



RESEARCH ARTICLE

The Role of Graphic Design in Developing Digital Advertising Design (An Applied Study on Jordanian Digital Marketing Companies, Newspapers, and News Websites)

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ARTICLE INFO	ABSTRACT
Received: May 22, 2024 Accepted: Jul 18, 2024 Keywords Digital Advertising Graphic Design Digital Marketing Companies News Websites on Jordan	The study aimed to explain the role of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design as an applied study on Jordanian digital marketing companies, newspapers, and news websites. The descriptive analytical approach was followed. The questionnaire was adopted as a tool for collecting data, and the study sample size was (384) individuals consisted of (a website manager, a newspaper editor, a journalist, a graphic designer). The statistical package program (SPSS) was used to analyse the study data. The study reached a set of results, the most important of which are: That the design of the digital advertisement obtained an average score (3.46), as well as the development of the graphic design reached (3.43), and that the value of the coefficient of determination (r^2) reached (92.5%). The study recommendations included: The necessity of using graphic design with the aim of building a brand and creating a design that pleases the eye and attracts the attention of the recipient, through holding dialogue sessions for designers to enable them to build strategies for developing their skills and how to use them in design.
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INTRODUCTION

Digital advertising design is a phenomenon that works to improve and expect better human life, as it enjoys speed, accuracy, and quality of performance (Abdalla et al., 2022). Digital advertisements have become part of the upcoming society and technology of society, in addition to celebrating the importance of new technology that helps in the development of graphic design (Ali, 2023). Digital advertising is often used with the concepts of online advertising. Moreover, digital advertising is defined as online advertising through elements intended for mass consumption (Jarrah et al., 2022). Digital advertising uses interactive techniques in the media for marketers to provide enhanced advertising (Lee & Cho, 2020). Also, graphic design in advertising is the act of developing visual and graphic components that successfully express a brand's message or market a product or service. It entails the deliberate placement of numerous design elements such as pictures, colours, typography, and layout to attract the target audience's attention and deliver a desired message (Liu, 2023). In the context of advertising, visual design is critical for attracting the audience's attention despite the clutter of rival commercials (Almatarnah et al., 2023). Effective design contributes to a brand's strong

visual identity and fosters an emotional connection with consumers. With the growth of digital marketing, firms may now contact their target audience through a variety of channels and techniques (Majumdar, 2023).

In addition, improving graphic design is a very effective method for digital visual advertising, as it is not just an artistic working tool, but contains a strategic application for digital advertising (Rafiyev et al., 2024). This requires focusing on several features, such as colours and graphic shapes to direct them, which each provide a specific digital advertisement. Most of the work today requires marketing graphic design, whether on the Internet or through digital advertising websites (Aba Al-Khail, 2022). Digital advertising design methods have changed the way graphic design is accessed, shared, and experienced by all users of graphic designers. This field has opened up a wealth of opportunities, from digital advertising design to digital marketing companies (Gurn, 2023).

As a result, user experience and user interface design are gaining importance in the advertising industry. In advertising, user experience and user interface design can be used to create more engaging and effective campaigns (Ross, 2018). For example, a well-designed website or mobile app can help users find the information they need about products and services and encourage them to take a specific action, such as making a purchase or signing up for a newsletter (Xie, 2023). Furthermore, user experience and interface design may contribute to a consistent brand experience across various advertising platforms (Huang, 2020). Therefore, advertisers may establish brand awareness and loyalty by employing similar design elements and messaging when they transition from one platform to another, for brand recognition (Abu Eyadah & Al Khatib, 2022). User interface design fosters digital art creativity, which refers to the creative use of digital tools and techniques to create visual components, layouts, and interactions for digital interfaces for websites or mobile applications (Abushawali et al., 2013). Also, this inventiveness encompasses the layout, typography, colour palette, and other design components that contribute to a unified appearance and feel (Zaitoun, 2023). All of this falls under the category of graphic design talents since digital artists who specialise in user interface design employ their graphic design and creative abilities to produce engaging and functional user experiences (Guo et al., 2021).

Problems and questions of the study

Graphic design is the visual language through which electronic marketing companies, newspapers, and news sites address their audience. Therefore, it is visual communication carried out by the graphic designer based on the client's request with the aim of conveying his message to the target audience. As a result, the tremendous cognitive development in recent times has contributed to the need for the development of graphic design in line with the rapid developments in the digital environment, which have affected society with greatest impact of digital advertising, which is the message of persuasion of products, services and ideas, with which the study community interacts through digital media (Lee & Cho, 2020, Tubishat et al., 2024), and digital advertising is a multifaceted process that requires their performance by professional individuals, given its importance in the development of graphic design (Abdul Hadi, 2022). Therefore, it has become necessary to clarify the role of digital advertising in graphic design in this process. The problem of the study can be summarized by the following main question:

What is the role of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design in Jordanian digital marketing companies, newspapers, and news websites?

The following questions branch out from this question:

What is the level of digital advertising design and its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in Jordanian digital marketing companies, newspapers, and news websites?

1. What is the level of graphic design development in Jordanian digital marketing companies, newspapers, and news websites?
2. What is the relationship of digital advertising tools to the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites?
3. What is the relationship of digital advertising design strategies to the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites?
4. What is the relationship between the digital advertising design barriers and the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites?

Objectives of the study

The research aims to explain the role of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design in Jordanian digital marketing companies, newspapers, and news websites, in addition to seeking to achieve the following goals:

1. Explaining the level of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in digital marketing companies, newspapers, and Jordanian news websites.
2. Explaining the level of graphic design development in Jordanian digital marketing companies, newspapers, and news websites.
3. Explaining the relationship of digital advertising tools to the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites.
4. Explaining the relationship of digital advertising design strategies to the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites.
5. Explaining the relationship of digital advertising barriers to the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites.

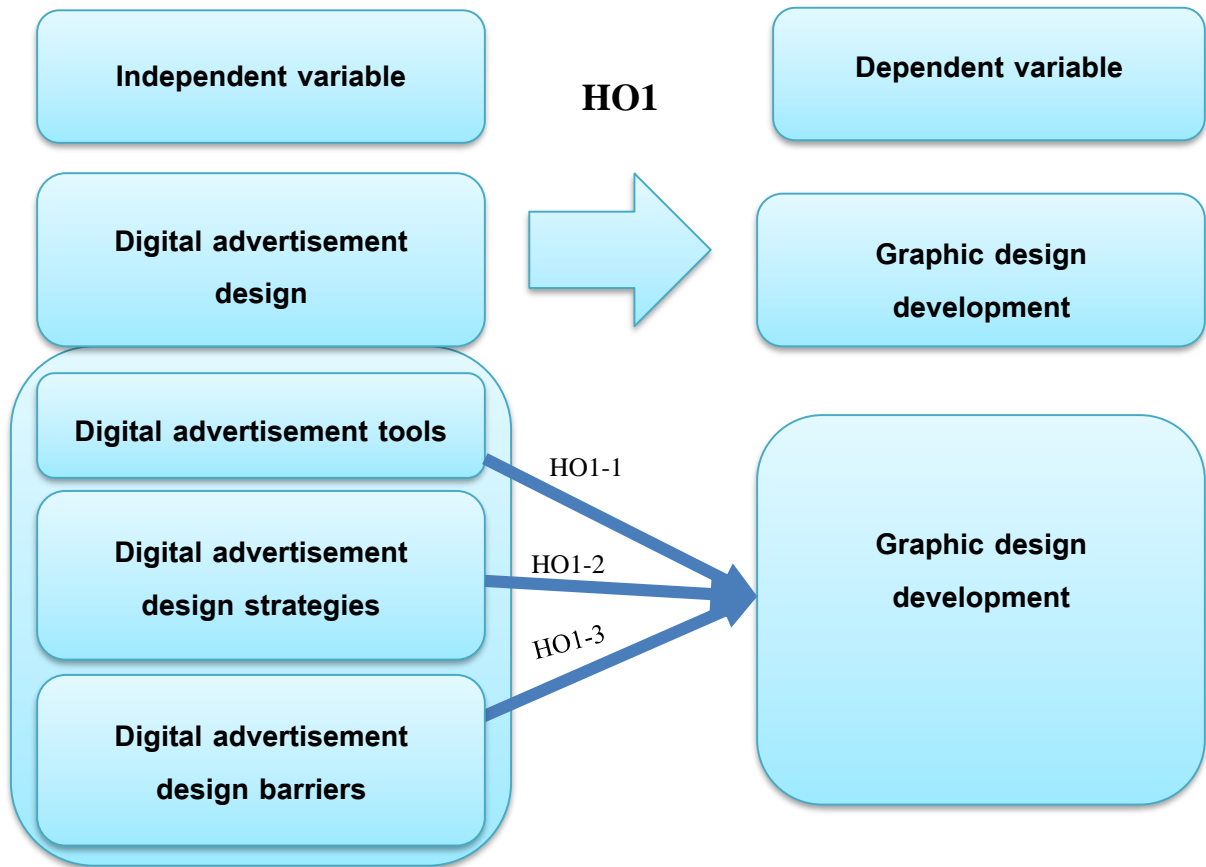
Importance of the study

The importance of the study is highlighted in two aspects.

Since digital advertising design is important to graphic design developers and its users, it is necessary to focus on studying digital advertising design, which is supposed to show digital advertising tools, digital advertising design strategies, and digital advertising design barriers honestly and fairly, away from manipulation. This can be done through studying the impact of digital advertising tools, digital advertising design strategies, and digital advertising design barriers for Jordanian digital marketing companies and newspapers and news websites. Therefore, this study might be important for marketing companies first and then for all their users.

This study contributes to consolidating research and studies related to the digital advertising design process and its dimensions, which achieve very important results in the field of graphic design development. Therefore, it is considered a completion of the vision of digital advertising design. It reveals if there are deficiencies in the dimensions of digital advertising design and graphic design development. It also works to find proposals to increase the efficiency and quality of digital advertising tools, digital advertising design strategies, and to delimit digital advertising design barriers from the point of view of each of the beneficiaries of digital advertising.

Study model and hypotheses



Based on the questions of the study problem and its objectives, and on the above, the hypothesis can be formulated to suit the variables of the study:

Main hypothesis (H01): There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) for the role of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design in Jordanian design marketing companies, digital newspapers and news websites.

The following sub-hypotheses emerge from it:

The first sub-hypothesis (H_{01-1}): There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) for digital advertising tools in developing graphic design in Jordanian digital marketing companies, newspapers, and news websites.

The second sub-hypothesis (H_{01-2}): There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) of digital advertising design strategies in developing graphic design in Jordanian digital marketing companies, newspapers, and news websites.

The third sub-hypothesis (H_{01-3}): There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) for the barriers that affect the design of digital advertising in the development of graphic design in Jordanian digital marketing companies, newspapers, and news websites.

The limitations of the study

The current study was limited to the following limitations:

- Topic limitations: The role of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design in Jordanian digital marketing companies, newspapers, and news websites.
- Time limitations: 2023/eighth month.
- Spatial limitations: digital marketing companies.
- Human limitations: website manager, newspaper editor, journalist, graphic designer.

LITERATURE REVIEW

Digital advertising occupies large areas on the Internet, and takes on multiple styles and different designs, to the point that it is competing with advertisements published in daily newspapers and magazines (Taneja, 2019). Electronic advertising has become an industry that differs entirely from other advertisements (Sugiarto & Widiastuti, 2021). These designs are also characterized by flexibility, rapid spread, and wide geographical area compared to roads (Alazzam et al., 2023). Traditionally, it uses video clips, sounds, multiple images, and variable flash, which makes digital advertising more attractive and influential than other methods, specifically print and even visual (Abu Kharma et al., 2022). Also, many people also think that graphic design is just regular drawing or computer drawing (Situmorang et al., 2019). In fact, it's much more than that. Graphic designers are professionals in brand strategy, design planning, and digital marketing (Alezaibe, 2022). Graphic design is a great tool you can use to make presentations, market your small business, create a web page, and much more (Alazzam et al., 2024). It can take all your great ideas and turn them into perfect, realistic designs and layouts to make your business stand out among the rest (Al-Mukhtar, 2022).

Digital advertising

The concept of digital advertising is a type of marketing that companies use to advertise their brands, products, or services via digital platforms (Alrwele, 2023). It is the practice of reaching the target audience through digital channels such as websites, email, social media, search engines, mobile applications, and affiliate networks (Kolosnichenko et al., 2022). One of the main advantages of digital advertising is that the advertiser can monitor the progress of the campaign in real time. Digital advertising aims at inorganic marketing where consumers are located and meet the tastes of the target market (Samuel, 2023). Therefore, digital advertising is marketing to a target audience through digital platforms, including social media, email, search engines, mobile apps, affiliate programs, and websites (Rawat et al., 2021). One of the major benefits of digital advertising is the ability for an advertiser to track the success of a campaign in real time. The goal of digital advertising is to inorganically advertise where consumers are located and tailor advertisements to the preferences of the target audience (Beal, 2022).

Importance of digital advertising

Digital advertising is an essential component of current marketing tactics because of its unique ability to reach a large and precisely targeted audience (Al-Saidi & Al-Rumhi, 2023). Companies may effectively expand into new areas by using digital advertising, which allows adverts to be personalised based on demographic data, behaviours, and interests, boosting the likelihood of reaching the intended target (Soleimani & Dunai, 2022, Shakhathreh et al., 2022). Furthermore, digital advertising allows for greater budget management and reliable performance measurement (Shakhathreh et al., 2023). This sort of real-time monitoring enables organisations to swiftly adapt campaigns for the greatest outcomes, making it more cost-effective than traditional advertising (Hudders et al., 2019). Also, digital advertising helps to grow and improve brand recognition by providing consistent visibility and direct connection with the audience through social media

platforms and new technologies like artificial intelligence and big data analysis (Santoso et al., 2020). Storm (2023) noted that the importance of digital advertising allows you to reach your target audience online, in a variety of ways, and on a variety of platforms. Also, digital marketing includes methods such as social media marketing, content marketing website design .It includes strategies that allow you to target your specific audience online (Paredes & Paredes, 2018).

Digital advertising objectives

Hilson (2023) noted that the goals and objectives of digital advertising should be:

1. Specific: What audiences or personas are we targeting to gain these new leads?
2. Measurable: How many leads should we aim to get in total from the campaign? What specific KPIs are we tracking for this campaign or group of campaigns?
3. Achievable: What percentage will we need to increase our chances and is this achievable? What was our ex-earnings performance?
4. Appropriate: How can we address this audience's pain points and how does our product or service seek to solve them? Can we offer them very specific benefits?
5. Time-bound: How long will this campaign last? When do we want to measure the success of our digital marketing goals and objectives?

Digital advertising tools

Mukhtar (2023) indicated that in simple terms, marketing tools can be defined as “any technical or strategic marketing tool or program used to promote products or services with the aim of enhancing the image of the company or brand and increasing sales”. Digital advertising tools have been divided into categories or types in order to be more clearly as follows:

1. Social media marketing tools
2. Email marketing tools.
3. Search engine optimization (SEO) tools.
4. Conversion optimization tools.
5. Image and graphic design tools

Graphic design

Al-Majzoub (2020) indicated that graphic design is a creative approach carried out by a designer or a group of designers based on the request of the client or customer, and a group of designers cooperate in implementing its material data in order to deliver a specific message to the target audience. Therefore, the term graphic design refers to a number of technical and professional specializations that focus on visual communications and methods of display (Vallverdu-Gordi & Marine-Roig, 2023). Graphic design is considered one of the most powerful methods in the field of business and marketing, as it contributes to conveying the correct image for your benefit in marketing campaigns and greatly helps in increasing sales (Oladumiye, 2018). It also helps to influence user behaviour through visual guidance. Also, the work of graphic designers influences many people because it is so clearly present in media, commerce and politics (Dziobczenski & Person, 2017). The impact of graphic design in society can be felt through communicating concepts and depicting events, issues, and people. Graphic design reflects society and in turn reflects society. Graphic design can positively impact society if designers combine skills with progressive values. With advances in digital graphics technology, jobs in this field have developed rapidly (Skrybnz, 2022).

Previous studies

Ali (2023) aimed to take advantage of modern digital media to develop a contemporary advertising design strategy. His study relied on the descriptive analytical approach followed by the experimental approach as a starting point for the present study. The study reached several results, the most

important of which is the contribution of the use of modern digital media to contemporary advertising design with what it contains of digital programs and processors with distinct artistic and aesthetic features and characteristics in raising the quality of advertising. This works to attract and influence the recipient and build a dazzling visual image of the event. The study recommended the necessity of employing programs and processors for modern digital media in contemporary advertising design. Dziobczenski and Person (2017) found that companies demand a diverse skill set from graphic designers, and the significance of different abilities varies depending on the post offered. Based on our findings, we examine the consequences of design education and practice, including how competence in graphic design is expressed, researched, and taught. However, the study of Aba Al-Khail (2022) aimed to reveal the impact of training courses on the skills of the graphic designer. The study relied on the descriptive and analytical approach. A questionnaire was developed and distributed to a sample of (244) male and female designers working in the State of Kuwait. The study concluded that the most important results are that the general average degree of possession of graphic design skills by graphic designers in the State of Kuwait was moderate. It recommended working to provide graphic design trainers with a high degree of competence and ability in training and delivering information and knowledge to the trainees. Al-Khafaji (2021) emphasized that it aimed to reveal the impact of the artistic movements of the post-modern era on graphic design. The study relied on the applied basis of selected models in preparing his study according to the historical method to describe and record past events and then interpret and analyse them to arrive at facts intended to draw a predictive picture for the future. The study reached several results, the most important of which is that graphic design is associated with artistic movements and their methods, and that the transformation and change in artistic treatments between artistic movements then establishes a design style followed by the movement in its style and the mechanism of treatment and application in communicating the idea. The study recommended examining the raw materials used in the graphic arts works, and an attempt to find ways to display it on the printed surfaces of the design for the purpose of borrowing the effect of the material on the recipient in print designs. Yunyue, (2023) study investigates the use of graphic design language in print advertising, graphics presentation techniques, unique and cultural graphic visual symbols, and the development of a graphic language carrier that moves visitors. However, Mahmoud (2020) aimed to evaluate the effectiveness of the form of the advertising message in attracting the attention of the target audience in the specialized markets for mobile phone applications. The study relied on the comprehensive survey approach, which is considered one of the most prominent approaches used in the field of global studies, especially descriptive research in both its descriptive parts. The study reached several results, the most important of which is the presence of a statistically significant effect on the reasons for the study sample's interaction with smart phone application advertisements to identify the products of specialized markets based on their preference for these advertisements. The study recommended the importance of spreading such applications across smart phones for various products, especially as they provide the public with the advantage of interactivity, ease of use, and the ability to compare different products through them. The findings of Vallverdu-Gordi and Marine-Roig, (2023) reveal that graphic design semiotics promote public environmental awareness and destination preservation by eliciting a sensitive, emotional, and cognitive response from the audience to the campaign. This creative graphic design framework may be applied to various branding or marketing efforts to enhance destination visuals.

Mehralian and Khazae (2022) studied the impact of digital marketing on the business performance of micro, small, and medium enterprises (MSMEs) during the Coronavirus (COVID-19) pandemic. The study was cross-sectional and quantitative. Data were collected using a three-part questionnaire, drawn from De Pelsmacker's Digital Marketing Questionnaire, Customer Relationship Management Questionnaire, and Business Performance Questionnaire. The validity and reliability of the questionnaires were verified and confirmed by evaluating the content, construct, convergent validity, and calculating alpha and Cronbach reliability, respectively. The study reached some results, the most

important of which is the impact of digital marketing efforts on the business performance of small and medium-sized companies in Tehran during the Covid-19 pandemic, as digital technologies have enabled companies to participating and interacting with its customers remotely. Moreover, the aforementioned effect was also enhanced through customers. Hassana and Harb (2021) determined the practices of graphic design students in visiting art exhibitions, starting with the visit plan and then developing its design process, exploring the impact of exhibition visits on teaching and practicing graphic design. The study relied on collecting secondary data from a literature review and primary data using a structural survey with closed questions. The survey consists of 14 multiple-choice questions with 4 options and open-ended questions. However, the graphic design student applies procedures of limited effectiveness. The study recommended enhancing student learning during visits to art exhibitions. However, Najmaldeen's (2020) attempted a critical analyse of Cranbrook's journey from its beginning until now, and to make attempts to alleviate the literature gaps in this field. Undoubtedly, there is a lack of research based on similar concepts. Thus, the study tried extensively to find and discover relevant published works and sources that are beneficial to the study at this study. Subsequent newspaper articles, reports and articles were carefully sifted depending on year of publication, uniqueness, content, relevance to the research topic, etc. The study reached several results, the most important of which is that this quantitative information will be able to fill the current lack of details about Kranbrück and his influence, the latest concepts and theories in the field of graphic design. Informed via these ways, the study recommended working with emerging technologies that include new frameworks for graphic design such as embedded electronics, 3D printing and projected images. According to Majumdar (2023), graphic design is extremely important in the digital era, particularly in the context of UI (User Interface) design. In the current age of technology and digital interactions, graphic design is critical for producing visually appealing and user-friendly digital interfaces.

METHODOLOGY

This study is an applied analytical study that aims to describe the extent of the role of digital advertising design in developing graphic design as an applied study on Jordanian digital marketing companies, newspapers, and news websites. In order to achieve the goal of the study, the descriptive approach was used, which is based on the field study to collect the necessary data and information to complete this study and analyse it using statistical methods, and then test the hypotheses and try to interpret them to determine the relationship between their variables using the statistical program (SPSS).

Study population

The study population consisted of Jordanian digital marketing companies, newspapers, and news websites. The study sample to which the questionnaire was distributed consisted of a group of workers (website manager, newspaper editor-in-chief, journalist, graphic designer).

Study sample and unit of analysis

The sample was taken randomly, considering that the population is not statistically known due to the number of large digital marketing companies, and it was determined to be a size of (384) individuals. Also, (384) questionnaires were distributed, (370) questionnaires were retrieved. After examination, (10) questionnaires were excluded because there is a bias in it, as if the number of questionnaires suitable for analysis was (360) questionnaires, which is (93.7%).

Data collection sources

To achieve the goal of the present study, we relied on two sources to collect data to achieve the study objectives, which are:

1. Secondary sources: These are the data obtained from library sources and the literary review of studies related to the title of the study, which is the role of digital advertising design in developing graphic design in order to establish scientific foundations and a theoretical framework, such as:
 - References and sources related to the subject of the study and documents related to the data.
 - Arab and foreign peer-reviewed journals and literature to cover the theoretical aspect.
 - Information available on the Internet.
2. Primary sources: They are the data obtained from the study tool, as a questionnaire was developed specifically for the purpose of answering the study’s questions and hypotheses and to achieve the study’s goal of explaining the role of digital advertising design in its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design in Jordanian digital marketing companies, newspapers, and news websites. A five-point Likert scale was adopted (strongly disagree, disagree, neutral, agree, strongly agree), and the length of the period was determined by the following:

Category length = (upper limit of the scale - lower limit of the scale) / number of categories

Category length = (1-5) / 3 = 3/4 = 1.33, then adding the category length to the end of each category, Tables (1), (2) and (3) show this.

Table 1: Calculating category length

Category length	maximum score - minimum score	=	1 - 5	0.8
	Number of levels		5	

Table 2: Five-point Lycra scale scores

Degree of agreement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Numerical value	5	4	3	2	1

Table 3: Level of evaluation for members of the study sample

Degree	Very low	Low	Medium	High	Very High
Category	From 1 to less than 1.8	From 1.8 to less than 2.6	From 2.6 to less than 3.4	From 3.4 to less than 4.2	From 4.2 to 5

Reliability of the study tool

The reliability coefficient was calculated, through the Cronbach alpha values, for the internal consistency of the axes of the study tool. Table (5) shows the values of the reliability coefficients for the areas of the study tool, and shows the reliability coefficient for the study scales. The alpha values

ranged between (0.816) as the lowest value, and (0.862) as the highest value. This shows that all alpha values have exceeded the minimum percentage that is acceptable for the purposes of statistical analysis, as alpha equal to or greater than (0.60) is considered acceptable in previous studies, and the total value is (0.952), which is a high value.

Table 4: Cronbach alpha reliability coefficient values for the study scales

Variable	number of items	Cronbach's alpha coefficient
Digital advertising tools	10	0.816
Digital advertising design strategies	10	0.829
Barriers affecting digital advertising design	9	0.862
Independent variable: Digital advertising design	29	0.932
Dependent variable: Graphic design development	12	0.851
Total	41	0.952

Ensure the suitability of the study model

First: Multicollinearity

The Pearson correlation coefficient was used for the dimensions of the digital advertising design (the independent variable) to ensure that there is no multi-linear correlation between its dimensions as displayed in Table (5):

Table 5: Pearson correlation for the dimensions of digital design (independent variable)

Variable	Digital Advertising Tools	Digital Advertising Design Strategies	Digital advertising design barriers
Digital Advertising Tools	1	0.759**	0.726**
Digital advertising design strategies		1	0.768**
Barriers affecting digital advertising design			1

() at a significance level of 0.01**

Table (5) shows that the highest correlation between the dimensions of digital advertising design (the independent variable) (0.768) was between both the digital advertising design strategies dimension and the digital advertising design barriers dimension, while the correlation values between the other dimensions were lower than that. This indicates that there is no phenomenon of high linear correlation between the dimensions of digital advertising design (the independent variable), as they were all significant at (p=0.01) and less than 0.90. This indicates that the dimensions of the independent variable are free of the problem of high multiple linear correlation.

The Variance Inflation Factor was also calculated for the dimensions of the digital advertising design (the independent variable) to verify that there is no high correlation and linear overlap between its dimensions. The results were as follows:

Table 6: Variance inflation factor test and allowable variance

Variable	Tolerance	VIF
Digital advertising tools	0.374	2.673
Digital advertising design strategies	0.361	2.768
Barriers affecting digital advertising design	0.324	3.083

Table (6) shows that the values of the variance inflation factor (VIF) are less than (10). It is also noted from the table that the values of the allowable variance (Tolerance) are between (0.1), which indicates that there is no linear relationship between the dimensions of the digital advertising design (the independent variable).

Fourth: Study results

Results of the analysis of the demographic characteristics of the study sample members

In this section, the demographic characteristics of the study sample members are described according to variables using frequencies and percentages as follows:

It is noted from Table (7) that males constitute the largest percentage of the study sample members at a rate of (86.7%) compared to (13.3%) for females. Those aged 40 to less than 50 constitute the largest percentage of the study sample members at a rate of (44.2%). The lowest percentage was for those aged 50 years and over, at (17%). Those with a bachelor's academic qualification constituted the largest percentage of the study sample's population, at a rate of (67.9%). The lowest percentage was for those whose academic qualification was a master's, at (8.8%). Those whose years of experience ranged from 10 years to less than 15 years constituted the largest percentage of the study sample members, with a percentage of (62.7%). The smallest percentage was for those whose years of experience ranged from 5 years to less than 10 years, with a percentage of (8.5%). Those whose job title is graphic designer constitute the largest percentage of the study sample members, at a rate of (38.8%), and the lowest percentage was for those whose job title is website manager, at a rate of (7.3%).

Table 7: Distribution of the study population according to demographic variables

Variable	Category	Frequency	Percentage
Gender	Male	286	86.7
	Female	44	13.3
Total		330	100%
Age	Less than 30 years	92	27.9
	From 30 to less than 40 years	36	10.9
	From 40 to less than 50 years	146	44.2

	Over 50 years	56	17.0
Total		330	100%
Academic qualification	Technical education	40	12.1
	Bachelor	224	67.9
	Master	29	8.8
	Doctorate	37	11.2
Total		330	100%
	Less than 5 years	45	13.6
	From 5 years to less than 10 years	28	8.5
	From 10 years to less than 15 years	207	62.7
	Over 50 years	50	15.2
Total		330	100%
Job title	Website Manager	24	7.3
	Editor-in-chief of a newspaper	75	22.7
	Journalist	103	31.2
	Graphic Design	128	38.8
Total		330	100%
Total number of study population		330	100%

Results of means and standard deviations

The study questions were answered as follows:

Results of the first question: What is the level of digital advertising design and its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) from the point of view of the study sample in Jordan?

To answer the first question, arithmetic means, standard deviations, and relative importance were analysed, what is the level of digital advertising design with its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers). Tables (8), (9), (10) and (11) are illustrative.

Table 8: Results of arithmetic means and standard deviations for digital advertising design (independent variable)

Rank	Item	Arithmetic mean	Standard deviation	Materiality
2	Digital advertising tools	3.48	0.778	Medium
3	Digital advertising design strategies	3.32	0.789	Medium
1	Digital advertising design barriers	3.59	0.853	Medium
Total		3.46	0.735	Medium

It is noted from Table (8) that digital advertising design received an medium score, as the arithmetic mean reached (3.46). The dimension "Digital advertising design barriers" came in the first place, with an arithmetic mean of (3.59). The dimension "Digital advertisement tools" came in second place", with an arithmetic mean of (3.48). The dimension "Digital advertising design strategies" ranked in the third place, with an arithmetic mean of (3.32). All of them came in a moderate degree.

The arithmetic means and standard deviations of the digital advertising design dimensions were analysed as follows:

Arithmetic means and standard deviations for items of digital advertising tools

Table 9: Arithmetic means and standard deviations for items of digital advertising tools

Item no.	Rank	Item	Arithmetic mean	Standard deviation	Materiality
8	1	Consumers prefer digital advertising design because of the wide range it offers them	3.85	1.084	High
6	2	The design of digital advertising on websites had a significant impact on building the company's name and products	3.84	1.111	High
9	3	The use of digital advertising increased the popularity of the brand among Internet users	3.70	1.185	High
1	4	Digital advertising works to create interest and awareness of the brand	3.64	1.236	Medium
5	5	The design of digital advertising works to create value for the products through their bearer that is memorable and easily recognizable	3.57	1.273	Medium
7	6	The design of digital advertising has a positive attitude towards the company's product and thus works to increase companies' performance in	3.55	1.297	Medium

		terms of (sales, market share, and profitability)			
10	7	Digital advertising design acts as portals that provide spaces for companies and individuals to promote their products	3.23	1.313	Medium
3	8	The use of digital advertising helped provide feedback, which enhances awareness of the product	3.14	1.372	Medium
4	9	Digital advertising is more efficient compared to other media channels	3.14	1.394	Medium
2	10	The digital advertising design helped increase product and service awareness	3.12	1.381	Medium
Total			3.48	0.778	Medium

It is clear from Table (9) that the most important items of digital advertising tools were “consumers prefer the design of digital advertising because of the wide range that is offered to them” with an arithmetic mean of (3.85), and the lowest percentages are item (2) with an arithmetic mean of (3.12). It indicates that (the design of digital advertising helped in increasing the awareness product and service) with a total number of (10) items and an overall arithmetic mean of (3.48).

Table 10: Arithmetic means and standard deviations for items of digital advertising design strategies

Item no.	Rank	Item	Arithmetic mean	Standard deviation	Materiality
3	1	Digital advertising design encourages viral advertising by conveying the information they receive about family and friends	3.84	1.088	High
8	2	The use of digital advertising through mobile advertising is advancing mobile technology and creating new delivery platforms for both marketers and advertisers	3.84	1.086	High
4	3	Digital advertising design as display advertisements has a positive impact on brand awareness and ad recall	3.70	1.163	High
5	4	The design of digital advertising as banners works to create awareness and attract customers' attention	3.56	1.273	Medium

2	5	Using digital advertising via email works to reach a large number of subscribers daily	3.29	1.334	Medium
1	6	Digital email advertising design increases attitudinal brand loyalty through growth in purchasing behaviour	3.17	1.308	Medium
7	7	The use of digital advertising through social media works to influence various aspects of consumer behaviour, including awareness, information acquisition, opinions, attitudes, and purchasing behaviour	3.02	1.385	Medium
6	8	Using digital advertising increases the return on investment	2.99	1.323	Medium
10	9	Digital advertising design through word of mouth advertising is seen as a trustworthy and reliable source of information	2.99	1.323	Medium
9	10	The use of digital advertising design through advertising games, which are games specifically designed to function as promotional advertisements	2.77	1.251	Medium
Total			3.32	0.789	Medium

It is clear from Table (10) that the most important items of digital advertising design strategies were “digital advertising design works to encourage viral advertisements by conveying the information they receive about family and friends” with a mean of (3.84), and the lowest percentages are item (9) with a mean of (2.77). It indicates (the use of digital advertising design through advertising games, which are games designed specifically to function as promotional advertisements) with a total number of (10) items and a total arithmetic means (3.32).

Table 11: Arithmetic means and standard deviations for digital advertising design barriers

Item no.	Rank	Item	Arithmetic mean	Standard deviation	Materiality
5	1	Trust affects the buyer through digital advertising and enhances customer purchasing confidence	3.83	1.086	High
3	2	The use and knowledge of social media affects customers' attitudes toward the digital advertising design process	3.69	1.188	High

2	3	The nature of digital advertising information can influence consumer decision	3.68	1.194	High
7	4	Education levels affect consumer use of digital advertising design	3.65	1.231	Medium
9	5	Consumer use of digital advertising varies according to income levels	3.65	1.224	Medium
1	6	Consumer attitude can affect the quality of digital advertising design	3.60	1.244	Medium
4	7	4The issue of personal information privacy affects the design of digital advertising	3.58	1.286	Medium
8	8	The increasing spread of the Internet affects the design of digital advertising	3.56	1.273	Medium
6	9	Providing customers with control over their information reduces perceived privacy risks to customers	3.09	1.386	Medium
Total			3.59	0.853	Medium

It is clear from Table (11) that the most important items on the barriers that affect the design of digital advertising were “trust affects the buyer through digital advertising and enhances purchasing confidence for customers” with an arithmetic means of (3.83), and the lowest percentages are item (6) with an arithmetic means of (3.09). It also indicates that (working to provide customers with control over their information reduces the risks of customer privacy) with a total number of (9) items and an overall arithmetic mean (3.59).

Results of the second question: What is the level of development of graphic design from the point of view of the study sample in Jordan?

To answer the first question, arithmetic means, standard deviations, and relative importance were analysed to determine the level of graphic design development. Table (12) is illustrative.

Table 12: Arithmetic means and standard deviations for graphic design development items

Item no.	Rank	Item	Arithmetic mean	Standard deviation	Materiality
6	1	Graphic design requires time, effort, and effective experience	3.84	1.111	High
7	2	Graphic design is a very influential means of mass communication	3.84	1.086	High
10	3	Graphic design is a creative approach undertaken by a designer or group of designers based on a client's request.	3.84	1.088	High

1	4	The presence of design, creative and marketing ideas affects the design of digital advertising	3.65	1.224	Medium
11	5	Graphic design is for the designer to deal with ideas, concepts, texts, and images and display them in a harmonious visual form	3.57	1.273	Medium
8	6	Graphic design as a logo symbolizes the company or institution and expresses its position and ideas	3.56	1.273	Medium
9	7	Graphic design is the basis for solving visually designed problems using writing, drawings, and images	3.55	1.297	Medium
5	8	Graphic design vocabulary is organized and combines aesthetic and functional performance	3.14	1.372	Medium
4	9	Graphic design contributes significantly to building a brand	3.12	1.381	Medium
2	10	It is important to have graphic design elements in the digital advertising design process	3.02	1.385	Medium
3	11	Digital advertising design is a combination of graphic design and marketing	3.02	1.385	Medium
12	12	The goal of graphic design is to create a design that pleases the eye and attracts the attention of the recipient	2.99	1.323	Medium
Total			3.43	0.783	Medium

It is clear from Table (12) that the most important items for developing graphic design were “graphic design requires time, effort, and effective experience” with a mean of (3.84), and the lowest percentages are item (12) with a mean of (2.99). It indicates (the goal of graphic design is to create a design that pleases the eye to attract the attention of the recipient) with a total number of (12) items and an overall arithmetic mean of (3.43).

DISCUSSION

The results can be reviewed and discussed, organized according to the study variables as follows:

Discussion of the results of demographic variables: Males constitute the largest percentage of the study sample members at a rate of (86.7%) compared to (13.3%) for females, and those aged 40 to less than 50 constitute the largest percentage of the study sample members at a rate of (44.2%).

Those with a bachelor's academic qualification constituted the largest percentage of the study sample's individuals, at a rate of (67.9%), and the smallest percentage was for those whose academic

qualification was a master's, at a rate of (8.8%). Their years of experience range from 10 years to less than 15 years, and they constitute the largest percentage of the study sample members, at a rate of (62.7%). Those who's their job title is graphic designer constitute the largest percentage of the study sample members, at a rate of (38.8%).

Discussing the results of the study variables

The results of the statistical analysis showed that the independent variable (digital advertising design) with its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) obtained a medium degree of importance, as the arithmetic mean reached (3.46). This indicates that Jordanian digital marketing companies, newspapers and news websites do not realize the importance of digital advertising design. This is shown through the following: (1) not using digital advertising design as a tool to create value for products by making them easily recognizable, (2) weak positive attitude towards the company's product and thus weak corporate performance in terms of (sales, market share, and profitability), (3) not using it as a tool to provide space for companies and individuals to promote their products, (4) lack of providing feedback, which leads to weak awareness of the product, (5) failure to use digital advertising efficiently compared to media channels, (6) weakness in its assistance in increasing product and service awareness, (7) failure to use banners that work to create awareness and attract customers' attention, (7) failure to use digital advertising via email, which increases opportunities Reaching a large number of subscribers daily increases brand loyalty, (8) the lack of social media in digital advertising, which contributes to influencing consumer behaviour, including awareness, information acquisition, opinions, attitudes, and purchasing behaviour, (9) the weak use of digital advertising as an effective tool in increasing the return on investment, (10) the lack of using digital advertising design through advertising games that are specifically designed to work as promotional advertisements, as the consumer's position affects the quality of digital advertising design, the privacy of personal information affects it, (11) the increasing spread of the Internet that affects it, and (12) not providing customers with the ability to control their information. This is consistent with a study Ali (2023), which concluded that the use of modern digital media in designing contemporary advertising, including programs and digital processors with distinct artistic and aesthetic features and characteristics, contributes to raising the quality of advertising. This works to attract and influence the recipient and build a dazzling visual image of the event. This differs from the study of Mehralian and Khazaei (2022) that found the impact of digital marketing efforts on the business performance of small and medium-sized enterprises in Tehran during the Covid-19 pandemic, as digital technologies enabled companies to participate and interact with their customers remotely, and the aforementioned impact was enhanced through customers.

The results of the statistical analysis showed that the dependent variable (development of graphic design) obtained a medium degree of importance, as the arithmetic mean reached (3.43). This indicates that there is not sufficient interest from Jordanian digital marketing companies, newspapers, and news websites in developing graphic design. This is manifested in the following: (1) the graphic design designer not using these ideas, concepts, texts, and images and presenting them in a homogeneous visual form, (2) weak use of graphic design as a logo that symbolizes the company or institution and expresses its position and ideas, (3) lack of use as a basis for solving visually designed problems using writing, drawings, and images, (3) lack of use of organized graphic design vocabulary that combines aesthetic and functional performance, and not using as a tool for building a brand, (4) the poor availability of graphic design elements in the digital advertising design process, mixing them in marketing, and creating a design that pleases the eye to attract the attention of the recipient. This is consistent with Al-Khafaji's (2021) study which concluded that there is a correlation graphic design links artistic movements and their methods, and the transformation and change in artistic treatments between artistic movements then establishes a design style followed by movement in its style and the mechanism of treatment and application in communicating the idea. It

differed with the study of Hassana and Harb (2021) which concluded that the graphic design student applied limited effective procedures.

The results of the statistical analysis showed that the coefficient of determination (R^2) for digital advertising design as an independent variable with its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) constitutes (92.5%) of the variance in the dependent variable, which is graphic design development. Accordingly, the null hypothesis is rejected and the alternative hypothesis is accepted, meaning that “there is a statistically significant effect at a significant level ($\alpha \leq 0.05$) for digital advertising design represented by its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) in developing graphic design.

The dimension of digital advertising tools positively affects the dependent variable “development of graphic design,” and the value of the coefficient of determination (R^2) amounted to (86.9%) of the change in digital advertising design and graphic design development. Based on the previous results, the null hypothesis was rejected, and the alternative hypothesis was accepted. That is, there is a statistically significant effect at a significant level ($\alpha \leq 0.05$) of digital advertising tools in developing graphic design from the point of view of the study sample.

The dimension of digital advertising design strategies positively affects the dependent variable “graphic design development”, and the value of the coefficient of determination (R^2) amounted to (70%) of the change in digital advertising design and graphic design development. Based on the previous results, the null hypothesis was rejected, and the alternative hypothesis was accepted. That is, there is a statistically significant effect at a significant level ($\alpha \leq 0.05$) of digital advertising design strategies in developing graphic design from the point of view of the study sample.

The dimension of digital advertising barriers positively affects the dependent variable “development of graphic design.” The value of the coefficient of determination (R^2) reached (64.8%) of the digital advertising design and development of graphic design variables. Based on the previous results, the null hypothesis was rejected, and the alternative hypothesis was accepted. This means that there is a statistically significant effect at a significant level ($\alpha \leq 0.05$) for the design of digital advertising barriers in developing graphic design from the point of view of the study sample.

RESULTS

The study reached a set of results:

1. Consumers prefer digital advertising design because of the wide scope it offers them.
2. The design of digital advertising through websites has a significant impact on building the company's name and its products, increasing popularity among Internet users towards the brand, creating interest and awareness of the brand, and creating new delivery platforms for both marketers and advertisers. The use of image advertisements has a positive impact on brand awareness. Moreover, signs also create awareness and attract customers' attention.
3. Using digital advertising via email increases the opportunity to reach a large number of subscribers daily, and increases brand loyalty through the growth of purchasing behaviour, as it increases purchasing confidence for customers, as social media affects customer attitudes. The nature of digital advertising information affects the consumer's decision. Also, education levels and income levels also affect consumer use, as consumer attitude affects the quality of digital advertising design.
4. Graphic design is a creative approach carried out by a designer or a group of designers based on the client's request. It requires time, effort, and effective experience. It is considered a means of mass communication, as the designer deals with ideas, concepts, texts, and images and presents them in a harmonious visual manner. The presence of design, creative, and marketing ideas affects the design of digital advertising.

RECOMMENDATIONS

The study recommended working on the following:

1. Using digital advertising design as portals to provide spaces for companies and individuals to promote their products, and provide feedback, which enhances awareness of the product and service awareness, through social media, which affects various aspects of consumer behaviour, including awareness, information acquisition, opinions, attitudes, and purchasing behaviour, and using it as a tool to increase the return on investment, by holding specialized training courses in digital advertising design.
2. Using word-of-mouth advertising and advertising games as promotional advertisements, and provide privacy of personal information and customers with control over their information reduces the risks of customers' perceived privacy by taking advantage of the spread of the Internet. This can be done through external workshops specialized in designing digital advertisements and using its tools, and paving the way for applying what they have learned on the ground.
3. Using graphic design as a basic tool in solving visually designed problems using writing, graphics, and images, paying attention to organized graphic design vocabulary that combines aesthetic and functional performance, and providing graphic design elements in the process of designing digital advertising, and mixing it with marketing, by involving designers in workshops specialized in graphic design and its tools.
4. Using graphic design with the aim of building a brand and creating a design that pleases the eye and attracts the attention of the recipient by holding dialogue sessions for designers to enable them to build strategies for developing their skills and how to use them in design.

CONCLUSION

The results of the study show that the variable digital advertising design with its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) obtained a medium degree of importance, as the arithmetic mean reached (3.46). The dependent variable (graphic design development) obtained It has a moderate degree of importance, as the arithmetic mean reached (3.43), and the coefficient of determination (R^2) for digital advertising design as an independent variable with its dimensions (digital advertising tools, digital advertising design strategies, digital advertising design barriers) constitutes (92.5%) of the variance in the dependent variable, which is the development of graphic design. Accordingly, the null hypothesis is rejected and the alternative hypothesis is accepted. This means that "there is a statistically significant effect at a significant level ($\alpha \leq 0.05$) for digital advertising design represented by its dimensions (digital advertising tools, digital advertising design strategies, and digital advertising design barriers) in developing graphic design.

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