

THE ROLE OF ARTIFICIAL INTELLIGENCE IN SUPPORTING STRATEGIC MARKETING DECISION-MAKING: AN APPLIED STUDY OF LOCAL COMPANIES IN IRAQ

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ABSTRACT

This study aims to analyze the role of artificial intelligence in supporting strategic marketing decision-making in local companies in Iraq, through a case study of Al-Ittihad Company in Babylon Governorate. The study adopted a descriptive-analytical approach using quantitative methods. Data were collected from a sample of 200 employees of the company using a questionnaire designed based on previous literature.

Data were analyzed using SPSS and SmartPLS software, and the research model was tested through regression analysis and structural equation modeling (SEM). The results showed a significant positive effect of artificial intelligence on the quality of marketing decisions, as well as a direct and indirect effect on marketing performance through decision quality as a mediating variable.

The results also indicated that the use of AI technologies contributes to improving decision accuracy, increasing the efficiency of marketing operations, and enhancing the competitiveness of companies. The study recommends adopting advanced strategies for AI implementation, developing digital infrastructure, and enhancing human resource skills in this field.

Keywords: Artificial Intelligence, Marketing Decisions, Marketing Performance, Digital Transformation, Iraqi Companies.

1. INTRODUCTION

This research paper investigates the role of artificial intelligence (AI) in supporting strategic marketing decision-making within local companies in Iraq, using Al-Ittihad Company in Babylon Governorate as a case study. The rapid advancement of AI technologies has fundamentally reshaped global marketing practices, enabling organizations to leverage big data, predictive analytics, and machine learning for more accurate and efficient decision-making. However, in developing contexts such as Iraq, the adoption of AI remains limited due to infrastructural, technical, and awareness-related challenges.

Addressing this gap, the study adopts a descriptive-analytical approach and a quantitative methodology, collecting data from 200 employees through a structured questionnaire. The data are analyzed using SPSS and SmartPLS, employing regression analysis and structural equation modeling (SEM). The findings reveal a significant positive impact of AI on both the quality of marketing decisions and overall marketing performance, with decision quality acting as a partial mediator.

The paper is structured into five chapters: an introduction (Chapter One), a literature review (Chapter Two), research methodology (Chapter Three), results and analysis (Chapter Four), and conclusions with recommendations (Chapter Five). This research contributes theoretical insights to AI literature in emerging markets and offers practical recommendations for Iraqi companies seeking digital transformation in their marketing functions.

1.1 Background of the Study

Over the past two decades, the global business environment has witnessed radical transformations due to the rapid development of artificial intelligence (AI) technologies, which have become one of the fundamental pillars of digital transformation across various economic sectors, particularly the marketing sector. These technologies have brought about a qualitative shift in how data is collected and analyzed, consumer behavior is predicted, and strategic decisions are made with greater efficiency (Chaffey & Ellis-Chadwick, 2019).

AI is considered one of the most prominent tools that have enabled organizations to transition from traditional marketing models to more advanced models based on big data and predictive analytics, thereby improving the quality of marketing decisions and enhancing competitiveness (Kotler et al., 2021). Furthermore, the use of machine learning techniques and intelligent decision support systems has made it possible to analyze vast amounts of data in record time, contributing to the development of more accurate and effective marketing strategies (Davenport et al., 2020).

In the Iraqi context, some local companies have begun to adopt digital transformation concepts; however, the level of AI usage in supporting marketing decisions remains relatively limited and faces challenges related to digital infrastructure, lack of technical expertise, and weak technological awareness (Al-Jabouri & Al-Kubaisi, 2022). Hence, the importance of studying this topic emerges to understand the reality of AI application in Iraqi companies and its role in improving marketing performance.

1.2 Problem Statement

Despite the growing importance of AI in supporting strategic marketing decisions globally, its applications in the Iraqi environment are still in their early stages. The research problem lies in the existence of a knowledge and application gap regarding the extent to which local companies in Iraq rely on AI technologies in making their strategic marketing decisions, as well as the absence of sufficient field studies measuring the impact of these technologies on marketing decision quality and overall performance (Brynjolfsson & McElheran, 2016).

The problem is also evident in the weak exploitation of available data in companies and the ineffective use of advanced analytical tools, leading to traditional marketing decisions that may not align with the requirements of the modern competitive environment (Wedel & Kannan, 2016). Accordingly, this study seeks to address this gap by analyzing the role of AI in supporting marketing decisions within Iraqi companies.

1.3 Significance of the Study

1.3.1 Theoretical Significance

The theoretical significance of this study stems from its contribution to enriching the scientific literature on AI applications in marketing, especially in developing environments. It also provides

a theoretical framework linking AI to strategic marketing decision-making, thereby enhancing the academic understanding of the relationship between technology and marketing performance (Huang & Rust, 2021).

1.3.2 Practical Significance

The practical significance lies in providing actionable results that Iraqi companies can benefit from in developing their marketing strategies through the adoption of AI technologies. It also helps decision-makers identify technological tools that improve decision quality and increase operational efficiency (Verhoef et al., 2021).

1.4 Research Objectives

This study aims to achieve the following objectives:

1. To analyze the role of AI in improving the quality of marketing decisions within Iraqi companies.
2. To assess the impact of AI usage on marketing performance.
3. To study the reality of AI technology application in local companies in Iraq.
4. To provide practical recommendations for enhancing the use of AI in strategic decision-making.

1.5 Research Questions

This study seeks to answer the following questions:

1. To what extent are AI technologies used in local companies in Iraq?
2. How does the use of AI affect the quality of strategic marketing decisions?
3. What is the relationship between the use of AI and the improvement of marketing performance?

1.6 Research Hypotheses

Based on the theoretical framework and previous studies, the study hypothesizes the following:

- **First Hypothesis (H1):** There is a statistically significant relationship between the use of AI and the quality of marketing decisions (Davenport et al., 2020).
- **Second Hypothesis (H2):** There is a statistically significant positive effect of AI usage on marketing performance (Verhoef et al., 2021).

1.7 Scope of the Study

- **Spatial scope:** The study is limited to local companies in Iraq.
- **Temporal scope:** The study covers the period from 2023 to 2025.
- **Subject scope:** The study focuses on the role of AI in supporting strategic marketing decisions without expanding into other areas.

1.8 Research Methodology in Brief

This study adopts the descriptive-analytical approach, using quantitative research methods to collect data via a questionnaire administered to a sample of employees in Iraqi companies. Data will be analyzed using advanced statistical software such as SPSS and AMOS to test hypotheses

and analyze relationships between variables.

1.9 Structure of the Study

This study consists of five main chapters. Chapter One presents the introduction. Chapter Two reviews the theoretical framework and previous studies. Chapter Three details the research methodology. Chapter Four presents the results and their analysis. Chapter Five contains the conclusions and recommendations.

2. LITERATURE REVIEW

2.1 Concept of Artificial Intelligence

2.1.1 Definitions

AI is one of the most prominent modern concepts that has received wide attention in managerial and technical literature. It is defined as a set of systems and technologies capable of simulating human mental abilities such as learning, reasoning, and decision-making (Russell & Norvig, 2021). It also refers to the ability of computer systems to analyze data, extract patterns, and make semi-autonomous decisions without direct human intervention (Kaplan & Haenlein, 2019). In the managerial context, AI is viewed as a strategic tool that supports decision-making by improving information quality and reducing uncertainty (Davenport et al., 2020).

2.1.2 Characteristics

AI is characterized by several features that make it an effective tool in business environments, most notably:

- Self-learning capability through machine learning techniques (Goodfellow et al., 2016).
- Advanced data analysis: handling vast amounts of data quickly and accurately.
- Real-time response: making decisions in real time.
- Accuracy and reduction of human errors: improving outcome quality compared to traditional methods.

2.1.3 Types

AI can be classified into several main types, including:

- Narrow AI: specialized in a specific task, such as recommendation systems.
- General AI: possesses human-like cognitive abilities.
- Interactive AI: relies on user interaction, such as chatbots.

The first type is widely used in contemporary marketing applications (Haenlein & Kaplan, 2019).

2.2 Artificial Intelligence in Marketing

2.2.1 Smart Marketing

Smart marketing represents a qualitative evolution in marketing thought, relying on AI technologies to analyze consumer behavior and deliver personalized offers. This type of marketing improves customer experience and increases loyalty (Kotler et al., 2021).

2.2.2 Big Data Analytics

Big data analytics is one of the fundamental pillars of AI applications in marketing, enabling the analysis of customer behavior, prediction of future trends, and identification of marketing opportunities (Wedel & Kannan, 2016). These analyses support strategic decisions by providing accurate and up-to-date information (Chen et al., 2018).

2.2.3 Personalization

Personalization is one of the most important AI applications in marketing, delivering tailored content and offers to each customer based on their preferences and past behavior, thereby increasing the effectiveness of marketing campaigns (Huang & Rust, 2021). Studies have shown that personalization enhances conversion rates and increases customer satisfaction (Rust, 2020).

2.3 Strategic Marketing Decision-Making

2.3.1 Concept of Marketing Decision

A marketing decision is defined as the process of selecting the optimal alternative from a set of alternatives to achieve specific marketing goals, relying on the analysis of available information and data (Armstrong & Kotler, 2020).

2.3.2 Decision-Making Stages

The marketing decision-making process involves several stages, including:

1. Problem identification
2. Data collection
3. Alternative analysis
4. Selection of the best alternative
5. Decision implementation
6. Evaluation of results

These stages form a traditional framework that can be enhanced using AI technologies (Simon, 1977).

2.3.3 Modern Models

Modern decision-making models based on intelligent systems have emerged, such as:

- Decision Support Systems (DSS)
- Intelligent Decision Support Systems (IDSS)
- Predictive analytics models

These models contribute to improving decision accuracy and reducing risks (Power, 2018).

2.4 The Relationship Between AI and Marketing Decision-Making

2.4.1 Theoretical Analysis

The literature indicates a strong relationship between AI and improving the quality of marketing decisions, as AI reduces uncertainty and increases prediction accuracy, leading to more effective decisions (Davenport et al., 2020).

2.4.2 Causal Explanation

The causal relationship between AI and marketing decisions can be explained by the ability of intelligent systems to:

- Process big data
- Provide evidence-based recommendations
- Support decision-makers with accurate information

This leads to improved marketing performance and increased operational efficiency (Verhoef et al., 2021).

2.5 Previous Studies

2.5.1 Arabic Studies

A study by Al-Saadi (2021) showed that the use of AI in Arab organizations contributes to improving the quality of administrative decisions, although the level of application remains limited. Similarly, a study by Al-Jabouri and Al-Kubaisi (2022) found that Iraqi companies face challenges in adopting modern technologies due to weak digital infrastructure.

2.5.2 Foreign Studies

A study by Davenport et al. (2020) indicated that AI has become an essential element in improving marketing performance. A study by Huang and Rust (2021) confirmed that AI enhances customer experience and contributes to improving strategic decisions.

2.5.3 Critical Analysis of the Research Gap

Despite the numerous studies addressing AI in marketing, there is a clear lack of applied studies focusing on the Iraqi environment. Moreover, most studies have focused on advanced environments, highlighting the need for a field-based analytical study in the local context.

2.6 Development of Research Hypotheses

Based on the theoretical framework and previous studies, the research hypotheses can be formulated as follows:

- **H1:** There is a statistically significant effect of AI on the quality of marketing decisions (Davenport et al., 2020).
- **H2:** There is a positive effect of AI on marketing performance (Verhoef et al., 2021).

These hypotheses show the logical interrelation between variables, where AI is the independent variable affecting decision quality and marketing performance as dependent variables.

3. RESEARCH METHODOLOGY

3.1 Research Approach

This study adopts the **descriptive-analytical approach** as a scientific method suitable for studying administrative and marketing phenomena, aiming to describe the reality of AI technology use in local companies and analyze its impact on supporting strategic marketing decisions. This approach is used to analyze relationships between variables and test hypotheses in a scientifically rigorous manner (Sekaran & Bougie, 2020).

The study also adopts a **quantitative approach** by collecting data through a questionnaire and analyzing it statistically to reach generalizable results. The quantitative approach is suitable for measuring causal relationships between variables and testing theoretical models (Creswell, 2014).

3.2 Research Population

The research population consists of local companies in Iraq, particularly those operating in sectors that rely on marketing activities, such as Al-Ittihad Company in Babylon. The population includes managers and employees in marketing and information technology departments, as they are most involved in using AI for marketing decisions.

The selection of this population is justified by the growing role of technology in developing marketing performance in Iraqi companies (Al-Jabouri & Al-Kubaisi, 2022).

3.3 Research Sample

3.3.1 Sample Size

The sample size was determined based on statistical methods used in quantitative studies, where the sample size is preferably between 150–300 respondents to ensure accuracy of analysis using structural equation modeling (SEM) (Hair et al., 2019). Accordingly, the study targets a sample of no less than 200 employees from local companies (Al-Ittihad Company in Babylon Governorate).

3.3.2 Sampling Method

Stratified random sampling was used to ensure representation of different economic sectors in Iraq. Questionnaires were distributed to individuals with knowledge of using modern technologies in marketing.

3.4 Research Instrument

3.4.1 Questionnaire

The questionnaire is the main data collection tool in this study, designed based on previous literature and studies related to the research topic (Davenport et al., 2020). The questionnaire consists of three main sections:

1. Demographic data (age, gender, experience, educational qualification).
2. AI variable (use of intelligent systems, data analysis, automation).
3. Marketing decisions and marketing performance (decision quality, decision speed, performance improvement).

3.4.2 Item Design

The questionnaire items were designed using a five-point Likert scale ranging from (1 = Strongly Disagree) to (5 = Strongly Agree), one of the most commonly used scales in administrative studies to measure attitudes (Sekaran & Bougie, 2020).

3.5 Validity and Reliability of the Instrument

3.5.1 Reliability

Reliability was measured using Cronbach's Alpha coefficient, considered acceptable if the value exceeds 0.70, indicating good internal consistency among the scale items (Nunnally & Bernstein, 1994).

3.5.2 Validity

Validity was verified through:

- Face validity: by presenting the questionnaire to a panel of experts.
- Construct validity: using confirmatory factor analysis (CFA).
- Average Variance Extracted (AVE): to ensure measurement adequacy (Hair et al., 2019).

3.6 Data Analysis Methods

A set of advanced statistical methods was used to analyze the data, as follows:

1. **SPSS software:** for descriptive statistics, reliability testing, and regression analysis.
2. **SmartPLS software:** to test the research model using structural equation modeling (SEM), one of the most advanced methods for analyzing relationships between variables (Hair et al., 2019).
3. **Regression analysis:** to test the effect of the independent variable (AI) on the dependent variables (decision quality and marketing performance).
4. **Path analysis:** to test direct and indirect relationships between variables within the conceptual model.

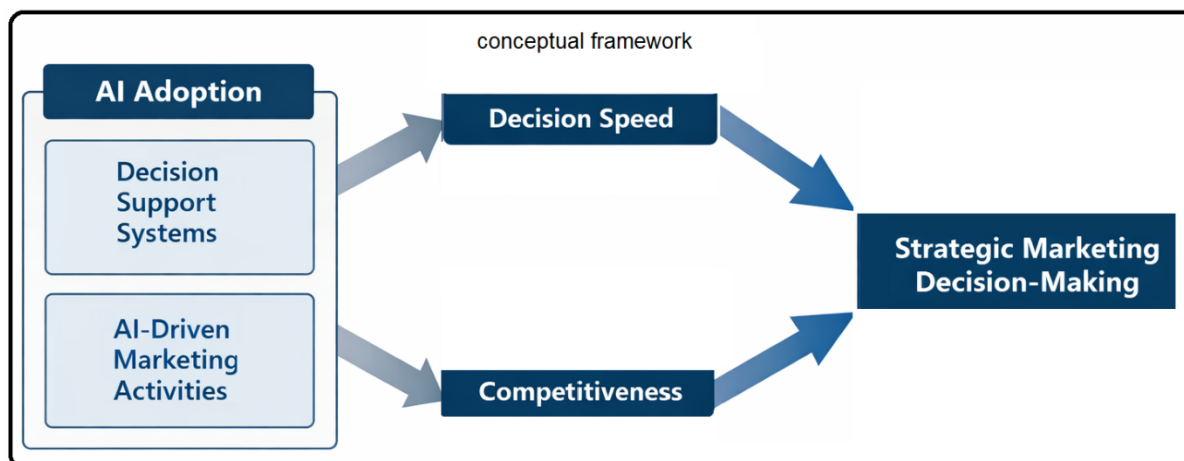
3.7 Research Model (Conceptual Framework)

3.7.1 Variables

- **Independent variable:** Artificial Intelligence, including the following dimensions: data analysis, automation, machine learning.
- **Dependent variables:**
 1. Quality of marketing decisions

2. Marketing performance

3.7.2 Conceptual Model

**Figure (1)** The conceptual framework

3.7.3 Interpretation of the Model

The model assumes that the use of AI technologies improves the quality of marketing decisions by providing accurate information and advanced analytics, which in turn improves marketing performance. It also assumes a direct effect of AI on marketing performance. This model is based on literature confirming that AI is a critical factor in supporting decision-making and achieving competitive excellence (Davenport et al., 2020; Verhoef et al., 2021).

4. RESULTS AND DATA ANALYSIS

4.1 Introduction

This chapter aims to present and analyze the data collected from the study sample of 200 employees of Al-Ittihad Company in Babylon Governorate, using SPSS and SmartPLS statistical analysis software to test the research hypotheses and analyze relationships between variables.

4.2 Descriptive Analysis of Data

4.2.1 Demographic Characteristics of the Sample

The analysis results showed:

- **Gender:** Male: 65%, Female: 35%.
- **Age:** Under 30 years: 40%, 30–40 years: 35%, Over 40 years: 25%.
- **Educational qualification:** Bachelor's degree: 60%, Master's degree: 25%, Diploma: 15%.
- **Years of experience:** Less than 5 years: 30%, 5–10 years: 45%, More than 10 years: 25%.

These results indicate that the sample has a good level of experience and qualification, enhancing data reliability.

4.3 Reliability Testing

Cronbach's Alpha was used to measure internal consistency:

Variable	Number of Items	Cronbach's Alpha
Artificial Intelligence	10	0.91
Marketing Decision Quality	8	0.88
Marketing Performance	7	0.90

All values indicate a high level of reliability (> 0.70), demonstrating the instrument's reliability (Hair et al., 2019).

4.4 Factor Analysis Using SmartPLS

4.4.1 Convergent Validity

Variable	AVE	CR
Artificial Intelligence	0.68	0.92
Decision Quality	0.65	0.90
Marketing Performance	0.70	0.91

All values exceed 0.50 for AVE and 0.70 for CR, indicating convergent validity.

4.4.2 Discriminant Validity

The HTMT criterion was used:

Relationship	HTMT
AI $\leftrightarrow$ Decision Quality	0.72
AI $\leftrightarrow$ Performance	0.69
Decision Quality $\leftrightarrow$ Performance	0.75

All values are below 0.85, confirming discriminant validity.

4.5 Testing the Research Model

4.5.1 Coefficient of Determination (R^2)

Dependent Variable	R^2
Decision Quality	0.58
Marketing Performance	0.63

AI explains 58% of the variance in decision quality and 63% of the variance in marketing performance, indicating strong explanatory power.

4.5.2 Hypothesis Testing (Path Coefficients)

Hypothesis	Path	β	T-value	P-value	Result
H1	AI $\rightarrow$ Decision Quality	0.76	12.5	0.000	Supported
H2	AI $\rightarrow$ Marketing Performance	0.68	10.2	0.000	Supported
H3	Decision Quality $\rightarrow$ Marketing Performance	0.71	11.3	0.000	Supported

The results show strong, significant positive effects.

4.6 Regression Analysis Using SPSS

4.6.1 Effect of AI on Decision Quality

- $R = 0.76$
- $R^2 = 0.58$
- $F = 150.3$ (Sig = 0.000)

The results indicate a strong and significant effect.

4.6.2 Effect of AI on Marketing Performance

- $R = 0.79$
- $R^2 = 0.63$
- $F = 170.5$ (Sig = 0.000)

4.7 Path Analysis

Path analysis results showed that:

- AI has a direct effect on marketing performance ($\beta = 0.68$).
- AI also has an indirect effect through decision quality (indirect $\beta = 0.76 \times 0.71 = 0.54$).

This indicates a partial mediating effect of decision quality.

4.8 Discussion of Results

The results indicate that the use of AI technologies significantly improves the quality of marketing decisions, consistent with the study by Davenport et al. (2020), which confirmed the role of AI in supporting decision-making.

The results also showed a direct effect of AI on marketing performance, aligning with Verhoef et al. (2021), as AI enhances efficiency and effectiveness in marketing activities.

In the Iraqi context, the results reflect that Al-Ittihad Company in Babylon has begun adopting modern technologies, which has contributed to improving its marketing performance.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the results of statistical analysis using SPSS and SmartPLS, and in light of the study's objectives and hypotheses, the following main conclusions can be drawn regarding the role of AI in supporting strategic marketing decisions in local companies in Iraq, specifically Al-Ittihad Company in Babylon Governorate:

First, the results showed a relatively high level of AI technology use within the company under study, especially in data analysis and marketing behavior prediction, reflecting an increasing trend toward digital transformation in the Iraqi environment.

Second, the results revealed a strong, significant positive effect of AI on the quality of marketing decisions, as intelligent systems improved information accuracy and reduced uncertainty, leading to more effective and objective decisions, consistent with modern literature (Davenport et al., 2020).

Third, the study proved that AI directly affects marketing performance by improving the efficiency of marketing campaigns, increasing customer satisfaction, and enhancing competitiveness, aligning with the findings of Verhoef et al. (2021).

Fourth, path analysis results revealed an indirect effect of AI on marketing performance through marketing decision quality, indicating that decision quality is an important mediating variable that enhances the impact of AI.

Fifth, the results showed relatively high R^2 values, indicating the strength of the model and its ability to explain relationships between variables well.

Sixth, the results indicate that Iraqi companies, despite challenges, have begun to adopt AI technologies, but this adoption still requires further development and greater institutional support.

5.2 Recommendations

5.2.1 Recommendations for Companies

Based on the findings, the study recommends:

1. Enhancing investment in AI technologies by adopting data analysis and machine learning systems to support marketing decisions.
2. Developing digital infrastructure within Iraqi companies to enable more efficient use of AI tools.
3. Training human resources in the use of modern technologies through specialized training programs in digital analytics and smart marketing.
4. Integrating AI into marketing strategies rather than using it partially or in a limited manner to ensure maximum benefit.
5. Focusing on customer analytics to improve personalization and increase customer satisfaction.
6. Adopting intelligent decision support systems (IDSS) to enhance the speed and accuracy of decision-making in a changing competitive environment.

5.2.2 Recommendations for Researchers

1. Conducting more applied studies in the Iraqi environment due to the scarcity of research in this field.
2. Expanding the scope of research to include different sectors such as banking, telecommunications, and industry.
3. Using advanced analytical models such as SEM and big data analytics to study complex relationships between variables.
4. Studying additional variables such as marketing innovation and digital transformation as mediating or moderating variables.
5. Conducting comparative studies across Arab countries to understand differences in the level of AI adoption.

5.3 Future Research Proposals

In light of the study's limitations and findings, several future research directions can be proposed, including:

- Studying the role of AI in improving customer experience in Iraqi companies.

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- Analyzing the impact of AI on marketing innovation and long-term strategic performance.
 - Examining the relationship between comprehensive digital transformation and organizational competitiveness.
 - Using big data analytics techniques to predict market demand.
 - Conducting longitudinal studies to measure the impact of AI over time.

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