The influence of digital marketing techniques on consumer impulse buying applied on e-retailers.

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Abstract:

Purpose: The purpose behind this academic paper is to comprehensively to analyze and explore the influence of digital marketing techniques on consumer impulse buying behavior. In the dynamic landscape of digital marketing, where social media influencers, personalized ads, reviews, and sponsored content dominate, understanding their impact on impulsive consumer decisions is influential. This paper also seeks to compile the body of research by looking at the psychological, social, and cultural factors that influence impulsive internet buying.

Methodology: The data was gathered and collected from both primary data and secondary data, the researcher used

previous articles that have studied digital marketing techniques and impulse buying. As well as conducting online questionnaires. With the aim of the research, quantitative method has been used through conducting questionnaires between people who use online shopping apps or got exposed to them. An online questionnaire was conducted among 580 respondents from both genders to know their opinion, then the analysis of the data was done by using STATA program.

Results: After analyzing the data, it was found that social media influencers have a significant weak yet positive relationship on consumer impulse buying and the results also indicated that personalized ads have a significant weak positive relationship on consumer impulse buying. Besides, reviews have significantly weak positive relationship on impulse buying as well. Finally, there is a significant but moderate relationship between sponsored ads and consumer impulse buying.

Keywords: Digital marketing, social media influencers, personalization of ads, online reviews, sponsored ads and impulse buying.

1. Introduction

Reflecting its increasing importance in the modern business environment, the current market has been referred to as the "era of digitalization," an area that investigates the impact of digital marketing on consumer impulsive buying. The way customers shop has drastically changed in the digital age, and digital

marketing has a major influence on these developments as well. Due to its direct effect on businesses and their marketing techniques, the phenomenon of impulse buying has become an intriguing field. Businesses looking to increase their online presence and sales must comprehend how digital marketing strategies like customized recommendations, targeted advertising, and persuasive content affect consumer behavior (Korkmaz & Seyhan, 2021). It was expressed by (Korkmaz and Seyhan, 2021) that the Coronavirus pandemic has sped up the shift towards web-based shopping in Egypt, making it a convenient and significant subject for study.

Chauhan et al, (2023) identified that due to the uncertainty, anxiety, and lifestyle changes brought on by the global health crisis, many people used impulse purchase as a coping strategy during covid-19 as well as during other economic and political crisis, such as during the Russia and Ukraine war and the global inflation crisis. But this didn't last long in-person sales declined as a result of decreased customer flow in physical shops and consumers' raised concerns about their health and safety (Das et al., 2022). Consumer spending also decreased as a result of the pandemic's negative economic effects, which included job losses and decreased incomes. Furthermore,(AL-KASSABI et al., 2023) stated that the increasing prices and living crisis because of the devaluation of the Egyptian pound against the U.S. dollar has been an ongoing problem in the Egyptian economy. This has, in return, caused a strong deterioration

in the purchasing intentions of people as a result to a clear decline in their buying power. Many companies currently are trying to figure out how to persuade customers to buy their goods even if they are not their top priorities. According to (Iyer et al., 2020) experts in the field argue that impulsive purchasing may provide an effective solution. **For this, the study seeks to assess the following research problem which is investigating the influence of digital marketing techniques on consumer's impulse buying behavior.**

2. Literature review and hypotheses development

2.1. Digital Marketing

According to Warokka et al., (2020) digital marketing entails the use of various tactics and strategies on multimedia platforms, digital channels, and technologies such as the internet and electronic devices, to broaden a business's pool of potential customers and to build brand awareness. Platforms such as Facebook and Instagram are a foundational part of digital marketing that allows for networking with customers and running target advertisement campaigns. Additionally, social media platforms can allow businesses to measure the effectiveness of their campaigns, to target specific demographics, and to readjust their marketing strategies as needed (Warokka et al., 2020). Learning how to use social media performance measurement indicators can open the doors for these marketing professions to communicate with customers and broaden the reach of their campaigns. Scholars have recently argued that

digital marketing is becoming the foremost important tool for industrial companies to generate business leads, to stimulate customer purchases, and to inspire salespeople and this could be approached through the following (Ziko et al., 2023).

2.1.1.1 Social media and social media influencers

It was stated by Koay et al., (2021) that social media is so vital as a tool of online marketing and product/service promotion that marketing experts and practitioners need to study it. Scholars have defined social media marketing as a strategy that utilizes social media platforms to achieve marketing tools. This also includes social networking marketing as an internet marketing model that encourages collaboration with social media influencers that have large followings. Companies can request that social media influencers produce content on their personal pages that feature products and/or services. For many customers, social media influencers' suggestions and opinions factor into their purchasing decisions, for both expensive and inexpensive items. Many social media users consider social media influencers as reliable and trustworthy sources. In that sense, when influencers showcase products, customers may, by extension, develop a connection between themselves and the brand to the point that they make impulsive purchases or buy something they may have not otherwise considered purchasing.

H1 There is a positive significant relationship between social media influencers and impulse online shopping.

2.1.1.2 Personalized ads/ Ad recommendations through AI

According to (Mogaji et al., 2020) and (Ziko et al., 2023). Artificial Intelligence (AI) is reshaping the ways that companies interact with their audiences and provide personalized experiences for them. Businesses can make use of AI to optimize their marketing campaigns and enhance their online marketing strategies. The machine learning capacities of AI allow companies to discern consumer practices and purchasing patterns, and to tailor content for each viewer. AI-driven advertisements utilize demographic information, search queries, browsing histories, and past purchases. These AI driven ads clearly offer massive benefits and profit potential for companies and advertisers, but they still pose ethical questions about consumer data privacy and algorithmic biases. Companies need to seriously consider how to strike an ethical balance between considering consumer privacy, while still benefiting from the personalization potential of AI tools (Mogaji et al., 2020) and (Ziko et al., 2023).

H2 There is a significant relationship between personalized ads/ ad recommendation on consumer's impulse buying behavior.

2.1.1.3 Top reviews

Another highly influential element of e-commerce is online product reviews upon (Zafar et al., 2020) online reviews influence how much traffic a website gets, and often trigger consumers' impulse purchases. Social media users often search and read top

reviews to get information about products, which are views as credible social proof or a product or service's effectiveness. Hence, companies and businesses should provide digital spaces for their customers to engage with one another and share their thoughts about any given product. This also tends to be reflected in engagement with Facebook, Twitter, and Instagram pages.

H3 There is a significant relationship between reviews and consumer's impulse buying behavior.

2.1.1.4 Sponsored ads

Puthussery (2020) admitted that sponsored advertisements are an essential element of digital media marketing that combines advertising with technology. These sponsored ads are precise in their leverage of machine learning and data analytics to engage with targeted online customers and user to create engagement. These sponsored ads strategically placed within various digital media platforms to integrate with each user's personalized online experience. These ads often blur the lines between content and promotion, and as such, they are a powerful tool for businesses to expand their reach and boost their sales. Much like the ethical concerns that arise with the use of AI for digital marketing, sponsored advertisements also raise questions about consumer privacy and preferences. This is why it is important for sponsored advertisements to be labeled as promotional messages. Businesses need to be transparent in informing digital media users that this is content that is paid for by an advertiser.

Essentially, sponsored ads allow companies to reach wider, relevant audiences, and to track the effectiveness of their marketing campaigns (Puthussery, 2020).

H4 There is a significant relationship between sponsored advertisements and consumer's impulse buying behavior.

2.1.2 Consumer behavior towards digital marketing

Zafar et al., (2020), in the era of digital technology, consumers have more control over the marketing process than ever before. They have shifted from being passive targets of marketing messages to becoming proactive participants who actively search for information, review products, and conduct comparisons across diverse digital platforms. Pal et al., (2020) consumers today keep continuous connectivity with their mobile devices, granting them the ability to interact with marketing materials at any moment and location. Social media platforms carry significant sway over consumers, given their dependence on peer endorsements and user-generated content when making choices (Ziko et al., 2023) and (Dastane, 2020).

2.3 Impulse buying behavior

Ittaqullah et al.,(2020) indicated that Impulse purchases, which also known as unexpected purchases, have increased significantly in recent years. They are a type of purchasing behavior characterized by a rapid decision to buy something without considering the need or alternatives. Impulse purchases can also be defined as buying

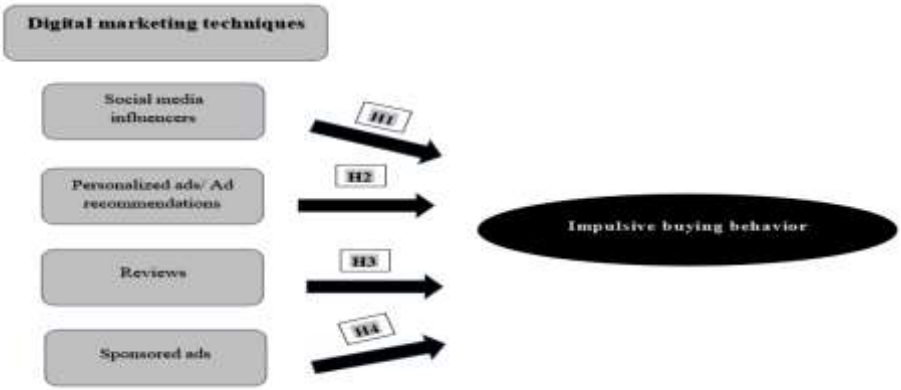
something because you want to buy it, rather than because you need it. They typically happen when you see or hear something that makes you want to buy it. Impulse buying often involves emotional or cognitive responses when individuals decide to purchase items without prior planning or intention. Nevertheless, alternative theories describe impulse buying as the act of making purchases without any premeditated intent. Impulse buying is the spontaneous purchase of an item without prior planning or intention. It typically occurs in response to a sudden urge or stimulus, like encountering something appealing or during moments of boredom or stress (Zhao et al., 2021).

2.4. Purchase intentions towards digital marketing

According to Dastane (2020), digital marketing can influence purchase intentions in two ways: immediate and planned. Immediate purchase intentions are often triggered by digital marketing campaigns that use attractive offers, persuasive information, or the fundamental appeal of a product. These campaigns are designed to stimulate instant gratification, which is a common goal of digital marketing. In contrast, considered buying intentions entail a more purposeful and contemplative decision-making process. In these instances, consumers have the chance to explore various options, make comparisons, and meticulously evaluate the pros and cons before making a choice.

2.5 Conceptual Framework

What this study reveals are digital marketing strategies that have a significant impact on impulsive consumer purchases. Impulsive buying is encouraged by social media influencers, online reviews, sponsored ads, personalized ads, and other forms of advertising that each hit into a different aspect of consumer psychology and behavior. Understanding and using these strategies will be essential to capitalize on impulse buying and boost e-commerce success.



➢ Based on different research, these digital marketing tactics on consumer impulse buying highlights the strategies' significant influence on consumer behavior. However, there's no literature that holds the four techniques that the researcher decided to investigate. They were studied separately but then they were combined to create an environment that is persuasive and encourages impulsive

purchases from customers. The main conclusions drawn from the literature are summarized in the following.

First and foremost, the growth of social media influencers has become a powerful tool in influencing impulsive purchases by consumers. Influencers have the power to genuinely connect and interact with their followers, establishing credibility and trust that can influence decisions to buy. Their endorsements of goods and services appeal to the aspirational and emotional parts of consumer behavior and are frequently connected with lifestyle content. Influencer content's genuine and relatable quality can create a sense of urgency that can cause impulsive purchases.

Moreover, online reviews influence consumers' impulsive purchasing behavior. Reviews, whether from other users or professional sources, provide social proof and useful information that can speed up the decision-making process. Positive reviews have the power to encourage consumers to buy by fostering a sense of urgency and FOMO, especially when combined with special offers or discounts. Negative reviews, on the other hand, can discourage consumers from making impulsive purchases and advise them to proceed with caution.

Personalized ads that are customized based on a person's browsing history and preferences are another powerful stimulus of impulsive purchases. These advertisements use data-driven insights to present content that is specifically has been tailored to the interests and preferences of the viewer. In view of the fact,

that personalization feature presents goods or services that are in line with the customer's present needs or goals, it makes the advertisements more relevant and raises the possibility of impulsive purchases.

Sponsored advertisements, when placed well throughout the digital landscape the action of an impulse buying take place. These commercials are meant to immediately catch viewers' attention and stimulate their curiosity. When sponsored content is easily integrated into an online experience, customers are more likely to make impulsive purchases because the convenience and attraction of the products or services on offer encourage them.

As we come to the end of this chapter, it is clear that digital marketing strategies have a complex impact on consumer impulse buying. These effects include the influence of social media influencers, the impact of online reviews, the efficiency of personalized ads, and the reach of sponsored content. Together, these factors not only influence consumer impulse buying behavior, but also highlight how dynamic and ever-changing the digital marketing landscape is. We explore these influences in greater detail in the upcoming chapter, providing measures and analysis throughout the methodology to shed more light on the empirical foundations of our understanding of this significant area of consumer behavior and digital marketing research.

3. Empirical study

The aim of this study was to investigate the role of digital marketing on consumers impulse buying. Digital marketing contains many approaches. Thus, in order to achieve this research aim, four main research questions were set forth: **Q1 To what extent there is a relationship between social media influencers and impulse buying behavior? Q2 To what extent does ad recommendation affect consumer's impulse buying behavior? Q3 To what extent do reviews affect customer's impulse buying behavior? Q4 To what extent do sponsored advertisements affect consumer's impulse buying behavior?**

To investigate the impact of digital marketing on impulse buying, the researcher conducted a quantitative research approach. This study developed an administrated questionnaire that contained five-point Likert scales that assessed the variables under study. The independent variables (sponsored ads, reviews, social media influencers, and personalized ads) and the dependent variable (impulse buying) used scales from prior studies. These scales were adopted to suit the current study. The distribution of the questionnaire was through online approaches. The researcher used google form to create the online questionnaire. The link to the google form was placed on various social media platforms that encourage consumers to purchase products under the shopping product category (pages related to fashion, home accessories, beauty and hygiene, and electronics).

The data collection took place during September 2023 to October 2023. The studied population were consumers who prefer to shop online. At the end of October, 580 questionnaires were used to conduct further analyses to assess the hypotheses and answer the research questions. STATA program was used to analyze the collected questionnaires.

Based on the results of the analysis, it was shown that there is a positive significant relationship between social media influencers and impulse online shopping. There is a significant relationship between personalized ads/ ad recommendation on consumer's impulse buying behavior. There is a significant relationship between reviews and consumer's impulse buying behavior. There is a significant relationship between sponsored advertisements and consumer's impulse buying behavior.

4. Results

Out of 600 questionnaires distributed, **20** were eliminated due to the questionnaire incompletion or the eligible criterion of respondents. As a result, only **580** questionnaires were usable and analyzed. This study had **5.8%** response rate. This chapter outlines the findings of the quantitative data collected. This chapter illustrates many analyses' outcomes that emerged- reliability, validity, frequency, correlation and multiple regression. The Reliability analyses confirmed the dependability of scale used to measure the variables. The frequency analyses are conducted for the demographic variables to present the

sample profile and to observe the respondent's outcome regarding the introduction questions related to online shopping. The Correlation analyses identified the strength, direction and significance of the variables in the hypotheses. The Multiple Regression analyses tested the hypotheses in this study.

4.1 The Respondents Profile in the Study (Sample Description Analysis)

Frequency analysis is used to evaluate the prediction's reliability and forecast the probability that a given value of a variable phenomenon will occur. In this study, the frequency analysis was used to describe the characteristics of the respondents in this study. This analysis shows the respondents socio-demographic traits (age, gender, income, education, marital status, number of children, current job status and city of residence) of the participants in the study. The following table ***(table 1)*** present the structure for the actual sample analyzed in this study.

TABLE (1): FREQUENCY TABLE FOR DEMOGRAPHIC VARIABLES

Variable	Categories	Freq.	Percent
Gender	Male	421	73%
	Female	157	27%
Age	20 and less than 35	402	70%
	35 and less than 50	36	6%
	50 and less than 65	18	3%
	65 and above	4	1%
	Under 20	118	20%
Occupation	Employed	279	48%
	Student	250	43%
	Unemployed	49	8%

Monthly income	From 10,000 to less than 15,000 EGP.	78	13%
	From 15,000 EGP and above.	120	21%
	From 5,000 to less than 10,000 EGP.	158	27%
	Less than 5,000 EGP.	222	38%
Highest Completed Level of Education	College Degree	327	57%
	High School	126	22%
	Other:	15	3%
	Postgraduate Degree	110	19%
Marital Status	College Degree	327	57%
	High School	126	22%
	Other	15	3%
	Postgraduate Degree	110	19%

Source: Based on calculation of the surveyed sample by STATA

❖ The majority of respondents (70%) are aged 20-35 years old. Students make up 43% of respondents and employed people make up 48%. 38% of respondents have a monthly income of less than 5,000 EGP, while 21% earn 15,000 EGP or more per month. Over half (57%) have a college degree as their highest level of education.

Table (2): Frequency table for usage of website categorized by different demographics

Categories	Websites	Frequency	Percentage
Usage of Websites based on Gender			
Female	**Amazon**	76	48%
	Jumia	12	8%
	Noon	57	36%
	Other	12	8%
Male	**Amazon**	287	68%
	Jumia	30	7%
	Noon	87	21%
	Other	17	4%
Usage of Websites based on Age			
Under 20	**Amazon**	80	68%
	Jumia	8	7%
	Noon	22	19%
	Other	8	7%

20 and less than 35	**Amazon**	246	61%
	Jumia	30	7%
	Noon	112	28%
	Other	14	3%
35 and less than 50	**Amazon**	23	64%
	Jumia	2	6%
	Noon	5	14%
	Other	6	17%
50 and less than 65	**Amazon**	10	56%
	Jumia	2	11%
	Noon	5	28%
	Other	1	6%
65 and above	**Amazon**	4	100%
	Jumia	0	0%
	Noon	0	0%
	Other	0	0%
Usage of Websites based on Education			
High School	**Amazon**	85	67%
	Jumia	9	7%
	Noon	24	19%
	Other	8	6%
College Degree	**Amazon**	195	60%
	Jumia	22	7%
	Noon	95	29%
	Other	15	5%
Postgraduate Degree	**Amazon**	71	65%
	Jumia	9	8%
	Noon	24	22%
	Other	6	5%
Other	**Amazon**	12	80%
	Jumia	2	13%
	Noon	1	7%
	Other	0	0%

Source: Based on calculation of the surveyed sample by STATA

❖ Based on table 1, amazon is the most used app overall, with 48% of female respondents and 68% of male respondents using it. Usage of the other apps is much lower. Amazon is popular across all age groups, with a range from 61% to 100% of

each age group using it. Its usage is especially high among those 65+ (100%). Amazon is the most used app across all education levels too, though its usage is highest among those with "Other" education (80%) and lowest among college grads (60%). Jumia and Noon show some variation in usage by age and education groups, though their overall usage is quite low. The "Other" app category has very low usage overall showing the imperfect competition market structure of online shopping website. In summary, Amazon dominates e-commerce app usage for both genders, all age groups, and education levels in this sample.

4.2 Frequency Analysis (Description Analysis)

In this study, the frequency analysis is also conducted on the introduction questions. There were four main questions asked to understand the respondents' relation to the research topic. The following questions were asked: *(1)* **Have you used any application for online shopping before?** *(2)* **Which application do you use the most for online shopping?** *(3)* **Which digital marketing tool most likely encourages you to purchase on online applications?** *(4)* **What products are you most likely to buy through online apps***?* The tables below illustrate the respondents' replies occurrences for each question as well as the mean, median and mode.

TABLE (3): DESCRIPTIVE MEASURES OF THE PHENOMENON

Impulse Buying		
Gender	**Mean**	**Standard deviation**
Female	2.9	1
Male	2.6	0.9
Total	2.7	1
Social media influencers		
Female	3.1	0.8
Male	2.9	0.9
Total	3	0.8
Review		
Female	3.9	0.8
Male	3.7	0.9
Total	3.8	0.9
Sponsored ads		
Female	3.1	0.8
Male	3	0.8
Total	3.1	0.8
Personalized ads		
Female	3.4	0.7
Male	3.3	0.8
Total	3.3	0.8
Clothing and fashion items		
Female	58.6	0.5
Male	53.4	0.5
Total	54.8	0.5
Beauty and personal care products		
Female	61.8	0.5
Male	13.5	0.3
Total	26.6	0.4
Electronics and gadgets		
Female	12.7	0.3
Male	46.1	0.5
Total	37	0.5

Home appliances		
Female	16.6	0.4
Male	17.1	0.4
Total	17	0.4
Books and media		
Female	12.1	0.3
Male	16.2	0.4
Total	15.1	0.4

Source: Based on calculation of the surveyed sample by STATA

❖ Observing table 2, At Impulse buying behavior. Females had a higher mean (2.9) compared to males (2.6) for overall impulse buying. This indicates females tend to engage in more impulse buying than males on average. While social media influence, Females had a higher mean (3.1) than males (2.9). This suggests social media tends to influence females' impulse buying more than males. For review media influence, Females again had a higher mean (3.9) than males (3.7). So, reviews influence females' impulse buying more than males. For sponsor media influence. Means were similar for females (3.1) and males (3.0). Sponsorships impact impulse buying equally for both genders. For personal ad influence. Females had a slightly higher mean (3.4) than males (3.3). Personal ads impact impulse buying a bit more for females. At product categories. Females had higher means for clothing, beauty products and books/media. Males had higher means for electronics and home appliances. This indicates females tend to impulsively buy clothing, beauty, and books more than males. Males impulsively buy electronics and appliances more.

4.3Reliability and Validity Analysis

Based on Bell et al., (2022), reliability analysis enables you to research the characteristics of measurement scales and the components that make them up. Cronbach's alpha is the most common measure of internal consistency ("reliability"). According to this analysis, for the scale to be reliable, the alpha should be above 0.7 (Saunders et al., 2009). The scales in this study were taken from prior studies in which they claimed had high reliability. Accordingly, the researcher took the scale, and adopted it to suit the study. Concurring to the analysis in this study, *the outcomes shows that all the scales used in the current study are reliable and the research can depend on them to measure the variables under study.* The following table illustrates the outcome of the reliability analysis.

In this study the research conducted ***Face validity as well***. Face validity considers examining whether a measure initially appears relevant and appropriate for the task it is evaluating (Bell et al., 2022) if a test seems to measure what it is intended to measure, it is considered to have face validity. It's similar to content validity, but face validity is a more informal and subjective assessment. The researcher made academics look over the questionnaire to give their opinion and make adjustments to confirm the instrument effectiveness.

The researcher also conducted another analysis. CFA is used to keep track of the dependability and validity of many elements. The reliability was evaluated using the Cronbach alpha. Each variable's Cronbach alpha was higher than 0.6. Each of the statements therefore appropriately sums up the contributing variables to the study (Vellone et al., 2013). To get closer to determining whether the statements' accuracy in conveying the factors, both the composite reliability and the average variance extracted were computed. Each of the factors had an AVE above 0.5. This exemplifies how the assertions might be applied to take the elements into consideration (Shrestha, 2021).

TABLE (4): RELIABILITY AND VALIDITY ANALYSIS FOR PHENOMENON

		Loading	Cronbach's Alpha	Average variance extracted
Social Media	q1	0.552	0.849	0.532
	q2	0.655		
	q3	0.332		
	q3	0.638		
	q4	0.552		
Personalized ads	q5	0.801	0.650	0.353
	q6	0.836		
	q7	0.530		
	q8	0.807		
	q9	0.654		
	q10	0.5803		
	q11	0.7032		
	q12	0.7671		
	q13	0.7661		
	q14	0.5803		

Reviews	q10	0.6564	0.850	0.553
	q11	0.4951		
	q12	0.6977		
	q13	0.7320		
	q14	0.7541		
Sponsored	q10	0.5803	0.804	0.463
	q12	0.7032		
	q13	0.7671		
	q14	0.7661		
Impulse Buying	q15	0.6809	0.889	0.575
	q16	0.7439		
	q17	0.7840		
	q18	0.7729		
	q19	0.7461		
	q20	0.7755		

4.5 Correlation Analysis

Correlation analysis focuses on identifying the presence and strength of a relationship between variables after confirming whether one exists. In this study the researcher conducted Pearson correlation analysis for each hypothesis (Bell et al., 2022)

❖ After reviewing the spearman correlation table. It was found that there is a weak significant positive relationship between impulse buying behavior and social media influencers also personalized ads/ ad and reviews. While there is a moderate significant positive relationship between impulse buying behavior and sponsored advertisement.

Hypothesis One: **There is a positive significant relationship between social media influencers and impulse online shopping.** The Pearson correlation coefficient for the variables in this hypothesis was: ٠.273**. This means that the relationship is weak positive significant relationship.

Hypothesis Two: **There is a significant relationship between personalized ads/ ad recommendation on consumer's impulse buying behavior.** The Pearson correlation analysis alpha for the variables in this hypothesis was: 0.255**. This means that the relationship is weak positive significant relationship.

Hypothesis Three: **There is a significant relationship between reviews and consumer's impulse buying behavior.** The Pearson correlation analysis alpha for the variables in this hypothesis was: 0.133. This means that the relationship is weak positive significant relationship.

Hypothesis Four: **There is a significant relationship between sponsored advertisements and consumer's impulse buying behavior.** The Pearson correlation analysis alpha for the variables in this hypothesis was: 0.414. This means that the relationship is moderate significant positive relationship.

Table(5): Pearson Correlation Analysis

Hypothesis	Alpha (a)	Relation Description
There is a positive significant relationship between social media influencers and impulse online shopping.		**Relationship Significance:** ٠.273 **Relationship Strength:** Weak **Relationship Direction**: Positive
There is a significant relationship between personalized ads/ ad recommendation on consumer's impulse buying behavior.		**Relationship Significance:** 0.255 **Relationship Strength:** Weak **Relationship Direction**: Positive
There is a significant relationship between reviews and consumer's impulse buying behavior.		**Relationship Significance:** 0.133 **Relationship Strength:** Weak **Relationship Direction**: Positive
There is a significant relationship between sponsored advertisements and consumer's impulse buying behavior.		**Relationship Significance:** 0.414 **Relationship Strength:** Moderate **Relationship Direction**: Positive

4.6 Multiple Regression Analysis

Multiple regression is an extension of simple linear regression. ***The researcher used multiple regression to test the research hypothesis (***Bell et al., 2022). Multiple regression also allows the researcher to determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained.

4.6.1 Multiple Regression ANOVA

Multiple Regression ANOVA is used as a framework to give information about the levels of variability in a regression model and serves as the foundation for significance tests. As it is shown in the following table (Table 6), the model used in this study was significant, with an ANOVA of 0.000

TABLE (*6*): ANOVA FOR MULTIPLE REGRESSION MODELLING

	Sum of Squares	Degrees of Freedom	Mean Sum of Square	F	P-value
Between	120.061158	15	8.00407721	11.10	0.0000
Within	405.219932	562	.721031907		
Total	525.28109	577			

Source: Calculations based on sampled data using STATA 14

4.6.2 Multiple Regression Adjusted R2

The adjusted R-squared is a statistical measure used in regression models to calculate the percentage of the dependent variable's variance that the independent variable can account for (Bell et al., 2022). According to the analysis, the adjusted R2 is **0.740** this means that the independent variable (social media influencers, reviews, sponsored ads and personalized ads) contributes to 70% of the impact of impulse buying of the dependent variable. The remaining 30% of comes from other variables not focused on in this study.

Multiple Linear Regression Modelling

TABLE (7): MODEL EVALUATION OF THE LINEAR REGRESSION MODEL

Model	R	*R*2	Adjusted *R*2
Model 1	0.860	0.740	0.69666667

Source: Based on calculations using STATA

4.6.3 Multiple Regression Sig Value (Hypothesis Testing)

The researcher used the multiple regression to test the research hypothesis. Multiple regression hypothesis testing states that changes in the independent variables are correlated with changes in the dependent variable, according to this statistical significance (Bell et al., 2022). The following paragraphs illustrate the results of each hypothesis' sig value, clarifying the hypothesis testing.

Hypothesis One: **There is a significant relationship between social media influencers and impulse online shopping.** The results show that the relationship between the variables is significant with the sig value less than 0.05 ($\beta = .1425^{***}$, $p < 0.05$).

Hypothesis Two: **There is a significant relationship between personalized ads/ ad recommendation on consumer's impulse buying behavior.** The results show that the relationship between the variables is significant with the sig value less than 0.05 ($\beta = 1343^{**}$, $p < 0.05$).

Hypothesis Three: **There is a significant relationship between reviews and consumer's impulse buying behavior.** The results show that the relationship between the variables is significant with the sig value less than 0.05 (β = -.0951*, p < 0.05).

Hypothesis Four: **There is a significant relationship between sponsored advertisements and consumer's impulse buying behavior..** The results show that the relationship between the variables is significant with the sig value less than 0.05 (β = .3982***, p < 0.05).

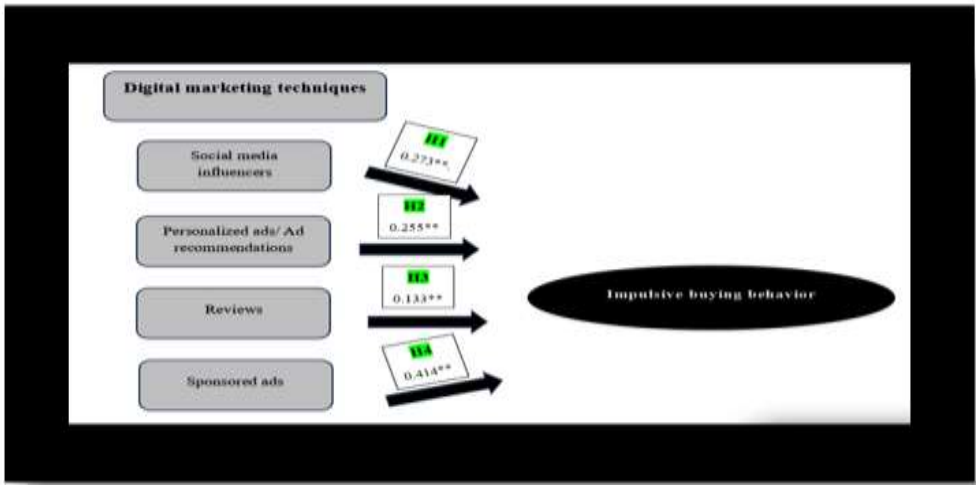
social media	**.1425873*** **	**.0473414**	**0.003**
personal ad	.1343495**	.0585482	0.022
Review	-.0951651*	.0473074	0.045
Sponsor	.3982034***	.0524004	0.000
Constant	.6841462	.231766	0.003

4.6.4 Multiple Regression Beta Coefficient

A standardized beta coefficient in the multiple regression is a recalculated estimated regression coefficient with a mean of 0 and a standard deviation of 1. Its use enables direct comparisons between independent variables to ascertain which has the greatest impact on

the dependent variable. The higher the absolute value of the beta coefficient, the stronger the effect. According to this study the variables that have the highest impact on consumers' behavioral intention subsequently are: Personalized ads then comes sponsored ads followed by social media influencers and finally reviews.

5. Discussion and recommendations



5.2 Research implications

When digital marketing campaign is in progress, the most effective contribution to impulse buying is as follows, social media influencers who promote goods or services within the framework of their daily lives, followers tend to view these endorsements as sincere suggestions instead of conventional marketing. Therefore, influencers have a persuasive effect as they

build followers' trust and relatability and foster a feeling of personal connection.

Moving to the next effective digital marketing technique which is personalized ads. Personalized advertisements successfully tap into the psychological and emotional features of impulsive buying to cause quick and impulsive purchases. Marketers use this strategy by customizing information to each person's tastes and habits. Through advanced data analytics to provide tailored suggestions, to strength their sense of relevance and connection to the viewer while also providing a feeling of exclusivity. Sponsored advertisements have a significant impact on impulsive purchases by using appealing content and clever placement that encourage quick action from viewers. These advertisements demand attention and profit from the impulsive nature of internet browsing because they are frequently smoothly integrated into online platforms. As a source of informational support and social proof for potential customers, customer reviews have a significant impact on impulsive purchasing behavior. A product or service's credibility and sense of trust are shaped in part by reviews or comments, which are the experiences and opinions of past users that nowadays play a great role.

5.3 Research contribution

a. Academic contribution

The researcher successfully filled in the gap by gathering the data not only on one or two variables but five variables in a form of (impulse buying, social media influencers, reviews, personalized

ads and sponsored ads) all together in one academic research supported by various books, papers and literature. Furthermore, given the fact that the research data was gathered from different countries around the world, the researcher tried to fill in the local-aspect void by collecting the questionnaire's results from the people of Egypt to gain a deeper perspective to the local opinion.

b. Practical contribution

1. The study contributes insights that are necessary for practical use. This study created knowledge that helps marketers increase their sales and revenue throughout the effective digital marketing strategies that play in triggering impulse purchases by making people feel like they must take action on spot to an appealing deal. This could actually work in increasing sales and revenue, especially when there are flash sales or any special events.
2. It helps marketers in enhancing customer engagement by getting people involved in some customized digital marketing techniques such as personalized ads/ ad recommendations or any interactive content. By this, customers admit that the brand knows their needs and want which encourage them to make impulsive buying.
3. It helps businesses accomplish their competitive advantage by targeting their customers throughout sending relevant and

good offers at the right time, giving them benefits over their competitors and gaining the market share.

4. Providing useful data and information about how people behave. Using these data to help businesses know the best ways to market to the consumer for more effective impulse buying behavior achieved by using data driven insights through digital marketing.
5. It aims to help marketers design attractive content and advertisements to easily attract customers and make them buy impulsively without thinking.

5. 4 Research Recommendations and suggestions for prior studies

The study represents a more general scope of the topic, which could have been viewed in a more specified context. Moreover, the research questionnaire was only limited to online distribution, disregarding traditional ways such as distributing it among people in shopping malls or public areas. Although the study was made in one city, the fact that the questionnaires were distributed online helped in widening the scope of the research by reaching different Egyptian cities.

5.5 Research Limitation

Although the impact of digital marketing strategies on consumer impulse buying is thoroughly examined in this literature review, it is crucial to recognize some limitations that should be taken into consideration when interpreting the results. First and foremost, there

is a chance that the literature sources that are currently accessible have been influenced by publication, since studies that show a substantial impact of digital marketing on impulse purchases are more likely to be published. This could result in an overestimation of the techniques' influence. Furthermore, it can be difficult to gather the most recent and relevant research due to the dynamic nature of the digital marketing landscape. Given how quickly the digital landscape and consumer behavior are changing, some studies might become out of date.

Another limitation that should be considered as well that the impact of digital marketing strategies on impulsive purchases can differ greatly amongst consumer segments, industries, and cultures. As a result, there may be limitations to the findings' applicability in particular situations.

It's also critical to understand that, despite the literature's strong evidence that each of these digital marketing techniques (social media influencers, reviews, personalized ads and sponsored ads) does have an influence on consumer impulse buying. However, there aren't any articles that combine them all together and interpret how these tactics could influence impulsive purchasing behavior.

Ultimately, even though this review aims to offer a comprehensive viewpoint on the subject, it is not all-inclusive, and there might be relevant research studies that were left out. While these limitations do not reduce the significance of the results, they should be taken into account given how consumer

behavior research and digital marketing are developing. In order to improve our comprehension of the complex relationship between digital marketing strategies and consumer impulse buying, future research may go deeper into these limitations.

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