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ORIGINAL

The Effect of Artificial Intelligence on the Digital Content Creation Sector on Jordanian Media Organizations

El efecto de la inteligencia artificial en el sector de la creación de contenidos digitales en las organizaciones de medios de comunicación jordanas

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ABSTRACT

Introduction: artificial intelligence (AI) is a modern technology used in the field of media, including content production, text, audio, and visual content technologies. These technologies dramatically improve content development. Like the Internet, AI is evolving into a general-purpose technology with applications in a wide range of sectors.
Objective: this study aims to determine how advancements in AI, particularly in natural language processing (NLP), interactive machines, digital technologies, and technology adoption, influence the production and creation of digital content.
Method: this study employs a quantitative research design to analyze the relationship between artificial intelligence (AI) technologies and digital content creation. A sample size of 100 observations was generated, representing diverse Jordanian media organizations and industries employing AI for content creation.
Results: a significant model suggests that factors like NLP, interactive machines, and technology adoption significantly impact digital content creation.
Conclusion: the independent variables (AI technologies) collectively explain a substantial part of the variance in digital content creation.

Keywords: Artificial Intelligence; Natural Language Processing; Interactive Machines; Digital Technologies; Technology Adoption; Creation of Digital Content.

RESUMEN

Introducción: la inteligencia artificial (IA) es una tecnología moderna utilizada en el campo de los medios de comunicación, incluyendo la producción de contenidos, tecnologías de texto, audio y contenidos visuales. Estas tecnologías mejoran drásticamente el desarrollo de contenidos. Al igual que Internet, la IA está evolucionando hacia una tecnología de uso general con aplicaciones en una amplia gama de sectores.
Objetivo: este estudio tiene como objetivo determinar cómo los avances en IA, en particular en el procesamiento del lenguaje natural (PLN), las máquinas interactivas, las tecnologías digitales y la adopción de tecnología, influyen en la producción y creación de contenidos digitales.
Método: este estudio emplea un diseño de investigación cuantitativa para analizar la relación entre las tecnologías de inteligencia artificial (IA) y la creación de contenidos digitales. Se generó una muestra de 100 observaciones, que representan diversas organizaciones de medios de comunicación e industrias jordanas que emplean IA para la creación de contenidos.
Resultados: un modelo significativo sugiere que factores como el PLN, las máquinas interactivas y la adopción de tecnología tienen un impacto significativo en la creación de contenidos digitales.

Conclusión: las variables independientes (tecnologías de IA) explican colectivamente una parte sustancial de la varianza en la creación de contenidos digitales.

Palabras clave: Inteligencia Artificial; Procesamiento del Lenguaje Natural; Máquinas Interactivas; Tecnologías Digitales; Adopción de Tecnología; Creación de Contenidos Digitales.

INTRODUCTION

The world is experiencing technological advancements and innovations that will transform how people live and work and how organizations operate.[1] One of these transformative technologies is artificial intelligence (AI).[2] Firms from various industries have used AI in recent years, altering how firms operate, make decisions, and communicate internally and with external stakeholders.[3] Furthermore, the practical use of AI is gaining ground in all business, industrial, and service sectors worldwide, as well as the public sector. It was reported that AI greatly enhanced management at many organizational levels, enabling task management and administration of daily activities without the involvement of the human workforce.[4] The effects of AI on practically automated operations appeared to be one of the primary importance of AI in realistic possibilities. Also, AI technology appeared as a timesaving and capacity- or productivity-enhancing factor in various practical implementations.[5] Similarly, the use of AI-enabled improved analysis of complex problems served as the basis for developing practical recommendations for better results and organizational objectives.[6] AI programming is the actual supercomputer because programmed algorithms recognize project or task cores and manage them as effectively as possible, resulting in major advantages, and the AI business is rapidly expanding as an important component of the technology sector. The AI integration requires access to the settings' properties and objects to generate judgmental realities based on the information provided. AI is often built on machine learning cores that mimic human intelligence.[7]

AI integration in digital media has altered content creation, distribution, and analytics, allowing for unprecedented levels of personalization, efficiency, and insights. Because AI applications have a wide range of effects on organizational processes, communication channels, delivered products and services, digital content, and decision-making processes, as well as on improving customer experience and voice of customer approaches, AI has the potential to greatly contribute to the success of public sector organizations.[8] One of the key areas impacted by AI in digital media is media creation, which has a bidirectional power relationship to consumption. Therefore, AI has been heralded by many in the industry as the game-changing technology of the digital age and the electricity of the century that will run everything.[9] Additionally, it was suggested that as all businesses now need to integrate AI capabilities into their operations, the adoption of AI is a question of timing and strategy.[10] Instead of buying a single tool or piece of technology, the value of AI seems to be in building a foundation of competences for enterprises.[11] Thus, the landscape of digital media has changed dramatically in recent years, owing to significant advances in AI. AI technology has infiltrated many aspects of digital media, transforming how material is made, disseminated, and consumed. Furthermore, AI-powered analytics enable deeper insights into audience behavior, enabling more informed decision-making and strategic planning. Therefore, media companies, like other digital firms, must react swiftly and efficiently to audience expectations in today's data-driven and direct-to-consumer market. Also, media businesses must develop captivating, one-of-a-kind experiences for every consumer in context, now and forever, as media becomes more integrated into consumers' everyday lives and technological bundles.[12]

As a result, new media refers to highly engaging digital technology that allows people to participate at any time and from any location. Portable technologies including digital gadgets, personal computers, mobile platforms, and virtual computing machines have made it easier to access new-age media.[13] Social networking sites, blogs, news websites, digital games, and virtual reality are all considered "new media," as is any communication that is swiftly processed, stored, and transmitted in data form. The availability, speed of data access, repeatability, and storage capacity are the main attributes of new media.[14] Therefore, media companies must analyze resonance, understand audiences' attitudes and preferences toward content and characters, and promptly match content to audience choices to serve audiences as unique individuals.[15] To accomplish this, media companies need to glean insights from large databases and take immediate action. Such a situation cannot be handled by the outdated approach to collecting and evaluating audience data.[16] For example, as the demand for online video on numerous screens grows, AI may assist media businesses in mass personalizing video content experiences more quickly and effectively.[17] As a result, AI's primary influence has been and will continue to be on the demand side of media, particularly in terms of how content is matched to consumers.[18] The use of cognitive technology improves the ability to match content with demand, optimize content management, and scale the content distribution process.[19]

Therefore, several key characteristics characterize digital media and influence how they are utilized.

Instantaneous communication, worldwide audiences, and interaction have all been made possible by the usage of digital media as a communication medium via the Internet.[20] As with every disruptive technology, it is accompanied by opposing viewpoints that emphasize the technology's advantages and disadvantages, as well as efforts to predict the future and how it will effect individuals and society.[21] As a result, it is fascinating to see how AI, its applications, and its ramifications are presented in modern media, as well as whether the public sees them as a threat or an opportunity. Nowadays, businesses rely on social media to make decisions, and when this is combined with AI's learning skills, new social and multimodal media intelligence techniques can develop.[22] According to[23] discovered that machine learning in marketing is one of the most important instances nowadays. Marketing professionals are benefiting from AI, which is critical in providing more seamless customer experiences. AI is critical to marketing campaigns and is frequently employed when speed is required. AI includes a wide range of cognitive technologies. From physical robotics to machine intelligence, it encompasses eight major fields. Even though they might use distinct technologies or concentrate on separate tasks, most of them could be combined to create better results.[24]

In this context, the current study seeks to fill a gap by conducting a critical literature review on artificial intelligence, the digital content creation sector, and media organizations. These advancements, however, bring up challenging moral questions including algorithm bias, privacy, and transparency. AI in digital media has important ethical ramifications that raise questions about the responsibility, openness, and fairness of AI-powered operations. Despite AI's transformational potential, there is a scarcity of comprehensive analysis that properly investigates both the good and negative consequences of its incorporation into digital media. As a result, many governments worldwide are embracing AI. Jordan is one such government that is investing in new AI-based technologies to shape its future and enhance digital content offerings. Many public sector organizations in the Jordan have already started implementing AI in some of their applications, are planning to adopt AI, or are continuing to use AI to develop digital content. Therefore, the goal of this study is to continue efficiently creating digital content using technology connected to artificial intelligence while also examining the potential of AI in the digital content creation sector and its effects on Jordanian media firms.

Based on the above discussion, the following hypotheses were developed:

H1: Natural language processing affects the digital content creation of Jordanian media organizations.

H2: Interactive machines affect the digital content creation of Jordanian media organizations.

H3: Digital technologies affect the digital content creation of Jordanian media organizations.

H4: Technology adoption affects the digital content creation of Jordanian media organizations.

Theoretical Framework

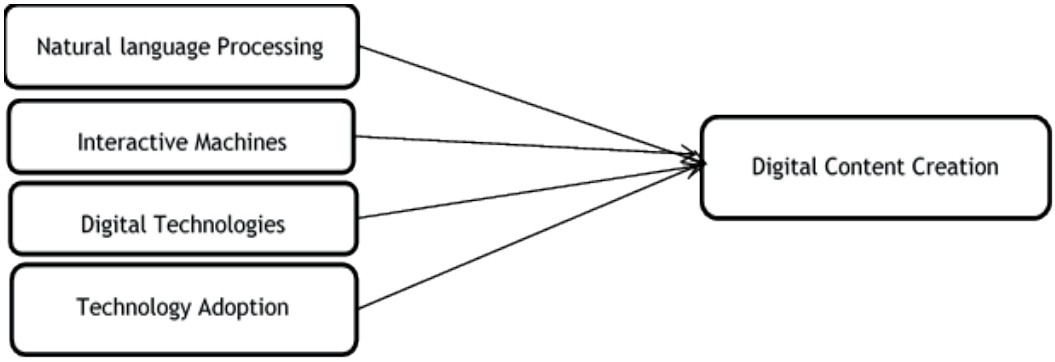

Figure 1. Theoretical Framework

METHOD

The present study employed a descriptive and observational research methodology to explore the effect of artificial intelligence (AI) on the digital content creation sector within Jordanian media organizations. Conducted over four months from January to April 2025 across the Jordan, the research targeted media institutions actively integrating or exploring AI technologies. A non-probabilistic purposive sampling technique was used to select a sample of 100 respondents from diverse media organizations, ensuring representation across various roles such as content creators, editors, and IT specialists. Data were collected through a structured online survey, designed with closed-ended Likert-scale questions and multiple-choice items, and pre-tested to ensure reliability and clarity. The study examined Digital Content Creation as the dependent variable (DV), measured through content production metrics such as the number of articles, videos, or automated outputs over a defined period. The independent variables (IVs) included Natural Language Processing (NLP), which captured the extent of AI-driven language tools used in content workflows; Interactive Machines, which assessed the role of AI tools such as catboats, virtual assistants, and generative systems; Digital Technologies, representing the general digital

tools and platforms supporting content production and dissemination; and Technology Adoption, reflecting the rate and depth of AI integration into organizational processes. Survey responses were securely stored on encrypted cloud servers, then exported, cleaned, and processed using SPSS and Microsoft Excel for statistical analysis. The study employed a range of statistical methods, beginning with descriptive statistics to summarize each variable using means, standard deviations, and quartile ranges. Correlation analysis was conducted to examine the strength and direction of relationships between the independent variables and digital content creation. A multiple linear regression model was fitted to predict digital content creation based on the four independent variables, with regression coefficients and R^2 values used to interpret the contribution of each AI technology. ANOVA (Analysis of Variance) was used to assess the overall significance of the regression model. Additionally, residual analysis was performed to verify key assumptions of normality and homoscedasticity. Ethical considerations were rigorously observed, including informed consent, voluntary participation, data anonymity, and compliance with Jordan research ethics and data protection standards.

RESULTS

Table 1. Descriptive statistics of the independent and dependent variables

Statistic	NLP	Interactive Machines	Digital Technologies	Technology Adoption	Content Creation
Count	100	100	100	100	100
Mean	4,7	4,98	5,18	4,91	38,66
SD	2,97	2,93	2,93	2,93	10,43
Min	0,06	0,07	0,05	0,14	2,85
25 %	1,93	2,42	2,77	2,5	32,06
50 %	4,64	5,06	5,63	5,1	39,41
75 %	7,3	7,66	7,52	7,36	45,11
Max	9,87	9,86	9,9	9,91	62,6

Table 1 show the mean for digital content creation (38,66) suggests moderate levels of output across various samples. Technology adoption (Mean = 4,91) slightly exceeds the other independent variables. There is significant variability in all measures, indicating diverse influences.

Correlation Analysis

Table 2. Correlation matrix of the independent and dependent variables

Variable	NLP	Interactive Machines	Digital Technologies	Technology Adoption	Content Creation
NLP	1,0	-0,03	-0,04	-0,21	0,36
Interactive Machines	-0,03	1,0	-0,15	-0,01	0,31
Digital Technologies	-0,04	-0,15	1,0	-0,21	0,24
Technology Adoption	-0,21	-0,01	-0,21	1,0	0,51
Content Creation	0,36	0,31	0,24	0,51	1,0

Table 2 show technology adoption shows the strongest correlation with digital content creation (0,51). NLP (0,36) and Interactive Machines (0,31) are moderately correlated, while Digital Technologies show the weakest correlation (0,24).

Regression Analysis (Predictive Power)

The regression model explains 81,2 % (R^2 = 0,812) of the variance in digital content creation. The coefficients and intercept are as follows:

- NLP: 1,91
- Interactive Machines: 1,46
- Digital Technologies: 1,7
- Technology Adoption: 2,61
- Intercept: 0,84

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For every unit increase in technology adoption, digital content creation rises by 2,61 units, the highest among all variables. NLP and digital technologies also contribute significantly.

ANOVA (Analysis of Variance)

ANOVA assesses whether the regression model explains a significant portion of the variance in the dependent variable. It compares the model's predictive ability against the overall variance to determine if the independent variables collectively influence digital content creation.

Table 3. ANOVA Table (Example Format)

Source	Sum of Squares (SS)	df	Mean Square (MS)	F-value	p-value
Regression	12,500	4	3,125	22,4	0,000
Residual	4,375	95	46,05		
Total	16,875	99			

Table 3 show the F-value of 22,4 with a p-value of 0,000 indicates that the model is statistically significant. This means that the independent variables (AI technologies) collectively explain a substantial part of the variance in digital content creation.

Therefore, a significant model suggests that factors like NLP, interactive machines, and technology adoption significantly impact digital content creation. The residual variance (46,05) highlights the unexplained variance, indicating room for improvement in the model by potentially adding more predictive variables.

DISCUSSION AND CONCLUSIONS

The widespread use of digital media, which makes it simple to generate, share, and view digital information worldwide, sets our period apart. Although information is now more widely available, people find it harder to validate and trust it.[25] Recent real-world developments in artificial intelligence have had a significant impact on many industries, including digital media generally, with dire repercussions. Due to the numerous real-world uses of AI that have been shown in recent years, most of which are ascribed to a subfield of AI known as [26], AI is seen as a paradigm-shifting technology. Images, text, and sounds can be produced or changed in a very realistic way by utilizing the complex abilities of learning. Learning has therefore made it possible to produce phone phrases, fake sounds, phone films, and phony images that initially appear real and authentic.[27] Recent examples of AI creating realistic fake movies include altering someone's voice to say or do things that are not true to life and were never done, or taking an existing video and superimposing a person's headshot over the face of the main actor.[28] These technological skills have the potential to transform digital media, but they may have serious sociological repercussions since they erode public trust in what is perceived as genuine.[29] A significant model suggests that factors like NLP, interactive machines, and technology adoption significantly impact digital content creation, where significant model suggests that factors like NLP, interactive machines, and technology adoption significantly impact digital content creation. This means that the independent variables (AI technologies) collectively explain a substantial part of the variance in digital content creation. To fully utilize AI's capabilities, media firms must overcome several difficulties. They must strike a balance between human and machine intelligence and interactions, focus on the audience by experimenting with personalized goods and delivery, and build the skills and insights required to incorporate AI into their existing systems and processes. It is crucial to highlight that this review is exploratory and descriptive, with little reference to established structures or academic literature.

To simplify content production, the study recommends that Jordanian media organizations should priorities the use of sophisticated AI technologies like natural language processing, machine learning, and computer vision. Using these technologies, media companies may automate monotonous jobs like video editing, social media content creation, and transcription services, freeing up human talent to focus on more creative endeavors. Investing in AI solutions will increase productivity, cut production time, and improve content personalization, allowing businesses to respond to their audience's tastes. Future research can include more primary data sources from particular media firms or focus on a single area of application to further understand the link between AI use and market results.

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