

Personalized Digital Marketing and Consumer Purchasing Meta-Analysis

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Abstract

The use of technology for marketing was lauded as a revolutionary method of promotion that provided organizations with new possibilities for carrying out business. Marketers were able to communicate directly with potential customers regardless of where they were by using digital media. The adoption of personalized consumer interaction strategies has significantly increased as a result of the speedy growth of digital marketing strategies. When clients are navigating the vast digital marketplace, personalized marketing strives to stand out from the crowd by offering highly relevant information and product recommendations that speak to each individual. By combining data from a variety of empirical investigations, this meta-analysis systematically assesses the overall consequence. Using a large dataset spanning various organizations and consumer categories, this study aims to demonstrate the multifaceted connection between personalized web-based advertising efforts and their impact on customer behaviour. Our meta-analysis's findings provide strong proof of the beneficial impact, and the personalized content continuously shows a substantial link with greater conversion rates and increased consumer satisfaction across a range of contexts, including e-commerce, social media, and email marketing. The results of this study could help practitioners and marketers create and deploy tailored digital marketing initiatives.

Introduction

The fast development and widespread adoption of technological advances in communication and electronic media are having an enormous effect on how individuals interact and satisfy their economic, passionate, and material necessities. Because of this, advertising agencies can now optimize their messaging to successfully attract micro-consumer segments inside the country or area and offer hyper-localized micro-experiences, thanks to the development of ICTs (Huckle et al., 2016). The way businesses communicate with their customers has been completely transformed by the internet, to the point where they have become important test-beds for new public relations practices and marketing strategies. A third of the world's population can currently access the internet (Ortiz-Ospina and Roser, 2023). They frequently conduct internet searches to learn about new trends and items, which encourages them to join online forums. Due to e-commerce's growth, we have witnessed a change in paradigm in which an increasing number of people are converting to e-commerce from traditional offline methods.

Web-based advertising was lauded as an unconventional method of promotion that offered businesses new ways to conduct business (Key 2017). Marketers had the ability to engage in person with prospective consumers utilizing online platforms, irrespective of wherever they were located. Understanding how to leverage digital channels like mobile devices, email, web, and digital television has gotten harder as marketers now employ these platforms for a variety of goals (Yamin 2017; Onobrakpeya and Mac-Attama 2017). Online shoppers are particularly prone to making illogical decisions like hasty purchases (Sin et al., 2022; Zhao et al., 2019). Online shopping is where impulsive buying, which is described as abrupt, unplanned purchases by consumers, occurs more frequently. The quick development of digital marketing tactics has resulted in a significant rise in the use of personalized customer engagement methods. Customizing content, recommendations, and adverts for each consumer based on their tastes, behaviours, and demographics is known as personalized digital marketing (Chandra et al., 2022; Matz and Netzer, 2017; Grigorios et al., 2022). To reach a larger audience of customers, businesses develop social media accounts for their brands on websites like Facebook, Instagram, and Twitter. In social media marketing (SMM), the ties between brands and consumers are direct and interactive. Instead of publishing too frequently just to maintain an active online presence, brands should focus more emphasis on sending engaging and stimulating information that fosters a useful two-way dialogue. The value of these exchanges depends on the messages shared.

Consumer demand has changed since the second half of the 20th century when the item's affordability was essential to gaining market share (Caiazza and Bigliardi, 2020; Gaiardelli et al., 2021). By providing customers with goods that are specially crafted to suit their preferences, personalization is a method to respect each one of them as an individual. Personalization should make a banner more effective by making it more pertinent. However, depending on when and where a particular personalized ad appears, consumers might not all agree that it is favourable. Customers receive personalized banners at various stages of the decision-making process, especially in terms of timing. Additionally, depending on how long it has been since a customer visited an online business before seeing an advertisement, they may react to personalized ad content differently, even within a specific position. The preferences a customer previously disclosed during her most recent visit to an online store are usually reflected in personalized banners. The growing relevance of personalization is demonstrated by the fact that efficient customization deployment is significantly related to a boost in gross sales and a surge in marketing effectiveness within a single channel (Chandra et al., 2022).

Personalized marketing aims to cut through the clutter as customers navigate the enormous digital marketplace by providing highly relevant information and product recommendations that speak to each individual (Shankar et al., 2022). Improved engagement, higher conversion rates, and higher customer happiness are appealing promises. However, the issue still stands: Is personalized digital marketing more than just a passing fad in the world of marketing, or does it really have a substantial impact on consumer purchasing decisions? We can use meta-analysis to find trends, variances, and potential moderators that may affect how well-personalized marketing methods work in various situations, markets, and customer groups. In this investigation, we'll delve into the fascinating realm of customised digital marketing and use meta-analysis to reveal the complex influences it has on

consumers' purchasing decisions. By doing this, we hope to help people gain a better understanding of the part that personalised digital marketing plays in influencing the decisions of today's savvy customers.

We presented a conceptual model in the current paper that is based on articles that were read and looked at to determine how customers would respond to personalized digital advertising. In our study, we contend that these five elements form the primary foundation for consumers' perceptions of the advertising value of advertisements. Our meta-analysis suggests a favourable correlation between consumers' buying intentions and personalized commercials because personalized advertising provokes both positive and negative emotions that could affect customers' total purchasing intentions.

Digital marketing and purchase decision

The possibility that customers will buy a particular product is determined by their purchasing decision. This decision is based on an overall assessment of the intended purchase, encompassing both consumer interest and the feasibility of completing the transaction. Conceptually, it is grounded in behavioural intention theories, which have guided researchers in their understanding of this construct. Early researchers in the field drew upon two fundamental theories to shape their conceptualization of purchase decisions. Purchase decision, as used in the framework of online commerce, refers to whether customers are forming intents or desires in making a virtual purchase of a specific good or service. The primary focus of online advertising is to improve the interaction that customers have with a business or brand, thereby cultivating positive attitudes toward the entity and ultimately stimulating purchase intentions.

2.1 Advertising personalization

Advertising messages are sent to clients based on their user statistics, user preferences, surroundings, and subject matter when they are personalized. "The knack of an enterprise to identify with and accommodate its clients as distinct people through personal communication, tailored ad campaigns, incentives on bills, or additional private transactions" is the definition of personalization. Consumers want information that is pertinent to them and aligns with their passions; therefore, they desire to receive it in this way. The bond with the target audience will be strengthened if the promotion can be made to feel a little more personal. Additionally, clients explicitly indicate that the power of marketing to provide knowledge is the main factor in adopting it, making the educational value of the commercials a vital factor in determining its worth and crucial to its efficacy. Based on the discussion, we formulate a research question:

"What is the impact of personalized digital marketing strategies on consumers' purchase decisions across different industries and demographics?"

Based on the research question formulated, we propose the following hypothesis to analyze it.

H1: Mobile advertising has a positive impact on consumer purchase intention.

H2: Targeting the audience has a positive impact on consumer purchase intention.

H3: Interactivity has a positive impact on consumer purchase intention.

H4: Informativeness has a positive impact on consumer purchase intention.

H5: Personalization of contents in ads has a positive impact on consumer purchase intention.

H6: Privacy concerns have an impact on consumer purchase intention.

Investigating technique

The PRISMA (Preferred Reporting of Items for Systematic Review and Meta-Analysis) methodology suggests gathering data from several databases of scientific journals. Numerous prestigious scientific journals have used, cited, and acknowledged PRISMA. The review process implements particular criteria to determine which papers should be included and which should be removed. Between January 2015 and April 2023, we searched peer-reviewed journals (such as Science Direct, Sage Journals, Emerald Library, ISI Web of Science, Taylor & Francis) for publications about how personalized digital marketing influences customer purchase decisions. For the selected publications to be considered in this review, the terms “purchase intention” and “digital marketing”, as well as at least one of the words or phrases “interactivity,” “personalization,” “quantitative,” and “privacy” must appear in the titles or keywords. The article title, abstract, and keywords were the other three main critical components of possible articles that the search method was utilized to target. Additionally, we use Google Scholar to look for related publications online in order to include any pertinent research.

3.1 Inclusion and exclusion criteria

According to the following criteria, studies were chosen for the meta-analysis. First, empirical investigations with English-language writing have reported correlation coefficients between the study's constructs. The only articles covered are those that were released between 2015 and 2023. Studies relating to qualitative analysis were not included; only those presenting empirical data and quantitative analysis were. Studies written in regional tongues other than English were not included.

Sixty-three records were found after querying the database during the search. During the screening phase of the study's second phase, it was found that 11 records had duplicate entries. After these entries were removed, 52 articles remained. 13 abstracts from these 52 papers were disqualified because they didn't adhere to the rules after being reviewed. After examining the remaining 39

publications, 16 were found to be unreliable since they did not meet the criteria for inclusion and were opinion papers and literature reviews rather than empirical research investigations. The meta-analysis comprised 23 publications with both qualitative and quantitative research methods.

3.2 Coding and meta-analysis procedure

We created a coding methodology outlining the data that would be taken from each trial in the manner described below: (1) Sample Size, (2) Year of Publication, (3) Country of Research, (4) Online/Paper Questionnaire Type, (6) The survey platform. The random effect model has been applied, which makes the assumption that the genuine impact size changes arbitrarily between investigations.

Table 1: Study information utilized in the meta-analysis.

Author and year	Sample size	country	Survey platform
Omar and Atteya, 2020	213	Egypt	Random Online survey
Al-Azzam and Al-Mizeed 2021	220	Jordan	Random online survey
Xiao et al., 2019	372	China	Online survey on cross-border online shoppers
Hanaysha 2022	258	UAE	Survey on fast food customers
Giao and Vuong, 2020	490	Vietnam	Online survey via Email and Facebook
Yu et al., 2020	446	China	Online survey on WeChat users
Hasan and Sohail 2021	314	Saudi Arabia	Online survey via social media platforms
Zhu and Kanjanamekanant 2021	349	Taiwan	Online market survey
Ardiansyah and Sarwoko 2020	100	Bali	Online survey via Instagram

Trivedi and Sama 2020	421	India	Online survey via Facebook
Lee and Cho, 2019	269	South Korea	Random survey
Saima and Khan, 2020	76	India	Online survey via social media platforms
Shanahan et al., 2019	242	USA	Survey on random consumers
Alalwan et al., 2020	323	Vietnam	Online survey on mobile shopping users
Mustafi and Hosain, 2020	281	Bangladesh	Online survey Email
Setyani et al., 2019	862	Indonesia	Online survey via social media platforms
Choedon. and Lee 2020	219	Korean	Survey on Online Cosmetic Buyers
Martins et al., 2019	303	Portugal	Survey among smartphone users
Morimoto 2021.	600	Japan	Online survey among social media users
Siraj et al 2021	200	Pakistan	Random survey
Bues et al. 2017	1394	Germany	Online survey among smartphone users
Alalwan 2018	437	Jordan	Survey via social media platforms
Gaber et al., 2019	412	Egypt	Online survey

Results

Item reliability was assessed in this study by calculating the average Cronbach's alpha for each study. The estimated Cronbach alpha, which indicates adequate internal consistency for confirmation purposes, is between 0.726 and 0.95, as shown in Table 2. This is a fantastic result.

Table 2: Hypothesis tested and Cronbach's alpha data extracted from studies.

Author and year	Hypothesis tested	Hypothesis supported or not	Cronbach's alpha
Omar and Atteya, 2020	H1, H2	Supported	0.881
Al-Azzam and Al-Mizeed 2021	H1, H2	Supported	0.802
Xiao et al., 2019	H1, H2, H5	Supported	0.765
Hanaysha 2022	H3, H4,	Supported	0.733
Giao and Vuong, 2020	H4, H6	Supported	0.823
Yu et al., 2020	H2, H4, H5, H6	Supported	0.815
Hasan and Sohail 2021	H3, H5	Supported	0.839
Zhu and Kanjanamekanant 2021	H5, H6, H2	Supported	0.924
Ardiansyah and Sarwoko 2020	H1	Supported	0.842
Trivedi and Sama 2020	H2, H5	Supported	0.8695
Lee and Cho, 2019	H2, H3, H6	Supported	0.95
Saima and Khan, 2020	H2, H4	Supported	0.876
Shanahan et al., 2019	H5	Supported	0.885

Alalwan et al., 2020	H5, H2	Supported	0.914
Mustafi and Hosain, 2020	H2, H5	Supported	0.904
Setyani et al 2019	H5, H4	Supported	0.845
Choedon. and Lee 2020	H1, H3, H5	Supported	0.918
Martins et al., 2019	H2, H5	Supported	0.884
Morimoto 2021.	H6, H3	Supported	0.812
Siraj et al 2021	H1	Supported	0.726
Bues et al. 2017	H1	Supported	0.931
Alalwan 2018	H2, H3	Supported	0.935
Gaber et al., 2019	H5	supported	

The correlation coefficients and 95% confidence intervals shown in Table 3 help to clarify the connections between various variables and “Purchase intention.” These correlations shed light on the direction and strength of the linear relationships between each variable and a consumer’s propensity to buy. For instance, the substantial positive correlation of 0.53 for “Audience targeting” indicates that there is a significant increase in purchase intention as the effectiveness of audience targeting rises. On the other hand, albeit with varied degrees, the moderately favourable correlations for “Advertising” (0.38), “Informativeness” (0.47), “Personalization” (0.45), and “Interactivity” (0.59) also suggest good associations. Additionally, “privacy concerns” have a smaller positive correlation (0.36), suggesting a less significant impact on purchase intention. We may be quite certain that the true correlation is somewhere within this range because the breadth of the confidence interval in this example is rather small (0.224), suggesting that the estimate is relatively accurate. Wider gaps imply greater uncertainty and variability in the interactions between the components and “Purchase intention,” while narrower intervals show greater confidence in the results. The characteristics of personalized digital marketing have a positive link with consumers’ buying intentions, according to the correlation data, and these factors have a substantial impact on online customers’ decision-making ($p < 0.001$). The findings revealed that all of the assumptions were backed by the reviewed literature.

Table 3: Correlation between digital marketing factors and purchase and intention

	Purchase intention	
	Correlation	95% confidence interval
Advertising	0.38	0.183
Audience targeting	0.53	0.112
Interactivity	0.59	0.131
Informativeness	0.47	0.065
Personalization	0.45	0.128
Privacy concerns	0.36	0.244

The corresponding p-value of 0.1314 in this ANOVA study (table 4) of correlation values across several factors indicates that there may not be enough data to definitively claim significant differences between the factors. It should be noted that the p-value is more than the standard significance threshold of 0.05. The critical F-value (F crit) is 2.4772 at the 0.05 significance level, exceeding the F-statistic in this case. While this is going on, random fluctuations are sometimes blamed for the “Within Groups” variation, or variation in correlation according to different authors. The null hypothesis, which states that there are no significant differences between the groups, may not be sufficiently refuted based on these data.

Table 4: ANOVA test of correlation values across reviewed studies

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.27229	5	0.05446	1.83127	0.13139	2.47717
Within Groups	1.07055	36	0.02974			

Total	1.34284	41				

Discussion

This study makes a number of theoretical advances because personalized digital marketing is a young topic of study, and there hasn't been a quantitative synthesis of empirical data yet. By conducting the first meta-analysis and looking at how consumer perceptions relate to Purchase Intention, this study closes this gap in the literature. Because it combines findings from research, the uniqueness of this study is significant in arguing how the complete body of tangible proof should be interpreted. The results show a favourable trend that is in line with the included studies in the research. The association between Purchase intention and personalized digital marketing elements, however, continues to have a significant and beneficial relationship with an immense impact size, according to our data. In terms of cross-border intention to buy online, specific suggestion signals had the biggest impact, subsequently followed by social assessment cues in second place, marketing through content cues in third place, and digital promotion cues in fourth place (Xiao et al., 2019). It demonstrates that online shoppers want two things: first, a straightforward method for buying products online, and second, to enjoy the experience of doing so. When customers purchase imported goods on international e-commerce platforms, they look for more than just high quality; they also want their emotional and social demands to be met (Xiao et al., 2019). Customers will have more opportunities to interact with brand marketing thanks to personalized brand messages on social media platforms, which will encourage purchase behaviour (Hanaysha 2022).

In addition to providing the customer with information about the product or service, the advertisement's appealing design and message also make the consumer pleased and more intrigued by it. In addition to providing the customer with information about the product or service, the advertisement's appealing design and message also make the consumer pleased and more intrigued by it. The use of a higher degree of brand recognition, information quality, visual attractiveness, and product connection to the customer improved their intention to click through on ads. The findings showed that more visible customer click-through intent could be promoted by commercials with higher levels of product interaction (Giao and Vuong, 2020).

The positive effects of the determinants of client participation in social media on intention to buy and loyalty to a brand logically justify using social media for overseeing consumer-brand interaction operations. Brand executives shouldn't use Facebook or Twitter as a means of promotion just because other brand managers are using it; instead, they should use SMM as a source for gaining in-depth insight data on consumers' preferences and behavioural intentions and trends (Hasan and Sohail 2021). By offering incentives (such as gifts and bonuses), SMM practitioners can promote regular use. They can also create customer websites to increase customer engagement with the companies

(Hasan and Sohail 2021). Customers are reasonable in the case of high-involvement products; therefore, it takes them longer and more effort to assess particular product performances and qualities (Ardiansyah and Sarwoko 2020). This study's contribution is distinctive since it looked at the role of message involvement from the standpoint of influencer marketing (Trivedi and Sama, 2020). Consumers' levels of attention to DS advertisements have a significant impact on how well they remember them and how they perceive them. This research suggests that it may be crucial to monitor how much time people spend watching DS advertisements, as this information can be used to assess how effective DS advertising is (Lee and Cho 2019). Given that innovators strive to frequently create and post educational content with the aim of drawing and keeping their followers on social media, it stands to reason that this value for learning has a significant impact on the planned purchases of their followers (Saima and Khan, 2020). Users of social media anticipate high-quality and engaging content from influencers, and this affects their intent to buy (Saima and Khan, 2020). One distinctive feature that elevates an electronic purchasing experience is the availability to purchase anywhere (Alalwan et al., 2020). When using mobile commerce services, users will be inclined to interact cautiously, mentally, and diligently in their purchases as long as it appears that the goods, offerings, data, and graphical interface have been specially tailored to their needs. Additionally, clients who purchase on their phones will feel distinct thanks to a high level of personalization, which enhances the emotional and hedonic aspects of customer engagement. Since users report an elevated degree of agility, mobile commerce channels have the ability to meet their demands (Alalwan et al., 2020). Mobile shopping channels are able to live up to customers' expectations because of the high level of responsiveness observed by users (Setyani et al., 2019); the most important element is incentives (Martins et al., 2019). In turn, utilitarian and hedonistic click-through motivations add to the temptation to make hasty purchases (Setyani et al., 2019). The development of user data analysis has made it possible for personalized adverts to reflect and meet a user's deeper requirements, needs that even the user may not be aware of (Choedon and Lee 2020).

A person's competency in information control and the decrease of privacy concerns might be influenced by their confidence in managing personal information. Additionally, privacy issues forecast the ways in which advertising consequences, such as avoidance and perceived intrusiveness, would turn out. Information control thus plays a key role in determining social media users' perceptions of personalized advertising and privacy worry levels and responses (Morimoto 2021). Ad attitudes and avoidance are unaffected by persuasion knowledge, which may be because social media marketing is seen as a normal practice among businesses. Consumers were more concerned about their privacy when viewing ads on Twitter than on Instagram or LINE, according to a platform-based analysis of aspects associated with advertising. Furthermore, they felt less positively about Twitter's personalized adverts than LINE's or Facebook's. Consumers also tended to steer clear of personalized adverts on Twitter more so than on LINE and Facebook (Morimoto 2021).

It should be evident that communications influence consumers' intentions to make purchases, according to the principal effect of personalization. However, managers should weigh the cost of establishing and running a loyalty program against the potential incremental benefits resulting from localized and personalized mobile in-store messages. According to the interaction effect, the

incremental benefits are possibly negligible and may not be worth the extra expense of customization. Retailers who already localize their mobile in-store advertising may not benefit from personalization (Bues et al., 2017). Customers will be more likely to find social media advertising useful and fun to follow if they consider it to have an existing degree of interaction, which will encourage them to buy the goods or services advertised in the advertisement (Alalwan 2018).

The unforeseen dearth of data proving the connection between personalization and consumer opinions can be explained by firms' failure to communicate to consumers that commercials are personalized to their preferences. This may also be a result of the fact that Instagram usage by Egyptian companies is still in its nascent stages, which prevents many businesses from being able to customize their advertisements to the preferences of the customers they are targeting (Gaber et al., 2019).

Conclusion

The combined results show a convincing link between customized marketing approaches and higher customer engagement and conversion rates. This analysis highlights the importance of personalization in contemporary marketing strategies by synthesizing a variety of studies. The results significantly impact companies looking to improve their marketing approaches, underscoring the need for ramifications for companies looking to improve their marketing approaches and the need for data-driven customization. Using technology to recognize and cater to individual preferences can improve customer satisfaction and eventually increase sales. Companies must adapt as the digital landscape changes in order to take advantage of personalized marketing's potential to influence consumer behaviour and purchasing decisions.

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