marketing managers remain sceptical of performance data, unconvinced of its benefits, and prefer to rely on intuition and experience (Germann et al., 2013). This study addresses this gap by developing a scale to measure "Digital Marketing Performance" in the current context. The research is original in its approach, as earlier studies often treated marketing performance as a single dimension rather than capturing its complexity.

2. Literature Review

The digital age has empowered businesses to transition from traditional to digital marketing strategies (AlFraihat et al., 2025). Businesses use B2C marketing to sell products and services directly to consumers. B2C marketing involves organizing campaigns tailored to consumer needs and interests to increase sales, as well as utilizing personalized and active social media engagement (Davis, 2024). Consequently, digital marketing techniques should be considered a fundamental priority for marketers today (Holliman and Rowley, 2014).

Digital marketing provides the ability to measure the effectiveness of marketing campaigns, access instant data, and make quick analyses. This allows for data-driven decisions to be made (Avazovna, 2025). Digital marketing efforts are sustained through various digital marketing techniques, such as search engine optimization, content marketing, pay-per-sale, pay-per-click, email, social media marketing, search engine marketing, Google AdWords, mobile marketing, and electronic word-of-mouth marketing (Kurum, 2020; Sharma and Sharma, 2024; Kanojia and Rathore, 2025; Ivascu et al., 2025).

Due to digitalization, many consumers conduct online research (Arora et al., 2021), prompting businesses to enhance their search engine visibility through Search Engine Optimization (SEO) techniques (Daoud et al., 2024). Content marketing is a strategic approach involving the creation and dissemination of engaging, valuable information tailored to target audiences (Pektas and Hassan, 2020). As a fundamental component of digital marketing, content marketing

generated $55.1 billion in global revenue in 2021 and $72 billion in 2023 (AlFraihat et al., 2025).

Pay-Per-Click (PPC) advertising allows businesses to pay only when their ads are clicked (Lee et al., 2018; Permadi et al., 2025), while affiliate marketing (often confused with PPS) involves commissions for referred sales (Hossan and Ahammad, 2013). Email marketing remains a cost-effective and efficient method for reaching customers, contributing to high return on investment (Gedik, 2020).

Social media plays a vital role in modern marketing (Gupta et al., 2023). Effective social media engagement and alignment with digital strategies enhance performance (Luo et al., 2024). Similarly, Search Engine Marketing (SEM) improves visibility and competitiveness, with real-time analytics enabling agile campaign management. Despite challenges such as algorithm updates and keyword competitiveness, SEM remains viable through proactive strategy (Alviansyah et al., 2025).

Google AdWords facilitates customer acquisition and sales growth through targeted advertisements (Tricahyadinata and Za, 2017). Mobile marketing utilizes devices like smartphones and tablets to deliver promotional content to mass audiences (Toramanli and Yukselen, 2025). Word-of-mouth (WOM) traditionally relied on limited social circles. In contrast, electronic WOM (eWOM) spreads rapidly via digital platforms, significantly influencing purchasing decisions (Jalilvand et al., 2018).

These techniques can be used to detect consumer behaviour and preferences, thus enabling the creation of improved consumer experiences, facilitating product enhancements, and fostering smarter sales strategies (Kanojia and Rathore, 2025). By utilising digital marketing techniques, businesses can offer diverse, engaging and relevant content, reach large audiences, establish direct two-way communication with customers and build customer loyalty through strong relationships (Hasibuan and Najmudin, 2024). There is an increase in the marketing performance of businesses that use digital marketing techniques (Gupta et al., 2023).

3. Method

The pervasive digitalization observed across various sectors today has rendered the execution of marketing activities in digital environments a necessity. Consequently, travel agencies are compelled to adopt digital marketing techniques. Traditional performance metrics fall short in evaluating these efforts, highlighting the need for a new scale aligned with current technologies. As Seggie et al. (2007) emphasize, innovative tools are essential in response to the rising demand for business measurability.

The research seeks to address several questions: Is there an effect of digital marketing techniques on the marketing performance of agencies? Which digital

marketing techniques are most frequently utilized by agencies? For how many years have agencies been employing digital marketing techniques? What is the satisfaction level of agencies utilizing these techniques? How does the use of digital marketing techniques affect the sales of agencies?

Turkey's economy grew 3.2% in 2024. The economic size was around US$1.32 trillion. Tourism revenues rose 8.3%, to US$61.1 billion. In Turkey, the marketing and distribution of tourism products are undertaken by Group A travel agencies. The target audience of this study is Group A travel agencies in Turkey. 10,480 agencies were found registered to the Turkish Travel Agencies Association (TÜRSAB). The contact details of the travel agencies were taken from the official website of TÜRSAB.

This study adopts a systematic scale development procedure. In the initial stage, a comprehensive review of the relevant literature resulted in the generation of an item pool consisting of 84 statements. These items were subsequently evaluated by a panel of 18 experts specializing in digital marketing, and only those endorsed by at least 13 experts were retained to ensure content validity. The questionnaire was subsequently administered to 351 travel agency representatives as part of the pilot study, using multiple data collection methods, including email, Google Forms, telephone, and social media platforms.

After the data screening process, 131 questionnaires were excluded from the assessment because of missing or incomplete data. Out of these, 220 valid questionnaires were available for analysis. The dataset of valid questionnaires was subjected to normality testing, exploratory factor analysis (EFA), parallel analysis and confirmatory factor analysis (CFA). As a result, a marketing performance scale with 20 items in four dimensions was developed.

In the second phase, the survey was distributed to 495 travel agency representatives via various data collection methods including Google Forms, email, face-to-face interviews, and the drop-and-collect method. Data screening resulted in the exclusion of 29 paper-based questionnaires and 5 online responses due to incomplete or erroneous entries. The final sample of the study consisted of 461 valid questionnaires which were included in the analysis. The sample size for the study was determined based on the formula given by Cochran (1977). A minimum of 371 responses was required for a 95% confidence level. In this equation, “n” is the population size, “p” is the estimated incidence rate, “e” is the margin of error and “z” is the confidence level. Sekaran (2003) advocates that a sample size of 384 is sufficient for populations over 100,000. Hence, the obtained sample size in this study is considered to be adequate.

$$n_o = \frac{Z^2 pq}{e^2}$$

The study is limited to the officials working in Group A travel agencies in Türkiye who work with digital methods. It was assumed that the participants understood the survey questions and answered them correctly and impartially.

The scale development stages are carried out in accordance with Carpenter's (2018) ten steps.

3.1. Carpenter's ten steps

Step I:

1. Stage: Substance pool formation

Negotiations were initiated in the beginning with travel agencies that employ digital sales strategies. Following this, secondary sources were assessed, including the internet, books, articles, and so forth. These investigations resulted in the identification of significant idioms, expressions, and words, and the formulation of a total of 102 questions. Following this stage, the 83 statements that retain potential meaning after undergoing the requisite simplifications and abbreviations are incorporated into the item pool. These transactions were all completed during the months of March and April in 2021.

2. Stage: Obtaining an expert opinion

The statements in the item pool were shared with 18 scholars specializing in digital marketing. Among the experts, 61.1% were male, 50% were between the ages of 31 and 40. 50% held the title of assistant professor, and 83.3% had at least one publication related to digitalization. In the first round of evaluation, the experts were asked to rate each item on a scale of:

1 = Unnecessary
2 = Needs Revision
3 = Necessary

3. Stage: Calculation of the Content Validity Ratio (CVR)

According to Ayre and Scally (2014), CVR critical values can be used to determine how many "necessary" experts are required to approve a basic item and, as a result, which items should be included in the final scale and which should be eliminated. The following is the formula:

$$CVR = \frac{Ne}{N/2} - 1$$

CVR : Content Validity Ratio
Ne : The number of experts who believe it is necessary
N : The number of experts

CVR critical one-tailed test ($\alpha = .05$) based on exact binomial probabilities.

Table 1. CVR reference table

Panel Size	Proportion Agreeing Essential	CVR Critical Exact Values	One-Sided p Value	Ncritical (Min. No. of Experts Required to Agree Item Essential) Ayre and Scally, (2014)	Ncritical Calculated From CRITBINOM Function Wilson et al. (2012)
5	1	1.00	0.031	5	4
6	1	1.00	0.016	6	5
..	…	…	…	…	…
18	0.722	0.444	0.048	13	12

Source: Ayre and Scally, 2014.

Based on Ayre and Scally (2014) CVR reference table, for a panel size of 18 experts, items must receive a "necessary" rating from at least 13 individuals to be retained (CVR critical exact value = 0.444). After submitting the 83 statements to the expert panel, the items were evaluated, and a table detailing which statements should be retained or excluded from the scale is provided in Table 2.

Table 2. Item pool and CVR calculations for agencies

No	Statements	Ne*	CVR**	Comment
	Digital techniques,			
1	Increased our sales revenue	17	0.88	Remained
2	Allowed us to increase prices	10	0.11	Eliminated
3	Made it easier for us to sell	16	0.77	Remained
4	Improved our cash flow	13	0.44	Remained
5	Increased our market share	17	0.88	Remained
6	Increased our profitability	16	0.77	Remained
7	Ensured continuity in sales	17	0.88	Remained
8	Increased our guaranteed sales	16	0.77	Remained
9	Increased our instalment sales	15	0.66	Remained
10	Increased our sales to high-income customers	13	0.44	Remained
11	Increased our sales to customers with high education level	10	0.11	Eliminated
12	Increased our sales to different markets	15	0.66	Remained
13	Increased our luxury tour sales	14	0.55	Remained
14	Reduced our sales costs	16	0.77	Remained
15	Reduced our marketing costs	17	0.88	Remained
16	Reduced our stationery expenses	14	0.55	Remained
17	Reduced our staff expenses	15	0.66	Remained
18	Saved time on transactions	13	0.44	Remained
19	Reduced the energy loss of the staff	13	0.44	Remained
20	Increased our efficiency by doing agency operations correctly	9	0	Eliminated
21	Thanks to online channels, it has reduced our customer's access cost	14	0.55	Remained
22	Thanks to online channels it reduced the customer's time cost	14	0.55	Remained
23	Reduced our market research costs	15	0.66	Remained
24	Reduced our cost of measuring market efficiency	15	0.66	Remained
25	Reduced our cost of accessing customer information	16	0.77	Remained
26	Reduced our customer analysis cost	14	0.55	Remained
27	Increased the number of our customers	17	0.88	Remained
28	Contributed to our better understanding of customer expectations	17	0.88	Remained
29	Reduced customer complaints	16	0.77	Remained
30	Increased customer satisfaction	17	0.88	Remained
31	Increased our speed of resolving customer complaints	18	100	Remained
32	Increased the customer satisfaction sensitivity of the staff	15	0.66	Remained
33	Increased our rate of winning back the customers we lost	17	0.88	Remained
34	Increased the number of customers who intend to buy a holiday again	16	0.77	Remained
35	Allowed us to learn more about customers	18	100	Remained
36	The brand has increased our level of reliability	14	0.55	Remained
37	Increased our level of awareness about corporate reputation	13	0.44	Remained
38	Increased our brand value	14	0.55	Remained
39	Increased the level of awareness of our brand	16	0.77	Remained
40	Increased the positive connotation level of our brand	13	0.44	Remained

41	Made our brand management easier	15	0.66	Remained
42	Positively affected our brand performance	14	0.55	Remained
43	Positively influenced the positioning work of our brand	15	0.66	Remained
44	Prevented the encroachment on our brand	6	-0.33	Eliminated
45	Contributed to the sustainability of our brand	13	0.44	Remained
46	Prevented the dilution of our brand.	5	-0.44	Eliminated
47	Increased our brand's search engine visibility	13	0.44	Remained
48	Increased the preference of our brand.	15	0.66	Remained
59	Increased demand for our brand.	13	0.44	Remained
50	Increased the recommendability of our brand	15	0.66	Remained
51	Increased the number of loyal customers.	15	0.66	Remained
52	Facilitated our existing customer retention efforts	13	0.44	Remained
53	Made publicity works easier.	15	0.66	Remained
54	Enabled us to reach a wider audience.	14	0.55	Remained
55	Enabled us to inform our customers about our products in more detail.	11	0.22	Eliminated
56	Increased our interactive communication with customers.	16	0.77	Remained
57	Collaboration with our stakeholders enhanced our capabilities	14	0.55	Remained
58	Facilitated access to international markets.	10	0.11	Eliminated
59	Enabled us to publicize our products with content in different languages.	14	0.55	Remained
60	Increased awareness of our products through viral marketing.	8	0.11	Eliminated
61	Enabled to reach customers through different channels according to their preferences	15	0.66	Remained
62	Enabled to quickly organize promotional campaigns	16	0.77	Remained
63	Enabled recognition of our products on social networks.	15	0.66	Remained
64	Enabled us to communicate with each other 24/7.	15	0.66	Remained
65	Our awareness increased thanks to marketing efforts using search engines	9	0	Eliminated
66	Enabled us to change content quickly.	16	0.77	Remained
67	Increased effectiveness of our marketing activities	14	0.55	Remained
68	Enabled us to measure the efficiency of our marketing activities.	13	0.44	Eliminated
69	Enabled us to identify the marketing efforts that did not work.	10	0.11	Eliminated
70	With mobile marketing, we no longer have time problems.	11	0.22	Eliminated
71	With mobile marketing, we no longer have placement problems.	11	0.22	Eliminated
72	Increased the perception level of our service quality	11	0.22	Eliminated
73	Enabled us to instantly share ever-changing content.	15	0.66	Remained
74	Enabled different advertising applications (banner, in-video advertisement, etc.)	15	0.66	Remained
75	Facilitated market segmentation.	15	0.66	Remained
76	Made it easier to identify our target market audience.	16	0.77	Remained
77	Made it easier for us to reach the target audience.	16	0.77	Remained
78	Improved our ability to develop customized products.	16	0.77	Remained
79	Increases the speed of introducing new products to the market.	13	0.44	Remained
80	Facilitated product development in line with customer expectations.	16	0.77	Remained
81	Enabled us to offer products for our special customers by e-mail	8	0.11	Eliminated
82	Made it easier to identify products that were not kept.	13	0.44	Remained
83	Improved our ability to develop differentiated products for smaller groups.	14	0.55	Remained

Source: Authors' calculations.

4. Stage: Development of the scale

In accordance with the CVR values, the rejected items were removed from the pool, and the remaining items were renumbered and repositioned on the scales. Consequently, the attitude scale pertaining to the Impact of Digital Techniques on the Marketing Performance of Travel Agencies consisted of 69 items.

Step II: Determination of the sample

According to data from the Turkish Ministry of Culture and Tourism, the research population includes officials from 10,480 Group A travel agencies (e.g., agency owners, partners, managers, and assistant managers) (General Directorate of Investments and Enterprises, 2022). Through purposeful sampling, a total of 461 valid surveys were collected from travel agency officials operating in 26 provinces through purposive sampling. The surveys were collected using multiple methods:

- 189 via Google Forms
- 145 via email
- 76 face-to-face
- 51 via the "drop-collect" method

The survey collection process began on 29 September 2021 and concluded on 31 May 2022, spanning 245 days.

Step III: Conducting a pre-test on the sample and evaluating the data quality

Ethical authorizations required for the distribution of survey forms and survey form content Scientific Research and Publication Ethics Committee of Namik Kemal University, Tekirdag issue dated March 15, 2021: E-12394611-044-20001. It was accompanied by a numbered inscription. The questions outlined in the sample should be administered to a subset of the larger population and then evaluated. The evaluations to be conducted by experts are anticipated to be applicable to at least 100 individuals (Carpenter, 2018; Lytras et al., 2021; Zenkeret al., 2021; Rana et al., 2022). First, within this scope, 351 agency officials were contacted via e-mail, Google forms, phone, and social media accounts, and the survey form was delivered and filled out. Following the preliminary examination, 220 forms were suitable for evaluation. According to the research, the derived sample size is adequate for statistical analysis (Clark and Watson, 1995; Sullivan et al., 1995).

As Table 3 shows, most of the travel agency managers surveyed were male (65.50%), over 41 years of age (59.50%) and university graduates (67.20%). Forty-five percent of (99) travel agency managers lack prior tourism education.

However, it is evident that travel agencies have updated their digital marketing training, provided their employees with specialized training, and caught up with Generation Z. Approximately 66% of agents have a minimum of 10 years of experience.

Table 3. Demographic variables (Pre-test)

Variable	Category	Number	Percentage (%)

Gender	Female	76	34.50
	Male	144	65.50
Age	18-30	23	10.50
	31-40	66	30.00
	41-50	64	29.10
	51≤	67	30.40
Educational level	High school and less	14	6.40
	Collage	58	26.40
	Bachelor's degree	128	58.10
	Graduate degree	20	9.10
Tourism educational level	Did not receive	99	45.00
	Tourism high school	28	12.70
	Tourism collage	39	17.70
	Tourism bachelor's degree	48	21.80
	Tourism graduate degree	6	2.80
Experience (year)	0-5	23	10.50
	5-10	50	22.70
	11-15	44	20.00
	16-20	44	20.00
	21≤	59	26.80

Source: Authors' calculations.

Step IV: To implement a factorial structure on the scale

First, the analysis of correlation matrices will be provided in this step. The correlation test was conducted using the SPSS program, and unrelated substances were eliminated. According to the correlation test, there are no unrelated items. EFA was used to evaluate the globality test of Bartlett, the Kaiser-Meyer-Olkin (KMO) test, and the factor load values in this context. Bartlett's chi-square value, the fact that it is less than 0.05, the KMO value is greater than 0.60, and the factor load values are greater than 0.50 indicates that the applied analysis is significant (Hair et al., 2014; Islamoglu and Alniacik, 2019).

Table 4. Normality analysis

Scale and Sub-Dimensions	Kolmogorov-Smirnov			Central Trend Measurements			
	Statistics	Df	Sig.	Mean	Median	Skewness	Kurtosis
Perceived Impact of Digital Marketing Practices on Travel Agency Performance	0.081	220	0.001	4.234	4.304	-0.902	0.904

Source: Authors' calculations.

According to Table 4, since the skewness and kurtosis values were found to be between ±1.96, it was determined that the sample had a normal distribution (Hair et al., 2014).

The results of Exploratory Factor Analysis (EFA) and Parallel Analysis (PA) are presented in Table 5. According to the results of EFA and PA, KMO>0.60, Bartlett's<0.05, α= 0.936, Average Explained Variance (AVE) value measuring convergent validity is greater than 0.50, the value measuring the Combined Reliability (CR) is greater than 0.70 (Hair et al., 2014, Hair et al., 2017; Luo et al., 2019), it is seen that the developed scale provides appropriate values. Even though the results of the analysis provided the desired values, it is essential to test the random distribution of the items by examining the distribution of the items to the scale's sub-dimensions using Parallel Analysis (PA) (Carpenter, 2018).

SPSS was used to implement PA with the assistance of code written by Brian O'Connor of the Syntax department. Based on the outcome of PA, it is evident that there is no random distribution. In this regard, it is estimated that undertaking a one-dimensional analysis other than PA will also be beneficial. Horn (1965) proposed the PA method in opposition to the Kaiser-Guttman decision rule, which is frequently used by Horn (1965) for the number of factors with eigenvalue > 1. The eigenvalue>1 assumes that the correlation matrix analyzed is the population correlation matrix (Cho et al., 2009; Crawford et al., 2010). Horn suggested comparing the eigenvalues of the sample correlation matrix with those obtained from the random data with the same number of variables and those obtained from the sample size to determine the number of factors (Weng and Cheng, 2005).

Table 5. EFA and PA

Items		Factor Load Value (SPSS)	Cronbach Alfa (α) AVE CR	PA Results (Ncases: 220; Nvar: 20; Ndataset:100; Percent: 95; Brian Oc)		
				Raw Data	Means	Percently
Product Development						
% of Variance: 44.074; Eigen-value: 9.213						
ProDev63	Made it easier to determine our target market audience	0.817	α= 0.916 AVE= 0.553 CR= 0.936	9.213	1.572	1.66766
ProDev 64	Made it easier for us to reach the target audience	0.794				
ProDev 65	Enhanced our capability to develop customized products	0.776				
ProDev 66	Increases the speed of introducing new products to the market.	0.768				
ProDev 67	Facilitated product development in line with customer expectations.	0.739				
ProDev 68	Made it easier to identify products that were not kept.	0.698				
ProDev 69	Improved our ability to develop differentiated products for smaller groups.	0.587				
Cost						
% of Variance: 8.005; Eigen-value: 2.043						
C21	Reduced our market research costs	0.947	α= 0.912 AVE= 0.610 CR= 0.927	2.043	1.464	1.53426
C22	Reduced the cost of measuring market efficiency	0.923				
C23	Reduced our cost of accessing customer data	0.674				
C24	Reduced our cost of customer analysis	0.656				
C25	Contributed to a better understanding of customer expectations	0.644				
Sale						
% of Variance: 6.465; Eigen-value: 1.724						
S2	Made it easier for us to sell	0.785	α= 0.825 AVE= 0.521 CR= 0.881	1.724	1.381	1.43316
S3	Improved our cash flow	0.738				
S4	Increased our market share	0.694				
S6	Ensured continuity in sales	0.666				
Publicity						

% of Variance: 6.268; Eigen-value: 1.338						
P48	Facilitated promotional works	0.914	α= 0.908 AVE= 0.629 CR= 0.919	1.338	1.316	1.36629
P49	Allowed us to reach a larger audience	0.835				
P50	Increased our interactive communication with customers	0.808				
P55	Enabled our products to be recognized on social networks	0.575				
Extraction Method: Maximum Likelihood (ML)						
Rotation Method: Direct Oblimin						
KMO: 0.922;						
Bartlett's sphericity test; (χ2=3.046.929; df=190; p=.000)						
Cronbach Alfa (α) = 0.936						

Source: Authors' calculations.

Scale items were analyzed according to the Kaiser-Guttman decision rule to obtain the most appropriate distribution (Table 6).

Table 6. One-dimensionality analysis (Kaiser-Gutman Criteria)

Factors	Number of statements	1. Eigenvalue	2. Eigenvalue	Total Variance
Product development	7	4.663	0.649	61.146
Cost	5	3.699	0.503	67.575
Sale	4	2.626	0.533	54.431
Publicity	4	3.137	0.385	71.480

Source: Authors' calculations.

Steps V-IX: Implementation of the steps

5., 6., 7., 8., and 9. in the process of implementing each step, the implementation of the EFA analysis and the factor load values should be described in detail (Carpenter, 2018). Steps 5–9 of the EFA process involve interpreting results, selecting appropriate techniques, evaluating factor structure using parallel analysis, choosing rotation methods, and final result assessment. These steps are interdependent and form a cohesive part of the EFA procedure. In this study, the analyses were conducted using the maximum likelihood technique. The factor load value of 0.50 was determined, and direct oblimin was chosen as the rotation technique. During the formulation of the scale, CFA was repeated five times, and EFA and PA are presented in Table 5. The item values that were deleted as a result of the analyses and the reasons for this are presented in Table 7. In the literature, the application of confirmatory factor analysis and invariance analysis in scale development studies conducted with EFA is recommended in terms of the validity and reliability of the study (Yaslioglu, 2017; Byrne, 2016).

Table 7. Deleted statements

	Deleted Statements Digital techniques,	Descriptions
1	Increased our sales revenue	The Factor Load Value was deleted because it was below 0.50.
5	Increased our profitability	
7	Increased our guaranteed sales	
8	Increased our sales of instalments.	
9	Increased our sales to high-income customers	
10	Increased our sales in different markets.	
11	Increased our luxury tour sales	
12	Decreased our sales costs.	
13	Decreased our marketing costs	

14	Decreased our stationery costs.
15	Decreased our personnel costs.
16	Saved time on transactions
17	Decreased the staff's energy loss.
18	Reduced our customer's access cost thanks to online channels
19	Reduced the cost of customers' time thanks to online channels
24	Increased our customer base.
26	Reduce the number of consumer complaints
27	Increase of customer satisfaction level
28	Increased our speed of resolving customer complaints
29	increased the customer satisfaction sensitivity of the staff
30	Increased our rate of winning back the customers we lost
31	Increased the number of customers who intend to purchase vacations in the future.
32	Enabled us to gain more information about customers.
33	Enhanced level of brand dependability.
34	Increased our awareness level on corporate reputation.
35	Increased the value of our brand.
36	Increased the extent of our brand familiarity
37	Increased the positive connotation level of our brand
38	Simplified our brand management.
39	Impacted favourably our brand's performance
40	Positively affected our brand's positioning efforts.
41	Contributed to our brand's sustainability.
42	Increased our brand's visibility in search engines.
43	Increased our brand's popularity.
44	Increased our brand's demand.
45	Increased the brand's advisability
46	Increased the number of our loyal customers.
47	Facilitated our existing customer retention efforts
51	Increased our capabilities of collaboration with our stakeholders
52	Enabled us to publicize our products with content in different languages.
53	Enabled to reach customers through different channels according to their preferences.
54	Enabled organizing promotional campaigns quickly.
56	Enabled us to communicate with each other 24/7.
57	Allowed us to change content quickly.
58	Increased effectiveness of our marketing activities
59	Allowed us to evaluate the effectiveness of our marketing efforts.
60	Enabled us to share instantaneously ever-changing content.
61	Enabled different advertising applications (banner, in-video advertisement, etc.)
62	Facilitated market segmentation.

Source: Authors' calculations.

Step X: Implementing step-confirming factor analysis

Prior to conducting the Confirmatory Factor Analysis (CFA), an Exploratory Factor Analysis (EFA) was performed to verify that the data met the required psychometric properties. However, considering the well-documented advantages of CFA over EFA in the validation of measurement models (Hair et al., 2017), CFA was subsequently employed to rigorously assess the construct validity of the scale.

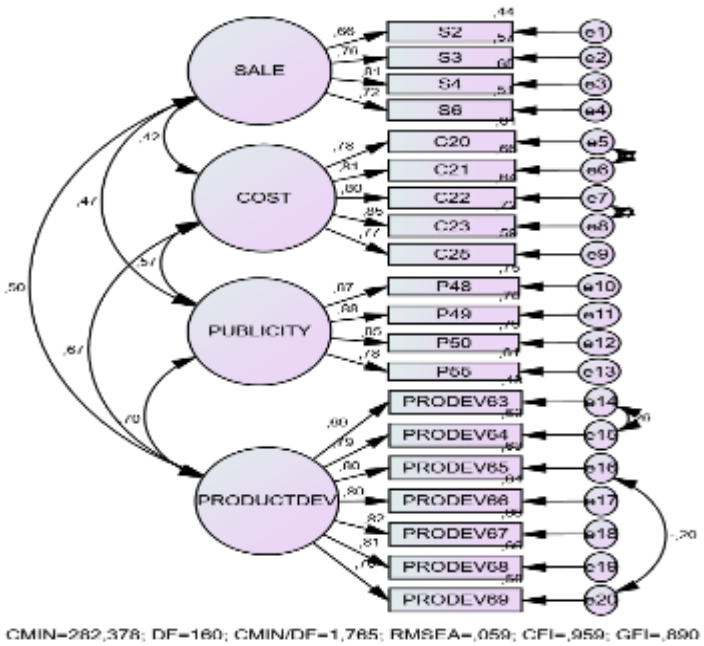
3.2. Data analysis

The visual representation of the Confirmatory Factor Analysis (CFA) test, conducted using the AMOS 24 program, is illustrated in Figure 1.

The analysis yielded favorable fit indices, meeting established thresholds for model acceptability. Specifically, the ratio of chi-square to degrees of freedom (χ^2/df) was below 5, while the p-value remained significant at the 0.05 level (Table 8). Additional fit indices further supported the robustness of the model: the Root Mean Square Error of Approximation (RMSEA) was below the recommended threshold of 0.08, the Comparative Fit Index (CFI) exceeded 0.90, and the Goodness-of-Fit Index (GFI) was above 0.85.

Moreover, the Standardized Root Mean Square Residual (SRMR) value was below 0.08, indicating a good model fit. Convergent validity was confirmed, as the Average Variance Extracted (AVE) values exceeded 0.50 and the Composite Reliability (CR) values were above the acceptable threshold of 0.70 (Schermelleh-Engel et al., 2003; Hair et al., 2014). Taken together, these findings validate the structural validity and reliability of the measurement model.

Figure 1. Confirmatory factor analysis



Source: Authors' calculations.

Table 8. The goodness of fit values

X^2(df)	P	RMSEA	CFI	GFI	SRMR	AVE	CR
1.765	0.000	0.054	0.959	0.890	0.050	0.627	0.983

Source: Authors' calculations.

Table 9. Measurement model

	β1	β2	Ss	t	p	CR	AVE	MSV	MaxR(H)

Measurement Model											
S2	<---	Sale	0.662	1.000							
S3	<---	Sale	0.758	1.396	0.153	9.146	<0.001	0.826	0.544	0.253	0.835
S4	<---	Sale	0.807	1.406	0.148	9.496	<0.001				
S6	<---	Sale	0.715	1.334	0.152	8.762	<0.001				
C20	<---	Cost	0.784	1.000							
C21	<---	Cost	0.811	1.031	0.059	17.462	<0.001				
C22	<---	Cost	0.801	0.912	0.078	11.699	<0.001	0.900	0.644	0.450	0.903
C23	<---	Cost	0.847	1.022	0.082	12.521	<0.001				
C25	<---	Cost	0.767	0.889	0.077	11.569	<0.001				
P48	<---	Publicity	0.866	1.000							
P49	<---	Publicity	0.884	0.985	0.057	17.309	<0.001	0.910	0.717	0.486	0.915
P50	<---	Publicity	0.854	0.975	0.060	16.344	<0.001				
P55	<---	Publicity	0.779	0.899	0.064	14.032	<0.001				
ProDev 63	<---	Prod. Dev.	0.691	1.000							
ProDev 64	<---	Prod. Dev.	0.793	1.090	0.087	12.541	<0.001				
ProDev 65	<---	Prod. Dev.	0.796	1.166	0.108	10.821	<0.001				
ProDev 66	<---	Prod. Dev.	0.797	0.986	0.090	10.902	<0.001	0.916	0.611	0.486	0.919
ProDev 67	<---	Prod. Dev.	0.815	1.128	0.101	11.125	<0.001				
ProDev 68	<---	Prod. Dev.	0.810	1.178	0.107	11.060	<0.001				
ProDev 69	<---	Prod. Dev.	0.762	1.171	0.113	10.395	<0.001				

β1: Standard Coefficients β2: Non-Standard Coefficients

Source: Authors' calculations.

As a result of the measurement model, no scale items were found with factor loadings below the threshold of 0.50. The final scale was developed as a 20-item instrument structured across four distinct dimensions (Table 9). However, the analyses are limited by the extent to which the target group was able to accurately comprehend and respond to the survey items.

This limitation underscores the importance of validating the scale on larger and more diverse samples in order to confirm its reliability and generalizability. Furthermore, additional testing of the resulting scale is necessary to ensure its applicability across different contexts and populations. Further validation studies with larger sample sizes would enable a more complete assessment of the scale's effectiveness and internal consistency. These efforts will increase its value for future research and practical application, and ultimately its utility as a reliable tool for measuring its intended constructs in diverse settings (Wulani et al., 2014; Whittaker and Worthington, 2016; Friesner et al., 2021).

Table 10. Fornell-Lackers criterion and heterotrait-monotrait ratio (HTMT) values

	1	2	3	4		1	2	3	4
S	**0.738**				**S**				
C	0.424	**0.802**			**C**	0.399			
P	0.471	0.571	**0.847**		**P**	0.471	0.573		
PD	0.503	0.671	0.697	**0.782**	**PD**	0.494	0.657	0.715	

S= Sale C=Cost P=Publicity PD=Product Development

Source: Authors' calculations.

Discriminant validity was tested using the Fornell–Larcker criterion. In this evaluation, the diagonal elements of the structure matrix are the square root of the values of the Extracted Mean Variance (AVE) for each hidden structure.

Comparing these values with the inter-construct correlations provides evidence of the empirical distinctiveness of the constructs and of whether there is too much overlap between the measurement variables included in the model (Obeng et al., 2024).

The Heterotrait-Monotrait (HTMT) ratio was also checked to further assess discriminant validity. According to this criterion, the HTMT values-calculated based on the geometric mean of average correlations-should remain below the threshold of 0.90 (Henseler et al., 2015). As reported in Table 10, all values fall below this threshold, indicating that discriminant validity is established.

Furthermore, the fact that all HTMT ratios for the variables are below the specified cutoff confirms that the constructs in the scale are emprically distinct (Obeng and Atan, 2024). The correlation values among the variables are presented in Table 11.

Table 11. Correlations

	PD69	PD68	PD67	PD66	PD65	PD64	PD63	P55	P50	P49	P48	C25	C23	C22	C21	C20	S6	S4	S3	S2
PD69	1																			
PD68	0.617	1																		
PD67	0.621	0.66	1																	
PD66	0.608	0.645	0.65	1																
PD65	0.529	0.644	0.649	0.634	1															
PD64	0.605	0.642	0.646	0.632	0.631	1														
PD63	0.527	0.559	0.563	0.55	0.549	0.66	1													
P55	0.414	0.44	0.443	0.433	0.432	0.431	0.375	1												
P50	0.454	0.482	0.485	0.475	0.474	0.472	0.411	0.665	1											
P49	0.47	0.499	0.502	0.491	0.49	0.489	0.426	0.688	0.755	1										
P48	0.46	0.489	0.492	0.481	0.48	0.479	0.417	0.675	0.74	0.765	1									
C25	0.393	0.417	0.42	0.41	0.41	0.408	0.356	0.341	0.374	0.387	0.379	1								
C23	0.434	0.461	0.464	0.453	0.453	0.451	0.393	0.377	0.413	0.428	0.419	0.65	1							
C22	0.41	0.435	0.438	0.428	0.428	0.426	0.371	0.356	0.391	0.404	0.396	0.614	0.79	1						
C21	0.415	0.441	0.444	0.434	0.433	0.432	0.376	0.361	0.396	0.409	0.401	0.622	0.687	0.649	1					
C20	0.401	0.426	0.429	0.419	0.419	0.417	0.363	0.349	0.382	0.396	0.388	0.601	0.664	0.628	0.807	1				
S6	0.274	0.291	0.293	0.287	0.286	0.285	0.248	0.262	0.288	0.298	0.292	0.232	0.257	0.243	0.246	0.237	1			
S4	0.309	0.329	0.331	0.324	0.323	0.322	0.28	0.296	0.324	0.336	0.329	0.262	0.29	0.274	0.277	0.268	0.577	1		
S3	0.291	0.309	0.311	0.304	0.303	0.302	0.263	0.278	0.305	0.316	0.309	0.246	0.272	0.257	0.261	0.252	0.542	0.612	1	
S2	0.254	0.27	0.272	0.266	0.265	0.264	0.23	0.243	0.266	0.276	0.27	0.215	0.238	0.225	0.228	0.22	0.474	0.534	0.502	1

S= Sale C=Cost P=Publicity PD=Product Development

Source: Authors' calculations.

Sample tests

According to Table 12, the majority of agency managers who participated in the survey are men (64.40%), over 41 years old (47.90%), and college graduates (61.60%). More than 47.90% of the respondents are over 41 years old, and over 50% hold a bachelor's degree. Nevertheless, despite all these characteristics, 211 agency managers have never received tourism education. In general, it is possible to state that 45.80% of travel agency administrators are ignorant of the tourism system. More than 85.20% of travel agency administrators have more than five years of experience. Almost all the agencies have been in business for more than ten years, and nearly half of them have been using digital marketing techniques for at least that long. In more than half of the agencies, digital techniques have increased sales by more than 40%. Most agencies utilize e-mail, SMS, MMS, social media, websites, search engines, mobile marketing, and deceptive marketing as part of digital marketing. Most agencies do not utilize augmented reality, peripheral technologies, touchpoint marketing, marketing automation, semantic marketing, predictive marketing, big data, or dynamic pricing. In order to apply the difference tests (t-test, ANOVA), which are parametric analyses, and analyses such as EFA, CFA, first of all, it is necessary to prove the normality assumption (Kääriäinen et al., 2011; Whittaker and Worthington, 2016).

Table 12. Demographic variables (Simple test)

Variable	Category	Number	Percentage (%)
Gender	Female	164	35.60
	Male	297	64.40
Age	18-30	80	17.40
	31-40	160	34.70
	41-50	116	25.20
	51≤	105	22.70
Educational level	High school and less	65	14.10
	Collage	112	24.30
	Bachelor's degree	232	50.30
	Graduate degree	52	11.30
Tourism educational level	Did not receive	211	45.80
	Tourism high school	52	11.30
	Tourism collage	75	16.30
	Tourism bachelor's degree	109	23.60
	Tourism graduate degree	14	3.00
Experience (year)	0-5	68	14.80
	5-10	107	23.20
	11-15	99	21.50
	16-20	83	18.00
	21≤	104	22.50

Source: Authors' calculations.

Table 13. Normality analysis

Scale	Kolmogorov-Smirnov	Central Trend Measurements

	Statistics	Df	Sig.	Mean	Median	Skewness	Kurtosis
Perceived Impact of Digital Marketing Practices on Travel Agency Performance	0.076	461	0.000	4.216	4.250	-0.541	-0.179

Source: Authors' calculations.

According to Table 13, since the skewness and kurtosis values were found to be between ±1.96, it was determined that the sample had a normal distribution (Hair et al., 2014).

Table 14. Item means

Statements		N	Mean	Median	S.D.
Product Development					
ProDev 63	Made it easier to determine our target market audience	461	4.2863	4.0000	0.72
ProDev 64	Made it easier for us to reach the target audience	461	4.3406	4.0000	0.70
ProDev 65	Enhanced our capability to develop customized products	461	4.2581	4.0000	0.763
ProDev 66	Increases the speed of introducing new products to the market.	461	4.3319	4.0000	0.65
ProDev 67	Facilitated product development in line with customer expectations.	461	4.3080	4.0000	0.67
ProDev 68	Made it easier to identify products that were not kept.	461	4.2646	4.0000	0.77
ProDev 69	Improved our ability to develop differentiated products for smaller groups.	461	4.2560	4.0000	0.78
Means of Sub-Dimensions			4.2922	4.0000	0.72
Cost					
C21	Reduced our market research costs	461	4.0629	4.0000	0.86
C22	Reduced the cost of measuring market efficiency	461	4.0325	4.0000	0.86
C23	Reduced our cost of accessing customer data	461	4.1605	4.0000	0.80
C24	Reduced our cost of customer analysis	461	4.0868	4.0000	0.87
C25	Contributed to a better understanding of customer expectations	461	4.1952	4.0000	0.83
Mean of Sub-Dimensions			4.1076	4.0000	0.85
Sale					
S2	Made it easier for us to sell	461	4.1410	4.0000	0.77
S3	Improved our cash flow	461	3.9458	4.0000	0.88
S4	Increased our market share	461	4.1453	4.0000	0.85
S6	Ensured continuity in sales	461	3.9328	4.0000	0.83
Mean of Sub-Dimensions			4.0412	4.0000	0.83
Publicity					
P48	Facilitated promotional works	461	4.3731	4.0000	0.67
P49	Allowed us to reach a larger audience	461	4.4360	5.0000	0.63
P50	Increased our interactive communication with customers	461	4.4056	4.0000	0.65
P55	Enabled our products to be recognized on social networks	461	4.3514	4.0000	0.70
Mean of Sub-Dimensions			4.3915	4.2500	0.66

Source: Authors' calculations.

According to Table 14 it was determined that the means of the answers given were nearly at the degree of 4. When this situation is taken into consideration, it is understood that the issue of marketing touristic products using digital techniques is considered important by the participants.

Table 15. EFA and PA

Statements/factors	Factor Load	Cronbach	PA Results (Ncases: 461; Nvar: 20; Ndataset:100; Percent: 95; Brian Oc)

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		Value (SPSS)	Alfa (α) AVE CR	Raw Data	Means	Percently
Product Development			α= 0.912 AVE= 0.575 CR= 0.942	8.289	1.392	1.461767
% of Variance: 39.192; Eigen-value: 8.289						
ProDev 63	Made it easier to determine our target market audience	0.847				
ProDev 64	Made it easier for us to reach the target audience	0.815				
ProDev 65	Enhanced our capability to develop customized products	0.739				
ProDev 66	Increases the speed of introducing new products to the market.	0.731				
ProDev 67	Facilitated product development in line with customer expectations.	0.730				
ProDev 68	Made it easier to identify products that were not kept.	0.723				
ProDev 69	Improved our ability to develop differentiated products for smaller groups.	0.714				
Cost			α= 0.880 AVE= 0.611 CR= 0.929	2.189	1.320	1.354825
% of Variance: 9.095; Eigen-value: 2.189						
C21	Reduced our market research costs	0.931				
C22	Reduced the cost of measuring market efficiency	0.884				
C23	Reduced our cost of accessing customer data	0.750				
C24	Reduced our cost of customer analysis	0.711				
C25	Contributed to a better understanding of customer expectations	0.584				
Sale			α= 0.819 AVE= 0.519 CR= 0.879	1.893	1.264	1.306087
% of Variance: 6.609; Eigen-value: 1.893						
S2	Made it easier for us to sell	0.826				
S3	Improved our cash flow	0.740				
S4	Increased our market share	0.678				
S6	Ensured continuity in sales	0.623				
Publicity			α= 0.870 AVE= 0.597 CR= 0.907	1.345	1.222	1.25469
% of Variance: 6.458; Eigen-value: 1.345						
P48	Facilitated promotional works	0.951				
P49	Allowed us to reach a larger audience	0.802				
P50	Increased our interactive communication with customers	0.694				
P55	Enabled our products to be recognized on social networks	0.598				
Extraction Method: Maximum Likelihood (ML)						
Rotation Method: Direct Oblimin						
KMO: 0.912;						
Bartlett's sphericity test; (χ2=5.680.424; df=190; p=.000)						
Cronbach Alfa (α) = 0.924						

Source: Authors' calculations.

Based on the item means obtained from the sample and the assumption of normal distribution, the Exploratory Factor Analysis (EFA) was repeated for the developed scale. The item distribution identified through EFA was found to be

consistent with the results of the other analyses. To evaluate for randomness, sampling parallel analysis was implemented. Parallel analysis results are presented in Table 15. According to analysis, the KMO value is 0.912 (KMO > 0.60). Bartlett's sphericity test result is 0.000 (Bartlett's < 0.05), the Cronbach Alpha reliability coefficient is 0.924, the value in question is greater than 0.60, the AVE value measuring convergent validity is greater than 0.50, and the value measuring combined reliability is greater than 0.70 (Hair et al., 2014, 2017; Luo et al., 2019). Once again, the developed scale has been found to provide the correct values, the results of the analysis provided the desired values.

Table 16. One-dimensionality analysis (Kaiser-Gutman Criteria)

Factors	Number of items	1. Eigenvalue	2. Eigenvalue	Total Variance
Product Development	7	4.587	0.676	59.902
Cost	5	3.402	0.649	60.831
Sale	4	2.595	0.571	53.589
Publicity	4	2.886	0.536	63.750

Source: Authors' calculations.

In order to check the scale structure determined by the parallel analysis, measurements were also made with the Kaiser-Guttman Criteria. The analysis results are presented in Table 16.

The graphical representation of the Confirmatory Factor Analysis (CFA) conducted using the AMOS 24 software is presented in Figure 2. The results of the Exploratory Factor Analysis (EFA) indicated that the values met the desired criteria. However, given the well-established advantages of CFA over EFA in the validation of measurement models, CFA was employed to evaluate the scale (Hair et al., 2017). As determined by the analysis, X^2 (df) is less than 5. The p-value is less than 0.05, which is a level of significance. Under the RMSEA threshold of 0.08, and above the CFI threshold of 0.90. Above the GFI threshold of 0.85. The CFI value of 0.90. Over the GFI threshold of 0.85. Under the SRMR threshold of 0.08. Exceeds AVE value of 0.50. The CR value should be above 0.70 (Schermelleh-Engel et al. 2003; Hair et al., 2014).

Figure 2. CFA

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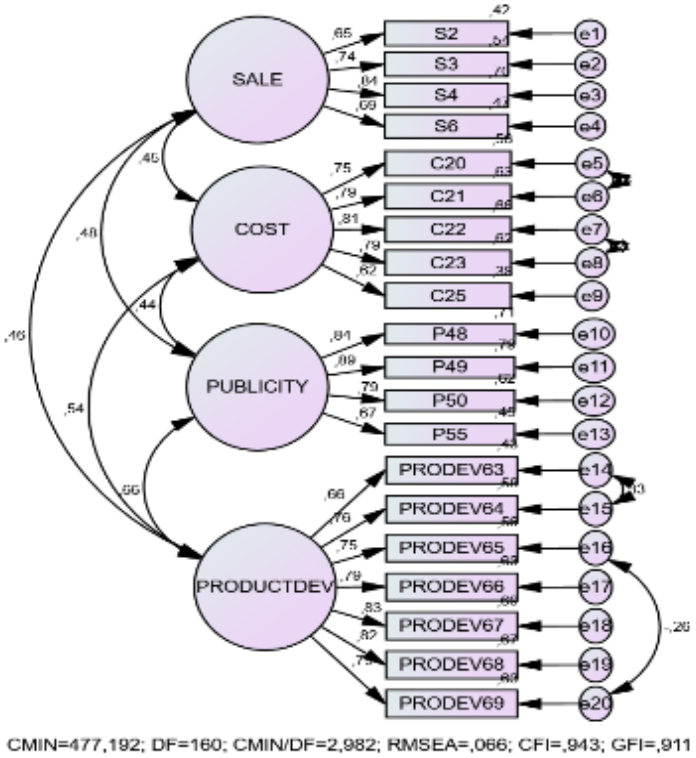


Source: Authors' calculations.

Table 17 presents the goodness of fit values associated to the performed analysis.

Table 17. The Goodness of fit values

X^2(df)	P	RMSEA	CFI	GFI	SRMR	AVE	CR
2.982	0.000	0.066	0.943	0.911	0.061	0.587	0.980

Source: Authors' calculations.

Some values decreased while others increased as the number of samples increased. However, all the obtained results fall within the limit values.

Table 18. Measurement model

			β1	β2	Ss	T	p	CR	AVE	MSV	MaxR(H)
Measurement Model											
S2	<---	Sale	0.650	1.000							
S3	<---	Sale	0.735	1.297	0.101	12.797	<0.001	0.820	0.535	0.231	0.838
S4	<---	Sale	0.839	1.429	0.104	13.765	<0.001				
S6	<---	Sale	0.688	1.140	0.094	12.178	<0.001				
C20	<---	Cost	0.749	1.000							
C21	<---	Cost	0.792	1.065	0.047	22.441	<0.001				
C22	<---	Cost	0.810	1.014	0.071	14.358	<0.001	0.868	0.570	0.288	0.877
C23	<---	Cost	0.789	1.068	0.076	14.022	<0.001				
C25	<---	Cost	0.618	0.802	0.066	12.147	<0.001				

P48	<---	Publicity	0.840	1.000				0.877	0.642	0.433	0.895
P49	<---	Publicity	0.886	1.001	0.044	22.660	<0.001				
P50	<---	Publicity	0.790	0.920	0.047	19.504	<0.001				
P55	<---	Publicity	0.674	0.838	0.053	15.699	<0.001				
ProDev 63	<---	Prod. Dev.	0.656	1.000				0.912	0.597	0.433	0.917
ProDev 64	<---	Prod. Dev.	0.762	1.140	0.066	17.359	<0.001				
ProDev 65	<---	Prod. Dev.	0.750	1.208	0.086	14.004	<0.001				
ProDev 66	<---	Prod. Dev.	0.791	1.101	0.075	14.746	<0.001				
ProDev 67	<---	Prod. Dev.	0.829	1.176	0.077	15.304	<0.001				
ProDev 68	<---	Prod. Dev.	0.816	1.342	0.089	15.114	<0.001				
ProDev 69	<---	Prod. Dev.	0.793	1.318	0.090	14.678	<0.001				

Source: Authors' calculations.

According to the measurement model (Table 18), there is no material below the factor value of 0.50. Retesting the scale with 20 questions across 4 dimensions. Ideally, scale development requires a comprehensive evaluation of all research procedures and potential sources of error. A well-developed scale should produce a stable and consistent factor structure that aligns with a clearly defined conceptual framework, is replicable, and demonstrates consistency across different samples and applications (Lai and Li, 2005; Kang et al., 2017; Cuhadar et al., 2021).

Table 19. Fornell-Lackers criterion and heterotrait-monotrait ratio (HTMT) values

	1	2	3	4		1	2	3	4
S	**0.732**				**S**				
C	0.447	**0.755**			**C**	0.443			
P	0.481	0.442	**0.801**		**P**	0.500	0.486		
PD	0.458	0.537	0.658	**0.773**	**PD**	0.463	0.540	0.711	

Source: Authors' calculations.

As demonstrated in Table 19, the results based on the Fornell-Larcker criterion indicate that discriminant validity has been established. Specifically, the square root of the Average Variance Extracted (AVE) for each construct exceeds its correlations with other constructs. Furthermore, all Heterotrait-Monotrait Ratio values are below the recommended threshold of 0.90, providing additional support for discriminant validity. The correlation values among the constructs are presented in Table 20.

Table 20. Correlations

	PD69	PD68	PD67	PD66	PD65	PD64	PD63	P55	P50	P49	P48	C25	C23	C22	C21	C20	S6	S4	S3	S2
PD69	1																			
PD68	0.647	1																		
PD67	0.658	0.677	1																	
PD66	0.628	0.646	0.656	1																
PD65	0.489	0.612	0.622	0.594	1															
PD64	0.605	0.622	0.632	0.603	0.572	1														

PD63	0.521	0.536	0.544	0.519	0.492	0.662	1													
P55	0.352	0.362	0.368	0.351	0.332	0.338	0.291	1												
P50	0.412	0.424	0.431	0.411	0.39	0.396	0.341	0.532	1											
P49	0.463	0.476	0.484	0.462	0.437	0.444	0.383	0.597	0.7	1										
P48	0.439	0.451	0.459	0.438	0.415	0.422	0.363	0.566	0.664	0.745	1									
C25	0.263	0.271	0.275	0.263	0.249	0.253	0.218	0.184	0.216	0.242	0.229	1								
C23	0.336	0.346	0.352	0.336	0.318	0.323	0.278	0.235	0.276	0.309	0.293	0.488	1							
C22	0.345	0.355	0.361	0.345	0.327	0.332	0.286	0.241	0.283	0.317	0.301	0.501	0.773	1						
C21	0.337	0.347	0.353	0.337	0.319	0.324	0.279	0.236	0.276	0.31	0.294	0.489	0.625	0.641	1					
C20	0.319	0.329	0.334	0.319	0.302	0.307	0.264	0.223	0.262	0.293	0.278	0.463	0.591	0.607	0.788	1				
S6	0.25	0.257	0.261	0.249	0.236	0.24	0.207	0.223	0.262	0.294	0.279	0.19	0.243	0.249	0.243	0.23	1			
S4	0.305	0.314	0.319	0.304	0.288	0.293	0.252	0.272	0.319	0.358	0.34	0.232	0.296	0.304	0.297	0.281	0.578	1		
S3	0.267	0.275	0.279	0.266	0.252	0.257	0.221	0.238	0.28	0.314	0.298	0.203	0.259	0.266	0.26	0.246	0.506	0.617	1	
S2	0.236	0.243	0.247	0.235	0.223	0.227	0.195	0.211	0.247	0.277	0.263	0.179	0.229	0.235	0.23	0.217	0.447	0.545	0.478	1

Source: Authors' calculations.

In this situation, an invariance analysis was conducted on both samples (Table 21) As a result of the analysis, it can be concluded that the developed scale has an invariance property and is suitable for use with large masses, since the ΔCFI value between the two samples is less than 0.01 (Cheung and Rensvold, 2002; Byrne, 2016). Figure 3 depicts the analysis of the invariance path diagram.

Table 21. Invariance Analysis

Model	χ2	df	χ2/df	RMR	SRMR	CFI	RMSEA	Δχ2	Δdf	ΔCFI	p-value for Δχ2
Group1	282.378	160	1.765	0.028	0.050	0.959	0.054	-	-	-	
Group2	477.192	160	2.982	0.037	0.061	0.943	0.066	-	-	-	
Model 1: Configural	759.570	320	2.374	0.032	0.049	0.949	0.045	-	-	-	
Model 2: Weak (Metric)	769.324	336	2.290	0.033	0.051	0.949	0.044	9.754	16	0.000	0.879
Model 3: Scalar	778.942	346	2.251	0.037	0.061	0.949	0.043	9.618	10	0.000	0.475
Model 4: Strong	837.868	366	2.289	0.038	0.073	0.945	0.044	58.926	20	0.004	0.000
Model 5: Partial (M22-a5)	760.528	321	2.369	0.032	0.049	0.949	0.045	77.339	45	0.004	0.002

Δχ2: χ2 change (|χ2n- χ2n-1|); Δdf: df change (|dfn-dfn-1|); Δχ2/df: χ2/df change (|χ2n/ dfn -| χ2n-1/ dfn-1); ΔCFI: CFI change (|CFIn- CFIn-1|); ΔCFI<0.01**; p-value for Δχ2: χ2 significance value of change (p<0.05*)

Source: Authors' calculations.

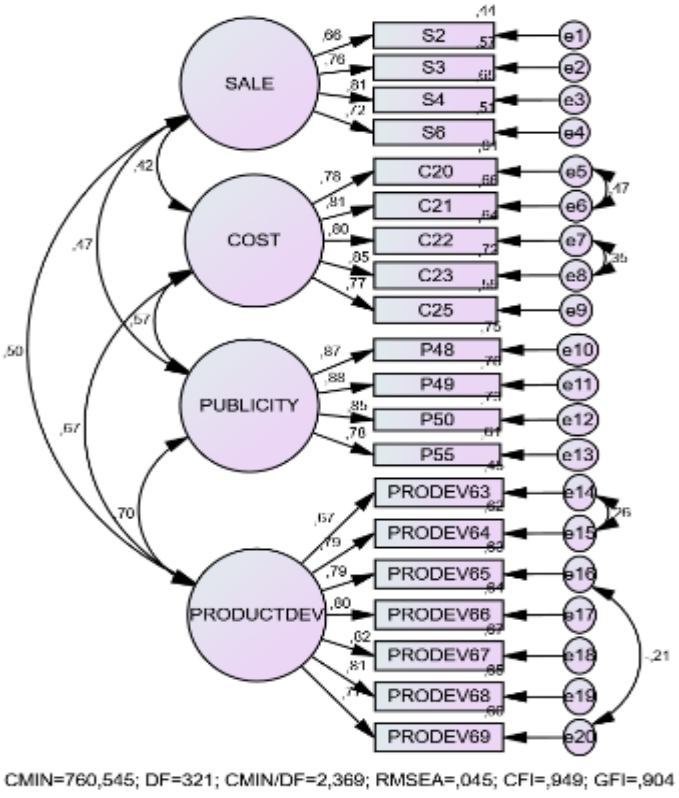
"The Impact of Digital Techniques on Tourism Marketing Performance Scale" consists of four factors; the scale can be said to be valid because the factor

load values of the items grouped under the factors are greater than 0.50 (Hair et al., 2014). The scale is presented in Table 22.

The following are the specifics of these factors:

The first factor (sales) consists of 4 items with factor loads ranging from 0.66 to 0.81. The second factor (cost) consists of 5 items with factor loadings between 0.77 and 0.85. The third factor (Advertising) consists of 4 items with factor loadings between 0.78 and 0.85. The fourth factor (product development) consists of 7 items with factor loadings between 0.67 and 0.82. There are no items on the prepared scale that require reverse coding. The scoring of the items is not based on the total score but on the scale means.

Figure 3. Path diagram for invariance analysis



Source: Authors' calculations.

Table 22. Perceived impact of digital marketing practices on travel agency performance (PIDMPTAP)

Factors	Statements Digital Techniques	Fully Disagree	Disagree	Neither Agree nor Disagree	Agree	Fully Agree
1. Factor: Sale	Made it easier for us to sell	1	2	3	4	5
	Improved our cash flow	1	2	3	4	5
	Increased our market share	1	2	3	4	5
	Ensured continuity in sales	1	2	3	4	5
2. Factor: Cost	Reduced our market research costs	1	2	3	4	5
	Reduced the cost of measuring market efficiency	1	2	3	4	5

	Reduced our cost of accessing customer data	1	2	3	4	5
	Reduced our cost of customer analysis	1	2	3	4	5
	Contributed to a better understanding of customer expectations	1	2	3	4	5
3. Factor: Publicity	Facilitated promotional works	1	2	3	4	5
	Allowed us to reach a larger audience	1	2	3	4	5
	Increased our interactive communication with customers	1	2	3	4	5
	Enabled our products to be recognized on social networks	1	2	3	4	5
4. Factor: Product Development	Made it easier to determine our target market audience	1	2	3	4	5
	Made it easier for us to reach the target audience	1	2	3	4	5
	Enhanced our capability to develop customized products	1	2	3	4	5
	Increases the speed of introducing new products to the market.	1	2	3	4	5
	Facilitated product development in line with customer expectations.	1	2	3	4	5
	Made it easier to identify products that were not kept.	1	2	3	4	5
	Improved our ability to develop differentiated products for smaller groups.	1	2	3	4	5

Source: Authors' calculations.

Table 23. Demographic data related to agents' use of digital technology

The rate of use of digital marketing techniques by travel agencies	
Digital techniques	Usage rates of digital techniques (%)
Social media	97.20
Website	95.40
E-mail	93.90
Search engine	85.00
SMS-MMS	69.20
Mobile marketing	64.90
Recommender/recommendation	54.90
Content marketing	52.10
Touchpoint	31.90
Marketing automation	30.40
Augmented reality	28.40
Big data	28.20
Dynamic pricing	23.90
Predictive marketing	21.00
Semantic marketing	20.40
Wearable technology system	18.90
Total	815.70*
The duration of travel agencies' use of digital marketing techniques	
Usage period (year)	Usage period ratio of travel agencies (%)
10 ≤	47.30
7-9	34.70
4-6	10.20
1-3	7.80
Total	100.00
The impact of digital techniques on travel agencies' sales revenue	
Growth rate (%)	Percentage of travel agencies with increased sales (%)
81-100	6.70
61-80	13.40
41-60	29.70
21-40	30.40
1-20	12.40
0	7.40
Total	100.00
The impact of digital techniques on the marketing performance of travel agencies	
Increased	92.60
No change	7.40

Decreased	0.00
Total	100.00
Level of satisfaction with the use of digital marketing techniques	
I'm satisfied	92.60
Neither satisfied nor dissatisfied	7.40
Total	100.00

Source: Authors' calculations.

*The total value is more than 100% because travel agencies prefer to use more than one digital marketing technique in their marketing activities.

According to Table 23, the most commonly used techniques are social media marketing (97.2%), website marketing (95.4%), and email marketing (93.9%). Least used methods include wearable technology marketing (18.9%), semantic marketing (20.4%), and predictive marketing (21%). Additionally, 47.3% of agencies have utilized digital marketing for over 10 years, 37.7% for 7–9 years, 10.2% for 4–6 years, and 7.8% for 1–3 years. Customer satisfaction is high at 92.6%. Revenue increases vary: 6.8% experienced an 81–100% rise, 13.4% saw 61–80%, 29.7% saw 41–60%, 30.4% saw 21–40%, and 12.4% saw 1–20% increases. Overall, 92.6% of respondents agreed that digital techniques positively impact marketing performance.

4. Conclusion and Discussion

Marketing performance is a topic that has been wondered/researched for many years. The examination of the effectiveness and efficiency of the resources allocated to the marketing activities of businesses / brands has maintained its significance for business managers over time. Prior to digitalization, it took a long time for marketing performance to become evident, and the reality that reports were imprecise made it difficult to measure marketing performance. Managers, shareholders, and marketing professionals viewed the measurement of marketing performance as unnecessary, implying that definitive results could not be attained. In the last 30 years, the digitalization of businesses has led to the digitalization of marketing activities in the digital environment, or digitalization. As each transaction is recorded in a virtual environment, digitization has made it possible to measure marketing activities accurately.

This study investigates the influence of digital marketing practices on the marketing performance of travel agencies and introduces a novel measurement scale designed to capture this relationship within contemporary market conditions. This study addresses a significant gap in the literature on the measurement of digital marketing performance in the tourism industry by developing a context-specific and empirically validated tool. The findings reveal a positive and statistically significant relationship between the use of digital marketing techniques and organizational performance and customer satisfaction outcomes. This study contributes to the growing literature on performance measurement in digitally mediated environments and provides managerial implications for practitioners in the tourism industry.

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The recent developments in artificial intelligence have made digital marketing more effective by providing a highly personalized data-driven approach to interaction with customers. Web-based marketing strategies, especially those utilizing dynamic video content and localized messaging, have been shown to enhance user engagement and retention. With the strength of visually rich and interactive content, social media marketing can grab the attention of consumers to drive conversion behavior. On the other hand, email marketing is a cost-effective and direct communication channel.

From a more extensive perspective, the use of digital marketing practices allows travel agencies to increase sales performance, decrease operational and marketing costs, enhance brand positioning, and develop more targeted campaigns through the use of real-time analytics and AI applications (Kanojia & Rathore, 2025; Hasibuan & Najmudin, 2024). Historically, marketing performance has been largely measured by financial indicators such as sales volume, profitability and customer acquisition (Acikel & Celikol, 2014; Clark & Ambler, 2001). Empirical evidence from different contexts, including studies in Ireland, also identifies sales performance, market share, profitability and customer satisfaction as important dimensions of corporate success (Liang et al., 2018).

The scale of this study includes structural changes due to technological revolutions, the COVID-19 pandemic, and the fast digitalization of consumer behavior. It therefore goes beyond the traditional framework. The proposed scale is a more complete and contemporary instrument to measure marketing performance in digital contexts. This is important both theoretically and for improving its practical usability

"Perceived Impact of Digital Marketing Practices on Travel Agency Performance" (PIDMPTAP) created in this study on the Marketing Performance of Travel Agencies consisted of 69 items. The created scale was first applied (pre-test) on 220 A group Travel Agency officials. In the study, normality, correlation, EFA and PA were performed with the SPSS program, CFA and invariance analyses were performed with the AMOS program. The validity and reliability analyses of the scale were performed. According to the results, it was determined that the data showed normality, the values obtained as a result of the correlation analysis were significant, and the relationship between the substances was at a sufficient level. It

was found that the values obtained as a result of EFA and CFA were within the desired range. The values obtained in the preliminary test and the results obtained from a sample of 461 people show similarities. In the study conducted, it has been revealed that this scale is four-dimensional. The obtained scale was collected under 20 items and 4 factors, including sales (4 items), cost (5 items), publicity (4 items) and product development (7 items) and provided the validity and reliability conditions. Therefore, the sub-dimensions and items of this scale differ from the findings and results of previous studies. It is thought that the developed scale can be used in marketing performance research. There is no item that needs to be reverse-coded in the prepared scale. Items will be evaluated based on means regarding the use of the scale, and evaluation will not be made based on the total score.

It is anticipated that the scale developed in this study will enable travel agencies to measure their marketing performance more easily and efficiently, while also addressing a gap in the existing literature. Scale development studies are significant as they provide up-to-date tools that align with current conditions and offer alternative measurement options. The current scale development study and its analyses need to be validated by testing on a larger sample in different sectors.

Marketing performance was measured through survey data in this study. This approach provides important perceptual insights. In further research, objective financial indicators should be considered to enable a comprehensive and multidimensional assessment of marketing performance.

Future studies should re-examined the psychometric properties of the scale in different samples to check the implementation of scale. The degree to which the theoretical framework of the scale fits the new sample should be assessed by using confirmatory factor analysis (CFA). Furthermore, if the scale is to be used in a different culture or group, repeated studies on linguistic validity and construct validity are essential. The other thing to assess is the ability of the scale items to reflect the construct we want (content validity index).

It is recommended that Cronbach's Alpha reliability coefficient and original factor structure should be re-evaluated with a new sample to ensure effective reuse and validation of the scale in future research. To test the extent to which the hypothetical framework of the scale is confirmed by the data obtained from the new study population, it is necessary to conduct confirmatory factor analysis (CFA).

If the scale is adapted to different cultural contexts or populations, the linguistic equivalence and the construct validity should be re-examined. This ensures the conceptual consistency and the measurement precision of the scale in different contexts. The Content Validity Index (CVI) needs to be carefully utilized for determining if the scale items are adequate to represent the construct to be measured. Moreover, the content validity of the instrument must be assessed.

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