

The Impact of Artificial Intelligence Dimensions on Digital Marketing Outcomes: Perspectives of Marketing Managers in Jordanian Manufacturing Companies

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Abstract. This study examines the impact of artificial intelligence (AI) dimensions (data analysis and insights, predictive analytics, marketing automation, content creation, and ad targeting) on digital marketing outcomes (targeting and segmentation, personalization and customer experience, customer service and chatbots) from the perspective of marketing managers in Jordanian manufacturing companies. A quantitative methodology was employed, using a questionnaire to collect data from 333 marketing managers. The findings confirm that AI dimensions have a significant positive influence on digital marketing outcomes, with content creation being the most influential dimension. The study contributes to the understanding of how AI can enhance digital marketing strategies and provides practical insights for marketing managers. The authors recommend increasing employees' awareness and comprehension of AI in marketing and prioritizing the use of natural language processing techniques in content creation. Current study may have a role in increasing awareness of organizations regarding the positive influence of AI in the marketing industry, which may lead to more creative and innovative usage of AI in digital marketing.

Keywords: Artificial Intelligence, Digital Marketing, Customer Experience, Content, Targeting, Segmentation, Market, Data Analytics

1. Introduction

In the field of digital marketing, artificial intelligence (AI) is gaining popularity; the majority of firms are either utilizing it or considering it (Bag et al., 2022). AI may help businesses better understand their clients and more precisely target their marketing initiatives, which is why there has been a move from tools to figures (Saba et al., 2023). Varadarajan et al. (2022) claim that (AI) is utilized to produce interesting content, learn about target audiences, and outperform competitors in the digital market.

Han et al. (2022) stated that the entry of AI into the world of digital marketing was not a mere coincidence, but rather an inevitable result, in which the advantages of this technology converge with the goals of digital marketing. Therefore, we developed the science of digital marketing using AI, not only to develop the marketing process, but also to develop the target audience and its desires (George et al., 2022).

According to Van Esch and Stewart Black's (2021) research, digital marketing has undergone a revolution thanks to AI. This was accomplished by affecting a number of marketing-related factors, such as content creation, reaching target audiences, cutting campaign expenses, and improving customer experience management. The study also demonstrated that, based on social media, AI and digital marketing may convert a prospective consumer base into actual customers. Regarding the most often employed concepts, procedures, and strategies, the two experts did concur that the world is still in the early stages of completely utilizing AI in the field of marketing.

2. Literature Review

2.1. AI in Marketing Industry

Artificial Intelligence (AI) refers to the usage of technological techniques, tools and programs in order to complete a work or a task that normally requires a human force as according to Nair and Gupta (2021). Through the time, AI managed to enter many fields of life including education, medicine marketing and trade. Nowadays, many organizations depend on AI techniques in order to perform their internal and external operations in the best way possible (Verma et al., 2021; Hashem, 2021).

The idea of AI entering the world of marketing was revolutionary to the degree that organizations began to see positive results so soon. According to Vlačić et al. (2021), the idea of AI as a part of the marketing efforts resembled a step forward in presenting marketing outcomes that are far from the humans can reach. From the perspective of Chintalapati and Pandey (2022), involving AI in marketing means that all the data that are gathered through marketing campaign, are used and exploited for the benefit of the organization in a form of information that support decision making process. Huang and Rust (2022) agreed on the same idea arguing that AI in marketing was a transformational approach that enabled organizations to be more productive in the field of marketing which may lead to better organizational performance and competitive advantages.

Wisetsri et al. (2021) argued that AI managed to impact the marketing industry with many positive effects that included the ability to manage the huge amount of data that organizations get due to their marketing campaigns. Mustak et al. (2021) agreed on the same idea and argued that AI in marketing made marketing industry more resilient to challenges and risks including practices that managed the affairs of customers in a more personalized and customized approach. This managed one or another to deepen the effect of AI in marketing to the level of positively influencing customer relationship management through increasing customers' loyalty and satisfaction (Huang and Rust, 2021).

Theodoridis and Gkikas (2019) and Gkikas and Theodoridis (2019) presented some of the main and most obvious positive dimensions on which AI had an influence on in the marketing industry:

Data Analysis and Insights

Depending on the internet to perform organizational practices and utilizing AI techniques in many field of organizational efforts requires the organization to be connected to the internet 24/7. This means that a huge amount of data is travelling to the organizational channels which means more tools to exploit for the benefit of the organization. AI in marketing manages to collect, classify, analyze and store this huge data. After that, AI techniques can reach certain patterns and trends in the data which are

transformed into information that appear in the real-time and help decision makers and responsible authority be informed with the updates that might appear in the process.

Predictive Analytics

This dimension is connected to data analysis. When AI analyze the huge amount of data that an organization reach, and classify it to reach patterns and trends, it can also predict some information based on those patterns and trends that would make the decision making process easier. It also can support decision makers with the needed insights and information that can lead through the circumstances of risks and unpredictable turbulence which in its turn may lead the risks management strategies in a better way.

Marketing Automation

The idea of automating the market means to transform all the daily and repetitive tasks to be automated. This means that responsible parties are more focused on the strategic aspects. When there is a technique that monitors the development of the marketing campaign, decision makers can focus more on reaching agile solutions for possible dilemmas, and support them with alternative plans in case the first option didn't work well. Marketing automation utilizes many algorithms in order to support the decision making process by enhancing marketing practices like presenting personalized experience, customer service and study closely the changes in customer behavior.

Content Creation

AI affects the content dimension in terms of activating the idea of creating content through AI technologies such as blogs, posts, product descriptions, and many others. This is done by adopting pre-defined templates or guidelines established by stakeholders. AI can create content through natural language processing (NLP), which enables AI technologies to understand human language and provide correct content that matches the organization's desires and directives. It is also possible to support the idea of AI in marketing by organizing the required content to reach relevant and attractive content to the target audiences. This is done by automating repetitive processes and organizing the accessed content based on correct consistency and valuable content.

Ad Targeting

In the marketing industry, ad targeting is crucial since without reaching the intended demographic, advertising would be a waste of time and money. AI-based ad targeting methods rely on the analysis of pre-existing data that may be accessible via a direct Internet connection. Large volumes of data, including demographics, browsing, and purchase histories, are analyzed by this technology; as a result, AI algorithms are able to segment audiences and identify groupings the ideal target for particular advertisements.

2.2. Digital Marketing

Saura (2021) defines digital marketing as a collection of marketing techniques and initiatives that make use of sophisticated digital media, tools, and software. Digital marketing typically makes use of and benefits from digital resources to provide high-caliber marketing outcomes that enhance the marketing performance of the company. Olson et al. (2021) observed that there is no denying the impact of technology on an organization's performance, particularly in the area of marketing, since digital marketing relies on utilizing the vast amounts of data that are available to the organization. As a result, digital marketing strategies are developed in a way that supports marketing campaigns and is predicated on time and effort savings. Pandey and colleagues

Herhausen et al. (2020) and Kingsnorth (2022) considered digital marketing to be one of the most promising marketing transformations in the industry. It is based on presenting many helpful insights for decision-makers to make the right decision in real time based on data analytics. The most beneficial outcomes of digital marketing are presented by Ikumoro and Jawad (2019), Khan and Iqbal (2020), Chaitanya et al. (2023), Patel and Trivedi (2020), Schipmann (2019), Hashem (2023), and Thilagavathy and Kumar (2021).

Targeting and Segmentation

It is the process of dividing the market into smaller, more precise parts and defining them based on different characteristics and criteria that characterize the components of these parts. Through this process, marketers are able to allocate resources and efforts to serve the marketing campaign, such as reaching a specific, targeted group of consumers. The idea of target and segmentation is based on the principle of analyzing data related to consumers and determining their composition and behaviors, in addition to their geographical location and preferences.

Personalization and Customer Experience

Personalization in marketing is very important and influential, as customization refers to designing marketing messages directed to a specific category of consumers capable of meeting their needs, which digital marketing has reached through data analysis. The data that the organization accesses is usually used in order to attempt to allocate marketing efforts, including regulating and rationalizing the consumption of financial and marketing resources. Personalization is considered one of the most important marketing practices capable of ensuring a high level of interaction from customers, as they feel appreciated, which increases their loyalty and satisfaction with the organization and strengthens long-term relationships (Hashem, et al.,2023).

Customer Service and Chatbot

Customer service is very important in the marketing sector because the first and last goal of organizations in marketing campaigns is to reach customers, their satisfaction and their loyalty. Hence, customer service in digital marketing is a matter that has become at a high level in technology and speed, because it has become dependent on various technologies of rapid robotic services that are able to provide support and assistance upon request and in real time. In digital marketing, customer service today depends on online platforms such as websites, social media, and messaging applications. Organizations have also come to rely on chatbots as automated conversational agents that provide service to customers and answer their inquiries.

Gkikas and Theodoridis (2019), the researchers aimed to uncover the relationship between AI and digital marketing and the impact of machine learning as one of the AI techniques on digital marketing outcomes. Through a review of previous literature; the study reached the conclusion that there is a significant impact of AI, specifically machine learning, on digital marketing outcomes by providing information about **consumer behaviors based on predictive consumer modeling, in addition to facilitating the task of dealing with targeted advertisements, and the role of chat bots in enhancing consumer experience and demonstrating the possibility of reaching target customers** in a more effective way than traditional methods known in marketing.

Ribeiro and Reis (2020), the researchers aimed to reveal the impact of AI on digital marketing through qualitative methodology and based on interviews with (15) experts from various industries related to marketing and AI. The study reached the conclusion that AI has a positive impact on digital marketing by automating human tasks, and integrating AI into digital marketing contributes to enhancing dealing with the amount of huge data flowing to the organization and employing it to strengthen the foundations of decision-making through **data analytics and predictive analytics**, which leads to improving the level of consumer services by relying on chatbots, in addition to providing **a more personalized experience for consumers**.

Mogaji et al. (2020) started their study from the idea that AI is able to bring about a major revolution in digital marketing by enhancing customers' access to various financial and marketing services based on **data analysis and predictive analytics**. In addition, researchers have confirmed that analytical algorithms in AI are able to **target customers and ensure a better and more personalized experience for them**. However, the study confirmed that human communication with customers is more effective and better than relying on chatbots.

Dumitriu and Popescu (2020) analyzed the impact of AI on digital marketing practices, and the study confirmed that digital marketing practices today depend on reducing reliance on classic practices by adopting smart processes that are **less complex and more personalized to the consumer**. This is done through various algorithms that contribute to **enhancing access to target customers, improving their experience, and improving the level of real-time services through smart chatbots**.

Considering what was mentioned above regarding recent studies, it can be seen that AI in all its forms can play a role in supporting digital marketing efforts in order to present a better marketing performance for organizations. The apparent gap here is in determining the gap, the gap revolves around identifying the aspects of AI that can facilitate reaching a better digital marketing outcomes among a chosen sector in Jordan. Depending on results of the previously adopted studies, this current research hypothesize that AI has a statistical influence on digital marketing outcomes. In order to detail the hypothesis in more convenient approach, the researcher argued that AI with its dimensions (data analysis and insights, predictive analytics, marketing automation, content creation, ad targeting) is able to positively influence digital marketing outcomes in terms of (targeting and segmentation, personalization and customer experience, customer service and chatbots).

Determining the gap and realizing the main aim of study, we can say here that our research is a trial to answer the following question:

How can artificial intelligence play a role in supporting digital marketing outcomes according to marketing managers within manufacturing companies in Jordan?

Realizing that aim required author to achieve the following objectives:

1. Explore the meaning of AI within digital marketing environment
2. Investigate aspects in which AI can enhance digital marketing
3. Clear out how AI may enhance digital marketing outcomes

Taking a deep look at the literature review, and more understanding of previous studies, it can be seen that previous studies presented a very good comprehension of the role of AI in digital marketing, however, in current study the aim will be to look at the am from a different perspective, this perspective includes aspects like (data analysis and insights, predictive analytics, marketing automation, content creation, ad targeting) is able to positively influence digital marketing outcomes in terms of (targeting and segmentation, personalization and customer experience, customer service and chatbots). In order to give the study hypothesis a more realized character, the following figure highlighted the relationship between study variable as according to researcher’s point of view and the adopted previous studies:

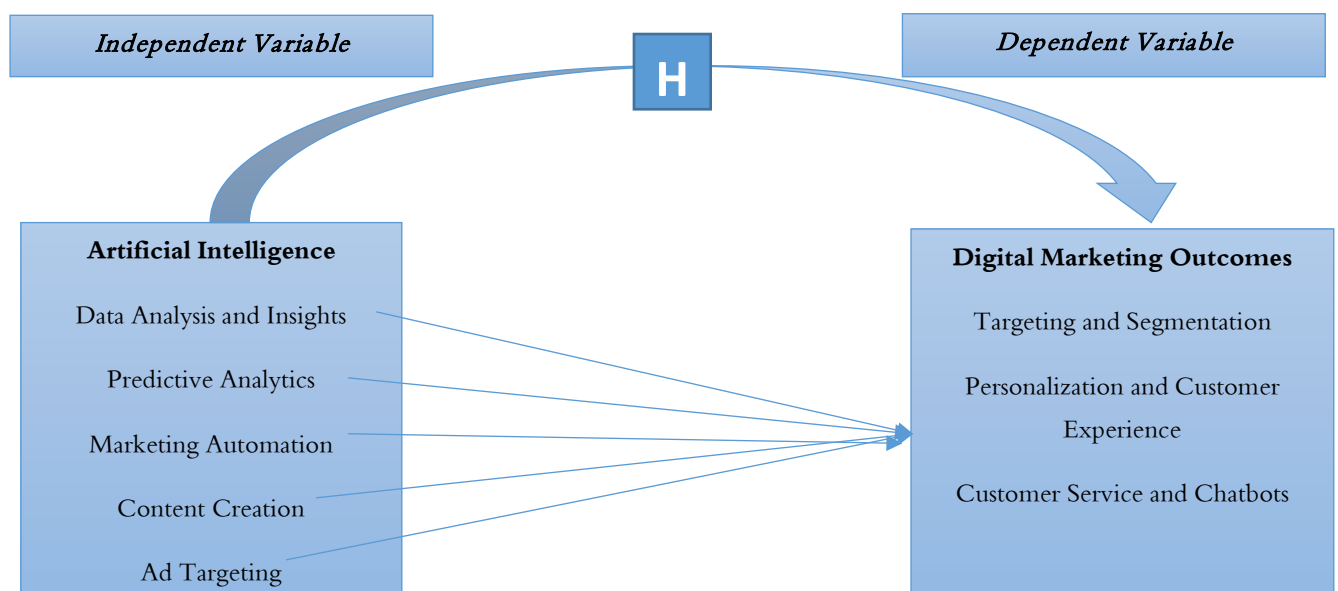


Figure 1. Study Model Theodoridis and Gkikas (2019) and Gkikas and Theodoridis (2019)

From the model above, now we can present the study hypotheses according to the distribution of the arrows highlighted in the model:

H: AI has a statistical influence on digital marketing outcomes

- H1:** Data analysis and insights have a statistical influence on digital marketing outcomes
- H2:** Predictive analytics have a statistical influence on digital marketing outcomes
- H3:** Marketing automation has a statistical influence on digital marketing outcomes

H4: Content creation has a statistical influence on digital marketing outcomes

H5: Ad targeting has a statistical influence on digital marketing outcomes

3. Methods and Materials

3.1. Methodological Approach

Answering the main question of current study and realizing its aim was done utilizing quantitative methodology. This methodology seemed to be more suitable in collecting data from a larger sample size. This way results can be generalized more thoroughly.

3.2. Tool of Study

A questionnaire was the main data collection tool in current study. The questionnaire consisted of two parts. The first part consisted of demographics of study sample including (gender, age, qualification and experience). The other part consisted of statements related to study sub-variables (**AI/ Data Analysis and Insights, Predictive Analytics, Marketing Automation, Content Creation, Ad Targeting, and Digital Marketing Outcomes/ Targeting and Segmentation, Personalization and Customer Experience, Customer Service and Chatbots**) from different sources including Theodoridis and Gkikas (2019) and Gkikas and Theodoridis (2019). The questionnaire was built on Likert 5-point scale that ranged between 1 strongly disagree up to 5 strongly agree. It is worth mentioning here that researcher intended to check the validity of questionnaire, this was done through arbitration. The questionnaire was presented before a group of specialized academics in the field for the sake of arbitration. Some statements were modified, others were deleted. The questionnaire in its final version consisted of (41) statements as according to table 1 below:

Table 1. Statements Distribution on Variables

Variable	# of Statements
AI	
Data Analysis and Insights	5
Predictive Analytics	5
Marketing Automation	5
Content Creation	5
Ad Targeting	5
Digital Marketing Outcomes	
Targeting and Segmentation	5
Personalization and Customer Experience	5
Customer Service and Chatbot	6
Total	41

3.3. Population and Sampling

Population of study consisted of marketing and promotion managers within industrial companies operating in Jordan during the financial year 2021-2023. A convenient sample of (415) individuals was chosen to represent population. After application process, researcher was able to retrieve (333) properly filled questionnaires. This indicated a response rate of (80.24%) as statistically accepted.

3.4. Statistical Processing

Statistical Package for Social Sciences V. 23rd was chosen to deal with the collected primary data. First of all, Cronbach's Alpha (α) was chosen to check the reliability and consistency of study tool as according to table 2, it was seen that the tool was reliable and consistent as all variables scored higher than 0.70. Other statistical tests included descriptive statistics (mean and standard deviation, frequency and percentage), multiple and linear regression. As for study hypotheses, they were tested depending on multiple and linear regression.

Table 2. Alpha Value

Variable	α
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Data Analysis and Insights	0.942
Predictive Analytics	0.934
Marketing Automation	0.906
Content Creation	0.933
Ad Targeting	0.881
Targeting and Segmentation	0.937
Personalization and Customer Experience	0.92
Customer Service and Chabot	0.928

3.5. Underpinning Theory

It is worth mentioning here that the current study, its aim and core concept was launched from the underpinning theory of **resource-based view theory (RBV)**. This theory is considered a theory related to organizations and focuses on the mechanism by which an organization's resources contribute to enhancing its competitiveness and market share. In the current study, we will look at the organization's mechanism for employing AI capabilities to enhance digital marketing in industrial organizations in Jordan. How AI can contribute to enhancing digital marketing outcomes specifically in the field of marketing effectiveness, efficiency, and targeting customers.

4. Analysis and Discussion

4.1. Demographics

Results of individuals' responses to demographics were reached in table 3 below. It was seen that majority of participants were males forming (69.7%) of the sample who were more than 40 years old forming 35.4% of the sample. They held (BA) degree forming (49.2%) of the sample, in addition to that, they had an experience of more than 12 years forming (42%) of the sample.

Table 3. Demographic Statistics

	f	%
Gender		
Male	232	69.7
Female	101	30.3
Age		
22-27	31	9.3
28-33	83	24.9
34-39	101	30.3
+40	118	35.4
Educational Level		
diploma and below	122	36.6
BA	164	49.2
High Studies	47	14.1
Experience		
Less than 3 years	26	7.8
4-7	52	15.6
8-11	115	34.5
+12	140	42.0
Total	333	100.0

4.2. Descriptive Statistics

Mean (μ) and standard deviation (σ) were processed on individuals' responses to questionnaire. It was seen that all statements and variable scored a mean that was higher than mean of scale 3.00. This indicated that the questionnaire content was positively received by participants. The highest variable **Customer Service and Chatbots** scored a mean of 4.15/5.00 compared to the lowest **Data Analysis and Insights** - but still positive – scoring a mean of 3.68/5.00. See table 4

Table 4. Questionnaire Analysis

Statement	μ	σ
ta analysis helps organizations gain valuable insights regarding customer behavior	3.634	1.229
ta analytics supports organizations with overall marketing effectiveness	3.781	1.253
Through data analytics and insights there would be a chance to identify trends and correlations in the marketing efforts	3.580	1.238
Data analytics can provide the organizations with data regarding intended audience and possible marketing campaigns	3.811	1.236
KPIs of marketing efforts can be measured through data analytics such as conversion rates, click-through rates, and return on investment (ROI)	3.640	1.226
Data Analysis and Insights	3.689	1.115
redictive analytics depends on historical data to predict real-time outcomes	4.123	.966
Predictive analytics have the ability to forecast future trends and support the organization with proactive decisions	3.874	1.062
rough prediction, marketers can explore patterns of customer behavior and intentions	4.051	.915
iction can help organizations explore the most profitable marketing campaigns	4.024	1.038
iction can always support organizations with customers' interactions and purchase history	3.895	.914
Predictive Analytics	3.993	.873
Automation of marketing may decrease repetitiveness of marketing tasks which is effective in time consuming	4.240	.855
Automation of marketing help marketers save time and scale their marketing skills	4.243	.877
Automation in marketing can provide a personalized marketing strategies that supports targeting customers	4.123	.821
The automation of marketing can track marketing efforts and present analytics that support decision making	4.231	.924
Marketing automation help marketing focus on the most promising marketing strategies	3.763	1.073
Marketing Automation	4.120	.779
Content creation has the ability to focus on engaging content	4.111	1.034
Content creation is able to build brand authority and visibility	3.844	1.114
Diverse content creation is able to meet different customer preferences	3.802	1.139
Content creation can intensify reach and impact	3.784	.976
Through content creation, marketers can analyze the influence of their strategies and effectiveness	4.177	.865
Content Creation	3.944	.915
Ad targeting can allow the delivery of personalized ads and content	3.844	.864
Ad targeting can be useful in terms of demographic data and browsing behavior of individuals	4.021	.971
Customers who are most likely to be interested in the products are reached through ad targeting	4.087	1.030
The advertising budgets are optimized according to ad targeting strategies	4.108	.909
Behavioral targeting is one of the benefits of ad targeting in digital advertising	3.730	1.212
Ad Targeting	3.958	.826
The ability of analyzing large amount of data help in targeting and segmentation	3.835	1.237

Working through algorithms can help in classifying targeted customers into segments	3.649	1.234
Segmentation is supported with real-time data that help decision making process	3.874	1.231
Targeting customer means efficient marketing strategies and less resource wasting	3.727	1.225
Through AI, segmentation can take place in real-time through multiple marketing channels	4.174	.982
Targeting and Segmentation	3.852	1.060
The dependency on analyzing large amount of data can provide detailed customer profiles for personalized marketing	3.943	1.067
Using AI can enhance customer experience and present more chances for better satisfaction and loyalty	4.120	.907
The automated customer support is lean towards enhancing customer experience	4.093	1.018
More personalized customer support means more loyalty and satisfaction	4.009	.893
Through AI, dynamic websites can be built for more personalized customer experience	4.270	.864
Personalization and Customer Experience	4.087	.830
Chatbot can provide automated and personalized customer support	4.273	.885
Chatbot in customer service saves time and efforts of depending on human force to answer to frequently asked questions FAQs	4.153	.834
With machine learning, chatbot would be more able to support customer service	4.276	.919
Chatbot enable instant and 24/7 support for customer which reduces risks and resources	3.793	1.093
Chatbot are able to handle more than one customer at one time which supports efforts and increase positivity of customer experience	4.147	1.029
Customer services is more resilient through depending on AI operated chatbot	4.306	.873
Customer Service and Chatbot	4.158	.810

4.3. Hypotheses Testing

Multiple regression was employed in order to test the main hypothesis which argued “AI has a statistical influence on digital marketing outcomes”. It was noted that AI demonstrate a highly significant and **positive correlation** with digital marketing ($r = 0.949$). The independent variables accounted for an additional **90.1%** of the total variance observed in the dependent variable. Furthermore, the statistical analysis indicates that the F value exhibits statistical significance at the 0.05 level. This finding indicates that AI has a statistical influence on digital marketing outcomes

Table 5. Testing Main Hypothesis Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square
		B	Std. Error	Beta				
1	(Constant)	.072	.079		.913	.362	.949 ^a	.901
	Data Analysis and Insights	.260	.020	.363	12.926	.000		
	Predictive Analytics	.211	.028	.231	7.530	.000		
	Marketing Automation	.436	.033	.426	13.093	.000		
	Content Creation	.082	.037	.095	2.251	.025		
	Ad Targeting	.012	.039	.012	.296	.767		

H: AI has a statistical influence on digital marketing outcomes

As for sub-hypotheses, researcher adopted linear regression for the sake of testing them statistically. Results as in table 5 indicated the following:

Data Analysis and Insights demonstrated a highly significant and positive correlation with the digital marketing ($r = 0.743$) and accounted **55.2%** of the total variance observed in the dependent variable. F value exhibits statistical significance at the 0.05 level. This finding indicates that Data analysis and insights have a statistical influence on digital marketing outcomes

Predictive Analytics demonstrated a highly significant and positive correlation with the dependent variable ($r = 0.834$) and accounted for **69.5%** of the total variance observed in the dependent variable. F value exhibits statistical significance at the 0.05 level. This finding indicates that Predictive analytics have a statistical influence on digital marketing outcomes.

Marketing Automation demonstrated a highly significant and positive correlation with the dependent variable ($r = 0.813$) and accounted for **66.1%** of the total variance observed in the dependent variable. F value exhibits statistical significance at the 0.05 level. This finding indicates that marketing automation has a statistical influence on digital marketing outcomes.

Content Creation demonstrated a highly significant and positive correlation with the dependent variable ($r = 0.867$) and accounted for **75.1%** of the total variance observed in the dependent variable. F value exhibits statistical significance at the 0.05 level. This finding indicates that Content creation has a statistical influence on digital marketing outcomes.

Ad Targeting demonstrated a highly significant and positive correlation with the dependent variable ($r = 0.848$) and accounted for **71.9%** of the total variance observed in the dependent variable. F value exhibits statistical significance at the 0.05 level. This finding indicates that Ad targeting has a statistical influence on digital marketing outcomes

Table 6. Testing Sub-Hypotheses

		Coefficients					R	R Square
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
Model		B	Std. Error	Beta				
1	(Constant)	2.078	.101		20.483	.000	.743 ^a	.552
	Data Analysis and Insights	.532	.026	.743	20.201	.000		

H1: Data analysis and insights have a statistical influence on digital marketing outcomes

		Coefficients					R	R Square
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
Model		B	Std. Error	Beta				
1	(Constant)	.997	.113		8.794	.000	.834 ^a	.695
	Predictive Analytics	.762	.028	.834	27.459	.000		

H2: Predictive analytics have a statistical influence on digital marketing outcomes

		Coefficients					R	R Square
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
Model		B	Std. Error	Beta				
1	(Constant)	.611	.137		4.446	.000	.813 ^a	.661
	Marketing Automation	.832	.033	.813	25.411	.000		

H3: Marketing automation has a statistical influence on digital marketing outcomes

		Coefficients					R	R Square
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
Model		B	Std. Error	Beta				
1	(Constant)	1.058	.097		10.929	.000	.867 ^a	.751
	Content Creation	.756	.024	.867	31.632	.000		

H4: Content creation has a statistical influence on digital marketing outcomes								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R square
		B	Std. Error	Beta				
1	(Constant)	.799	.114		7.028	.000	.848 ^a	.719
	Ad Targeting	.819	.028	.848	29.114	.000		

H5: Ad targeting has a statistical influence on digital marketing outcomes

4.4. Discussion

Researcher in current study hypothesized that AI has a statistical influence on digital marketing outcomes. In order to accept or reject the mentioned hypothesis, quantitative methodology was utilized, and a questionnaire was self-administered by (333) marketing and promotion managers within industrial companies operating in Jordan during the financial year 2021-2023. SPSS was utilized to analyze collected primary data. Through multiple and linear regression, results of study confirmed that AI has a statistical influence on digital marketing outcomes.

As it was highlighted before, current study intended to examine how AI managed to increase efficiency of AI in its dimensions (data analysis and insights, predictive analytics, marketing automation, content creation, ad targeting) on the outcomes of digital marketing dimensions (targeting and segmentation, personalization and customer experience, customer service and Chatbot). Results indicated that AI has the ability to influence digital marketing through influencing targeting and segmentation, personalization and customer experience, customer service and Chatbot, this appeared through study results which indicated that all AI dimensions mentioned (data analysis and insights, predictive analytics, marketing automation, content creation, ad targeting) had a strong correlation with digital marketing with content creation being the most influential dimension of all.

As according to table 6 above, content creation appeared to be the most influential AI dimension on digital marketing as it managed to score a highly significant and positive correlation with digital marketing and accounted for **75.1%** of the total variance observed. In that sense, the study proved that AI support content creation in digital marketing by analyzing data and looking at consumer interactions, preferences and tendencies, AI can create relevant content that has a greater impact on the audience. In addition to the ability of AI to create automatic content through machine learning, which is capable of writing various articles, compiling reports and information, and creating content suitable for individuals' preferences through social networking. This matter was agreed upon by Van Esch and Stewart Black (2021) and Gkikas and Theodoridis (2019) when they confirmed that AI affects digital marketing by customizing content and targeting customers based on their interaction and personal information, thus providing distinctive content to different target groups based on recommendations based on the preferences of target consumers.

As for the dimensions of AI (data analysis and insights, predictive analytics, marketing automation, and ad targeting), it was noted that they all had a strong correlation with digital marketing as a dependent variable. These results agreed matched Ribeiro and Reis (2020), Mogaji et al. (2020) and Dumitriu and Popescu (2020). They all stated the idea that AI in digital marketing supports data analytics and provide data in a more suitable method that can be utilized for the benefit of the organization. In addition to that, the study noted that AI enhances digital marketing strategies' resilience and agility through performance enhancement and continuous development.

5. Conclusion

This study demonstrates the significant impact of AI dimensions on digital marketing outcomes in Jordanian manufacturing companies. The findings highlight the importance of content creation, marketing automation, predictive analytics, and data analysis and insights in enhancing targeting and

segmentation, personalization and customer experience, and customer service. Marketing managers should prioritize these AI dimensions in their digital marketing strategies to improve outcomes and gain a competitive advantage. To capitalize on the benefits of AI in digital marketing, organizations should invest in increasing employees' awareness and comprehension of AI technologies and their potential applications in marketing. Additionally, prioritizing the use of natural language processing techniques in content creation can lead to more engaging and personalized content that resonates with target audiences. In conclusion, this study underscores the transformative potential of AI in digital marketing and provides valuable insights for marketing managers and researchers. By leveraging AI technologies strategically, organizations can enhance their digital marketing outcomes and stay competitive in the rapidly evolving marketing landscape.

5.1. Practical and Theoretical Implications

Current study was launched based on theoretical and practical implications. From a theoretical perspective, the current study will enrich the literature review with more and intensified information regarding the relationship between AI and digital marketing. From a practical perspective, the current study will play a role in increasing awareness of organizations regarding the positive influence of AI in the marketing industry, which may lead to more creative and innovative usage of AI in digital marketing.

5.2. Recommendations

As according to the presented results and discussion. The current study recommended:

- Increasing employees awareness and comprehension of AI in marketing
- Support marketing department of NLP techniques and programs in order to pay more attention to its usage in content creation.
- Increase organizational awareness that marketing in the digital age isn't only through social media platforms, it transcends more than social media

5.3. Limits of Study

Current study was limited to industrial organizations operating in Jordan through the financial year 2021 – 2022. Application of current study was limited to previous literature as a secondary data, and marketing managers are primary data. There was no involvement of any financial reports of organizations in the development of the study. In terms of ethics, researcher have gained a consent from participants to take part in the through their human resource department which helped in reaching the desired sample.

5.4. Future Studies

Launching from results and conclusion, researcher in current study recommended the following future research:

- Examine the usage of NLP techniques in content creation and its influence on organizational image
- Carry out a research that examines the influence of adopting AI techniques on brand equity

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