Academic Journal of International University of Erbil

Journal Homepage: https://ue.edu.krd/ojs/index.php/public

PRINT-ISSN: 2519-6928

The Role of AI in Targeting and Segmentation: A New Era for Marketing Professionals in the Real Estate Sector

Sardar Hassan Khal Hamza[1*], Kosret M. Ebabekir[2], Gibraeel Ahmed Ismael[3], Ghayda Kamal Ahmed[4]

[1, 2, 3, 4] Department of Marketing Management, Salahaddin University-Erbil, Erbil, Kurdistan, IRAQ

*Corresponding Author: Sardar Hassan Khal Hamza

Received 03 Mar 2025; Accepted 12 Apr 2025; Available online Apr 2025

ABSTRACT: This study investigates the role of Artificial Intelligence (AI) in targeting and segmentation in the real estate sector in Iraqi Kurdistan. Rapid technological advancements and AI usage in different sectors around the world brought researchers' attention to exploring AI's impact on customers' experiences and marketing professionals' willingness and readiness to leverage this technological development. To quantify their willingness and readiness, as well as whether AI influences the effectiveness of targeting and segmentation strategy, this research uses quantitative methods. Means, regression, and correlation analysis are used to investigate the relationship and impact between dependent and independent variables. Moreover, the survey includes both close-ended questions with open-ended questions. Open-ended items give researchers a chance to dive deeper into qualitative insights from respondents. This paper provides mixed results. Even though marketing professionals see AI as a useful tool in segmentation practices, their responses did not match their perception; thus, statistically, the findings were not significant. In addition, the findings reveal that AI has a positive relationship with segmentation strategies despite challenges such as data quality, lack of infrastructure, and issues related to system integration. More research on other sectors, particularly on human resources readiness and operational challenges, is needed.

Keywords. AI, Artificial Intelligence, Marketing Professionals, Segmentation, Real Estate.

1 INTRODUCTION

Technology advances very fast. For a business to survive and achieve its competitive advantage in the dynamic marketplace, it needs to adapt and integrate its system to modern technologies such as AI [1]. Artificial intelligence (AI) has modernized marketing strategies, particularly in understanding customer behavior, where AI technologies provide a personalized solution to customers that fits their needs [2]. [3] suggest that AI is used in marketing activities such as targeting and segmentation. A research paper by [4] highlights the importance of AI applications, such as machine learning and chatbots, in improving customer experiences. This argument was supported by a distinctive author such as [5], emphasizing that if a business wants to stay ahead of its competitors in today's fast-changing digital world, it needs to utilize AI technologies.

The role of AI applications in service sectors is gaining momentum [3]. This drive is evident in hospitality and real estate, where AI was recognized for bringing innovation and personalization to marketing practices [6]. [7] state that AI helps professional marketers connect huge amounts of data on customers to better and more effective market targeting and segmentation. Nevertheless, to meet the evolving demands of customers, AI-driven marketing strategies are essential to developing consistent personalized solutions [8]. Specifically, AI is useful in improving customer satisfaction through improving service delivery and brand equity [9]. However, the full adoption of AI technologies demands extra investigation to address challenges and barriers in AI usefulness and AI readiness [10].

The theoretical framework for this research is based on [11]'s Technology Acceptance Model (TAM), [12]'s Diffusion of Innovation Theory, and Customer Relationship Management (CRM), which focuses on customer retention and

Corresponding author: sardar.hamza@su.edu.krd

satisfaction [13]. [11] believes that users' decisions to adopt and use technology are based on two key points: perceived ease of use and perceived usefulness. Both dimensions are relevant when the role of AI in targeting and segmentation strategies is measured. The two measurements help researchers identify the forces that enable and delay the use and ease of AI applications in marketing practices. In addition, the Diffusion of Innovation theory describes how the advancement of technology spreads within markets. Thus, [12]'s' framework will be used to examine the adoption of AI technologies within the real estate sector in KRG, and through that, both opportunities and challenges to AI integration will be revealed. Moreover, the CRM model will be used for this study to evaluate the AI integration and how this integration will enhance marketing effectiveness in the real estate sector in Iraqi Kurdistan.

This research wants to investigate how AI can enhance targeting and segmentation strategies in the real estate sector in Iraqi Kurdistan. Most of the current research on AI benefits and adaptation has cultural implications. They are focused on Western countries where technology was embraced a long time ago, and the necessary infrastructure is already established. There is a significant gap in empirical research, particularly in emerging markets such as Iraqi Kurdistan. This newly recognized region attracted huge investments around the world, particularly in the real estate sector. Its unique economic development and cultural landscape offer a worthy context to investigate AI roles in segmentation strategy and its integration into marketing practices. It aims to examine how professionals in real estate in Iraqi Kurdistan perceive and leverage AI technologies to enhance their marketing efforts. The survey questionnaire helps researchers to gather data structurally that has statistical significance [13]. This claim is further supported by [14], stating the survey method can be used for measuring the role of AI in marketing strategies such as segmentation.

1.1 RESEARCH QUESTIONS

1. In customer experience management, does AI's application have a positive correlation with the perceived usefulness dimension in the real estate sector?

2. In the real estate sector, is there a positive relationship between the frequency of AI use and the effectiveness of AI-based market segmentation?

3. Within the real estate sector, how does AI readiness impact the process of adopting and integrating AI technologies in marketing practices?

4. Is there a positive relationship between AI readiness and the perceived impact of AI on customer experience and market segmentation strategies in the real estate sector?

5. Does AI's usefulness play a role in predicting the effectiveness of targeting and segmentation strategies based on AI in the real estate sector?

1.2 RESEARCH HYPOTHESES

H1: The perceived AI usefulness 1-2 by the real estate sector professionals positively impacts customers' experience.

H2: AI frequency of use has a positive correlation with AI targeting and segmentation strategies in the real estate sector.

H3: In the real estate sector, AI readiness is positively related to AI frequency use and its impact on customer experience and segmentation strategies.

H4: There is no significant relationship between AI readiness and AI segmentation practices in the real estate sector in Iraqi Kurdistan.

H5: AI's perceived usefulness positively influences the effectiveness of AI segmentation practices in marketing strategies within the real estate sector in Iraqi Kurdistan.

H6: There is no significant impact from Higher AI frequency use as an independent variable on AI readiness and customer experience and segmentation in the real estate sector.

1.3 RESEARCH OBJECTIVES

1. To understand whether there is any relationship between perceived AI usefulness and its application use by professionals in customer experience management in the real estate sector.

2. To investigate the relationship between AI frequency of use and the segmentation practices based on AI in the real estate sector.

3. To examine the influence of AI readiness on the adoption and integration of AI technologies in targeting and segmentation strategies within the real estate sector.

4. To explore whether AI readiness impacts the perception of professionals about AI's application benefits on customer experience and market strategies in the real estate sector.

5. To measure the role of AI application usefulness in predicting the effectiveness of market segmentation practices based on AI in the real estate sector.

6. To investigate the influence of AI frequency use in improving AI readiness and its perceived impact on marketing strategies within the real estate sector in Iraqi Kurdistan.

2 LITERATURE REVIEW

Even though AI has been around for decades, there is no best definition to define what exactly AI is [15]. [16] highlight what AI includes, such as theories, statistics, sciences, the computation of neurobiology, and the impersonation of human cognition. AI refers to an object that learns to think on its own as an agent, which is developed by humans [17]. [18] shed more light on what AI is and defined this object as a complex technical system that requires intelligence to be able to think, act, learn, and perform tasks like a human being. Some scholars use the term "Machine Learning" or "Robotization" instead of AI [19]. [16] believe AI is becoming more important day by day, and today, it is an integral part of operations for different companies in different sectors, particularly in activities central to value creation for customers. The global total corporate AI investments from 2015 to 2022 have reached about $91.9 billion compared to $12.75 billion and are expected to grow due to attracting more investment [20]. [21] revealed that sales and marketing are the main areas for businesses to implement AI.

2.1 THE ROLE OF AI IN MARKETING

Artificial intelligence (AI) has put a stop to current knowledge of marketing, and the utilization of its applications in marketing has brought changes that need new definitions for how marketers reach their audience. AI has enabled businesses to access massive amounts of data through its technologies, and that has helped marketers to make better decisions on strategic matters [5][22]. According to different scholars, AI has brought big changes to the way we do marketing. Several marketing processes and operations went through automation because of AI's impact, which helped improve overall efficiency. These changes are further highlighted by [23] work. [23] believes AI capabilities are enormous in the production of predictive insights about customer profiling and personalized marketing via its advanced analytical and learning machines. [8] stated that companies can achieve a competitive advantage in digital marketing and can help brands adjust their strategies according to market conditions and customers' demands. Even though the theoretical and practical capabilities of AI are well understood in developed economies, this understanding falls short in developing markets. [24] suggested that marketing strategies in other countries, such as developing economies, need to adopt AI applications to gain a competitive edge in global markets.

2.2 TARGET & SEGMENTATION IN MARKETING

In sectors such as real estate, tourism, and hospitality, effective marketing is critical. Considering the high expectations of consumers in these sectors, effective marketing mainly relies on choosing precise targeting and segmentation strategies [25]. This statement is supported by [26]. They argued that AI-driven analytics help businesses choose more accurate segmentation strategies. In the hospitality sector, AI applications such as machine learning and natural language processing have revolutionized services by offering more customized and personalized solutions to guests [22][27].

2.3 AI APPLICATIONS IN THE REAL ESTATE SECTOR

AI has revolutionized the real estate industry landscape [28]. They argue that in the real estate sector, AI helps businesses to improve their property listings and personalize their interaction with customers than ever. Thus, to forecast the trends, predict customer behavior in decision-making, and tailor marketing solutions to customers' needs, marketing professionals need AI applications such as predictive analytics and machine learning. [6] suggest that to accommodate changing customer expectations, businesses need AI technologies to develop and offer innovative service models. In the context of the real estate sector, these innovations can significantly improve customer interaction and relations, allowing businesses to have more impactful marketing efforts.

The literature review highlights some of the most important roles of AI in marketing strategies and implementation needs. This is particularly true in enhancing targeting and segmentation practices across different sectors. Several scholars suggested the significance of AI in the implementation and modernization of marketing practices, also improving service delivery through personalization [1][4][6][9][22][29][30]. Further agreements regarding the importance of AI in implementation and strategy execution in service sectors through different case studies were provided by [7]. Therefore, through a literature review, researchers identified key trends and gaps in the use of AI applications around the world. This study aims to highlight the importance of AI technologies in the real estate sector in Iraqi Kurdistan and contribute to the current understanding of AI's role in targeting and segmentation strategies. For this study, researchers use a mixed approach of quantitative and qualitative survey methods to understand the role of AI in marketing segmentation and targeting. It is hoped that through these mixed methods, researchers can answer the main research questions.

3. METHODOLOGY

3.1 RESEARCH DESIGN

This study investigates the role of artificial intelligence (AI) in targeting and segmentation strategies in the real estate sector in Iraqi Kurdistan. A self-administered survey method was used for this research. The questionnaire design is based on close-ended and open-ended questions. Close-ended questions help researchers to quantify findings and present them in statistical styles. [31] suggested that quantitative research method is best when researchers want to measure data and convert them into calculated numbers which a conclusion can be drawn on at the end. In addition, open-ended questions are used to understand the challenges and barriers in the usage and integration of AI applications in the real estate sector. Moreover, this is to collect qualitative data that provide richer insights into participants' experiences and answer research questions that focus on how and why. Through the survey approach, researchers can collect empirical data on professionals'' perceptions, attitudes, and practices that are connected to AI application use in segmentation strategies [32][33].

3.2 SAMPLING

For this study, the target population includes marketing professionals in the real estate sector, such as real estate agents, developers, and marketers in Iraqi Kurdistan. A non-probability convenience sampling technique will be used to gather data, encouraging professionals to participate. This approach is based on the criteria of accessibility and representability [34]. [35][36] suggested that in social science, the sample should be representative to reduce errors and increase the reliability of the findings. Although this approach may introduce bias, the researchers will seek to improve the representativeness of the sample through diverse recruitment channels. To achieve a medium effect size with a power of 0.80, the sample size must be sufficiently large [37][38]. Thus, for this research, candidates working in the real estate sector in Iraqi Kurdistan are picked to gain meaningful, measurable insights into trends and relationships between variables.

3.3 DATA COLLECTION METHOD

To reach participants from different geographical parts of Iraqi Kurdistan and increase the number of respondents, data will be collected through a structured online survey. Google Forms as method will be used to gather data; it is a convenient and efficient tool. This study will use Likert-scale items to assess the role of AI technologies in marketing strategy and measure professionals' perceptions working in the real estate sector about AI application usefulness and effectiveness in targeting and segmentation. In addition, open-ended items will answer questions regarding participants' experience and barriers with AI usage, which help researchers capture a deeper understanding of the topic. To increase participation and data accuracy, the questionnaire will be sent to respondents in Arabic and English. The Arabic translated version will be reviewed by two academic professionals to reduce errors and increase data accuracy. A pilot test will be conducted with a small sample of 10-15 professionals from the real estate sector before sending it out. Feedback from this pilot test will be used to improve the survey questionnaire. After deployment, the survey should remain open for two months, while weekly reminders will be sent to increase participation rates.

4 RESULTS

4.1 DESCRIPTIVE ANALYSIS

Table 1 summarizes the demographic profile of the respondents. A total of 55 responses were collected; however, one response was incomplete, leaving 54 valid for this research (98.2%).

The majority of respondents were male (88.9%), with females comprising 11.1% of the sample population. 84.1% of the participants were aged between 20-34 years old, and the largest groups were 20-24 years and 25-29 years old. 50% of respondents were sales managers, which made up one of the largest managers, followed by marketing managers at 14.8%. Respondents with 4-6 years of experience formed the largest group (37.0%), followed by those with 1-3 years (29.6%) and 7-10 years (18.5%). The above Table (1) indicates the diversity of participants with relatively y ng males making up the majority.

Table 2 descriptive statistics provide a detailed explanation of mean and standard deviation. The mean explains how consistent responses are, provides the central tendency of the research data. Thus, it will provide a summary of overall perception. SD suggests how consistent those responses are. Together, they can help scholars identify patterns and the reliability of data before entering into other advanced analyses such as regression analyses.

Table 1. Demographic Characteristics of Respondents

Variable	Categories	Frequency (N)	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Gender	Male	48	88.9	88.9	88.9
	Female	6	11.1	11.1	100.0
Age	20-24	16	29.1	29.6	29.6
	25-29	16	29.1	29.6	59.3
	30-34	14	25.5	25.9	85.2
	35-39	6	10.9	11.1	96.3
	45-49	2	3.6	3.7	100.0
Job Title	Marketing Manager	8	14.5	14.8	14.8
	Sales Manager	27	49.1	50.0	64.8
	Business Development Manager	2	3.6	3.7	68.5
	Digital Marketing Manager	2	3.6	3.7	72.2
	Other	15	27.3	27.8	100.0
Experience	Less than 1 year	6	10.9	11.1	11.1
	1-3 years	16	29.1	29.6	40.7
	4-6 years	20	36.4	37.0	77.8
	7-10 years	10	18.2	18.5	96.3
	More than 10 years	2	3.6	3.7	100.0

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AIUsefulness_1	54	1	5	3.56	1.076
AIUsefulness_2	54	1	5	3.93	.949
AIEaseOfUse_1	54	1	5	3.48	1.209
AIEaseOfUse_2	54	1	5	3.33	1.346
AIEaseOfUse_3	54	1	5	2.96	1.414
AIEaseOfUse_4	54	1	5	3.37	1.558
AIFrequency	54	1	5	3.07	1.226
AIApplications	54	1	7	4.70	2.279
AIImpact_CX	54	1	5	3.26	1.031
AISegmentation	54	1	5	3.22	.925
AIAdvantageSegmnt	54	0	5	1.69	1.612
AIChallengeSegmnt	54	0	4	2.54	1.004
AIReadiness	54	1	3	1.76	.581
Valid N (listwise)	54				

4.2 DESCRIPTIVE STATISTICS ANALYSIS

1. AI Usefulness:

The mean scores for AI usefulness range from 3.56 (AIUsefulness_1) to 3.93 (AIUsefulness_2), indicating that respondents generally agree that AI is slightly useful in their marketing practices. In addition, the results also suggest a positive perception of AI exists between professionals. However, the variability, as indicated by the standard deviations (1.076 and 0.949), suggests that there is a mix of opinions about the usefulness of AI tools among the participants.

2. AI Ease of Use:

The means for the ease-of-use measures range from 2.96 (AIEaseOfUse_3) to 3.48 (AIEaseOfUse_1), showing mixed points of view on how easy it is to use AI technologies. While some respondents find AI relatively easy to use, others indicate difficulty, as shown by the higher standard deviations, particularly for AIEaseOfUse_4 (SD = 1.558), which suggests variability in experiences with ease of use.

3. Frequency of AI Usage:

The mean score for AI frequency (3.07) suggests that AI is used frequently but not as frequently as expected by professionals in the real estate sectors. The standard deviation of 1.226 reflects the diverse practices of AI among respondents, indicating that while some respondents use AI regularly, others use it less often.

4. AI Applications:

The mean of 4.70 and standard deviation of 2.279 for AI applications suggest that AI is seen as it can have broad applicability in marketing. This large score SD, however, suggests that their opinions about how applicable AI is in this sector can be diverse.

5. AI Impact on Customer Experience:

The mean score of 3.26 (SD = 1.031) for AI's impact on customer experience indicates that respondents' perception is not very strong, and they believe AI has a moderate impact on customer experience. The low standard deviation indicates that there is an agreement between respondents regarding AI's role in enhancing customer experience.

6. AI Segmentation:

The mean score of 3.22 (SD = 0.925) for AI benefits in segmentation suggests that while AI is somewhat effective for market segmentation, its perceived effectiveness is not that strong. The lower standard deviation explains the high degree of consensus among respondents on this point.

7. AI Advantages in Segmentation:

The scores for the mean of 1.69 and SD = 1.612 are very low, indicating AI's advantages in segmentation have not been felt by the majority, and most of them do not believe AI can provide significant advantages for segmentation. The high standard deviation indicates that some respondents may see greater value in AI for segmentation than others, though the overall trend suggests skepticism or limited perceived advantages.

8. AI Challenges in Segmentation:

The mean score of 2.54 (SD = 1.004) suggests that professionals in the real estate sector believe the challenge level is moderate when using AI for targeting and segmentation. The low result of the standard deviation explains that there are challenges, but not severe.

9. AI Readiness:

The mean score of 1.76 (SD = 0.581) for AI readiness shows the perception of marketing professionals toward their organizations' readiness to adopt and integrate AI into their system. The low standard deviation score further supports the argument that there are still barriers when it comes to the adaptation and integration of AI in this sector.

The above scores shown in Table (2) show mixed feelings about the role of AI in targeting and segmentation in the real estate sector in Iraqi Kurdistan. The results indicate that AI is perceived as useful, but there is a long way to go until it is fully adopted and integrated into marketing strategies in this part of the world. In addition, the findings suggest that there are still challenges and barriers, such as readiness and usability of AI, making it more difficult to adopt. Moreover, it is perceived as not advantageous in segmentation, even though they showed that AI can positively impact customer experience. Therefore, there is still doubt and low confidence in its usefulness in targeting and segmentation strategies. The overall results suggest that AI adoption is in the early stages in Iraqi Kurdistan, particularly in the real estate sector.

4.3 RELIABILITY ANALYSIS

To measure the reliability of items, Cronbach's Alpha is used. The AI usefulness consists of two items, and their overall score was (0849), suggesting that there is strong internal consistency between items. Therefore, the final score shows that questions are reliable in measuring AI usefulness. To investigate the reliability and scalability of other items in the questionnaire, researchers tested the reliability of AI frequency, AI impact on customer experiences, and AI readiness altogether, and the actual value for all was 0.062, suggesting low reliability for these items.

Table 3 Correlation analysis measures the strength and direction of the linear relationship between two variables or more. Correlation does not imply causation—it only identifies associations, not cause-and-effect. It shows whether there is a positive or negative relationship between the variables. Pearson Correlation (R-Value) shows strength and direction, and the bigger the R-Value, the better. While the (*) means the null hypothesis can be rejected.

4.4 CORRELATION ANALYSIS

Table 3. Correlations

		AIUsefulness_1	AIUsefulness_2	AIImpact_CX
AIUsefulness_1	Pearson Correlation	1	.744**	.004
	Sig. (2-tailed)		.000	.978
	N	54	54	54
AIUsefulness_2	Pearson Correlation	.744**	1	.059
	Sig. (2-tailed)	.000		.674
	N	54	54	54
AIImpact_CX	Pearson Correlation	.004	.059	1
	Sig. (2-tailed)	.978	.674	
	N	54	54	54

**. Correlation is significant at the 0.01 level (2-tailed).

The above scores in Table (3) indicate that there is a positive relationship between AI Usefulness (1-2) ($r = .744$, $p < 0.01$). It means the perception of AI usefulness is strong and closely related when measured on other items. It suggests that those professionals who find AI useful for one dimension also find it valuable for other dimensions in the research. In opposite, there is a negative correlation between the AI usefulness dimension and its impact on the customer experience dimension ($r = .004$, $p = 0.978$). It shows the respondents' perception of how useful AI can be toward its impact on customer experience, and it suggests AI has no direct influence on customer experiences.

While AI is perceived as useful across different marketing dimensions, its direct impact on customer experience may not yet be fully recognized or leveraged by professionals in this sample. This finding can guide future AI training and awareness programs to emphasize AI's role in improving customer experience.

Table 4. Correlations

		AI Frequency	AI Segmentation	AI Readiness
AI Frequency	Pearson Correlation	1	.285*	-.160
	Sig. (2-tailed)		.037	.248
	N	54	54	54
AI Segmentation	Pearson Correlation	.285*	1	-.109
	Sig. (2-tailed)	.037		.431
	N	54	54	54
AI Readiness	Pearson Correlation	-.160	-.109	1
	Sig. (2-tailed)	.248	.431	
	N	54	54	54

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 scores indicate there is a moderate positive relationship between AI frequency of use and AI segmentation practices in the real estate sector ($r = .285$, $p < 0.05$). It suggests that the more professionals use AI in their workplace, the more chance there is to engage and use AI in targeting and segmentation strategies. On the opposite, there is a negative correlation between AI frequency of use and AI readiness, yet statistically not significant ($r = -.160$, $p = 0.248$). It explains that AI high usage does not indicate that organizations in Iraqi Kurdistan are more ready to adopt and integrate AI applications in the future. Similarly, there is a negative correlation between both AI segmentation and AI readiness ($r = -.109$, $p = 0.431$), suggesting AI use for targeting and segmentation does not necessarily mean they are ready to adopt and integrate AI technologies into their system.

The positive correlation between AI frequency and segmentation suggests that increasing AI adoption could lead to more effective market segmentation. However, the lack of significant correlations with readiness suggests that while professionals are using AI, they may still face challenges in integrating AI into broader marketing strategies or may require more education and support.

4.5 REGRESSION RESULTS

In multiple regression analysis, the primary interests are R-square values, B-value, and P-values (IBM-SPSS, 2010). The coefficients table gives the beta coefficients so the researcher can construct the regression equation, and it gives us the Sig or P-values for each predictor. The beta coefficient describes how strongly the independent variables are associated with the dependent variable. ANOVA table produces an F-test to decide whether the model is a good fit for the data and what the P-value is. The model summary table provides R-square, which explains what % of variability in the dependent variable is accounted for by all of the independent variables or tells researchers the “goodness of fit” of the model [39]. See the below tables:

4.5.1 REGRESSION ANALYSIS FOR AI SEGMENTATION

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492[a]	.242	.181	.837

a. Predictors: (Constant), AIReadiness, AIUsefulness_1, AIFrequency, AIUsefulness_2

- **R = 0.492**, indicates the independent variables explain only 49.2% of the variance in AI Segmentation in the real estate sector in Iraqi Kurdistan.
- **R^2 = 0.242**, meaning about 24.2% of the variance in AI Segmentation is explained by the predictors in the model.
- **Adjusted R^2 = 0.181**, which is slightly lower than R^2, suggests the model's predictive accuracy after adjusting for the number of predictors.

Table 6. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.990	4	2.747	3.920	.008[b]
	Residual	34.344	49	.701		
	Total	45.333	53			

a. Dependent Variable: AISegmentation

b. Predictors: (Constant), AIReadiness, AIUsefulness_1, AIFrequency, AIUsefulness_2

The F-statistic is 3.920, and the p-value is 0.008, which is significant ($p < 0.05$). This indicates that the overall regression model is a good fit for predicting AI Segmentation, and at least one predictor significantly contributes to the model. Therefore, the overall regression model is significant ($p = 0.008$), suggesting the independent variables together explain some percentage of the dependent variable (AI Segmentation). However, coefficient scores indicate that when the independent variables are measured not together, none of them (AIUsefulness_1, AIUsefulness_2, AIFrequency, AIReadiness) are significant at the 0.05 level, meaning that these variables do not have a strong individual impact on AI Segmentation in this particular model. AIUsefulness_2 shows the highest t-value (1.642) but still does not reach significance. This suggests it might have a weak influence on AI Segmentation.

4.5.2 REGRESSION ANALYSIS FOR AIIMPACT_CX

Regression analysis was performed to assess the predictive power of the variables on **A**IImpact_CX (the dependent variable). The following table provides the coefficients for each predictor:

Table 7. Coefficients [a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	AI Usefulness_1	.004	-.074	-.070	.440	2.273
	AI Usefulness_2	.059	.040	.038	.365	2.737
	AI Frequency	.253	.199	.191	.734	1.362
	AI Readiness	-.240	-.207	-.199	.905	1.105

a. Dependent Variable: AI Impact_CX

The numbers in Table 7 suggest that multicollinearity is not a major concern in this model because the VIF values for all independent variables are below 10. Both AI usefulness 1 and 2 have a weak correlation with AI impact_cx as the dependent variable with coefficients close to zero (B = 0.004 and 0.059. AI frequency of use has a positive impact on the dependent variable, indicating that the more AI is used, the stronger the influence on customer experience AI has. The last predictor (AI readiness) has a negative association with AI impact__CX (B = -0.240).

Table 8. Collinearity Diagnostics [a]

Dimension Model		Eigenvalue	Condition Index	(Constant)	AIUsefulness1	AIUsefulness 2	AI Frequency
1	1	4.750	1.000	.00	.00	.00	.00
	2	.138	5.877	.01	.00	.00	.33
	3	.069	8.320	.00	.25	.02	.43
	4	.029	12.765	.96	.06	.01	.11
	5	.014	18.279	.03	.68	.97	.12

a. Dependent Variable: AIImpact_CX

In addition, there are tools to measure the possible issues of multicollinearity in the regression model, such as collinearity diagnostics. The data suggest that there is no significant multicollinearity between the predictors (independent variables), as all variance amounts are below 1 (except for AIReadiness and AIFrequency). Therefore, it suggests that the predictors are sufficiently independent to produce reliable estimates.

Based on the regression and correlation analysis, as well as open-ended question answers, here's hypothesis testing based the findings:

1. AI Usefulness and Its Impact on Customer Experience:

H1: Hypothesis one, which suggests AI usefulness 1-2 has a positive impact on customer experience, is not supported by the research's primary data.

The correlation between AI usefulness and its effect on customer experience was not statistically significant ($p = 0.978$). This suggests that while AI is perceived as useful, it does not directly translate into improvements in customer experience. Despite this, many respondents shared positive views on AI's role in improving customer interactions, particularly in personalization and marketing (e.g., "Facilitating companies' dealings with customers" and "AI will enable hyper-personalized targeting"). However, challenges such as data quality issues and the lack of real-time analytics point to barriers that could prevent AI's perceived usefulness. The inconsistency between perceived usefulness and actual impact may suggest that while AI has potential, its application in the real estate sector in Iraqi Kurdistan might be limited by operational challenges.

2. AI Frequency and AI Segmentation:

H2: Hypothesis two that state AI frequency of use is positively correlated with AI targeting and segmentation practices is supported.

There is a positive correlation ($r = 0.285$, $p < 0.05$) between AI frequency and segmentation practices. The findings indicate that more frequent use of AI tools is linked to improved segmentation strategies. From open-ended questions, respondents noted that frequent use of AI leads to better targeting. However, practical challenges like integration with existing systems and reliance on real-time data could limit AI's frequency of use, which might ultimately restrict its impact on segmentation.

3. AI Readiness and AI Usage:

H3: Three suggests that AI readiness is positively associated with AI usage frequency, and its impact on customer experience and segmentation is not supported.

AI readiness showed weak correlations with both AI frequency ($r = -0.160$, $p = 0.248$) and its impact on customer experience ($r = -0.109$, $p = 0.431$). The data indicates there is no relationship between high AI readiness and frequent use of AI nor a significant influence on customer experience and segmentation strategies. The data from respondents highlighted that AI is still in its early stages in real estate in Iraqi Kurdistan. While readiness is important, the lack of real-time analytics and integration issues might hurt AI's effectiveness. The evolving understanding of AI's potential in marketing, as noted in responses like "AI is in its infancy" and "Artificial intelligence is the future," suggests that better readiness could eventually enhance AI's usage and impact.

4. AI Readiness and AI Segmentation:

H4: The hypothesis that suggests there is no significant relationship between AI readiness and AI segmentation is supported.

The correlation between AI readiness and segmentation practices was not significant ($p = 0.253$), supporting the idea that AI readiness alone does not significantly drive segmentation effectiveness. Many respondents accepted AI's potential to improve segmentation but mentioned challenges like data quality and integration with existing systems as obstacles to achieving its full potential. Thus, while AI readiness may be important, it does not automatically translate into better segmentation practices without overcoming these operational barriers.

5. AI Usefulness and Segmentation:

H5: The hypothesis that stated AI usefulness impacts the effectiveness of AI segmentation practices is partly supported.

There is a reasonable positive correlation between both dimensions of AI usefulness and AI segmentation (AIUsefulness_1: r = 0.405, AIUsefulness_2: r = 0.449), although neither dimension was a significant predictor of segmentation in the regression analysis. While AI usefulness is linked to better segmentation in some cases, the relationship is not strong enough to be convincing. Respondents discussed AI's role in creating targeted marketing plans, assisting with property selection, and enhancing segmentation. However, challenges related to data quality and integration problems could limit the effectiveness of AI in segmentation, emphasizing the need for clean, accurate data to maximize its impact.

6. AI Frequency and Its Impact on Segmentation and Readiness:

H6: The hypothesis that suggested higher AI frequency does not significantly improve AI readiness or the overall impact of AI on customer experience and segmentation is partly supported.

AI frequency positively correlates with AI segmentation, but its effect on AI readiness and customer experience was not statistically significant in the regression analysis (p = 0.671). Responses highlighted AI's positive impact on marketing and customer service, but concerns over infrastructure, skilled personnel, and adoption barriers suggest that increasing AI frequency does not automatically lead to better outcomes. For instance, while AI shows promise, some respondents noted concerns such as AI making people "lazy" or the fear that AI could become over-reliant, which may hinder its widespread adoption. These insights reinforce the notion that frequency of use, by itself, may not significantly improve AI's effectiveness without addressing underlying challenges.

5 DISCUSSION

This study aimed to explore the role of Artificial Intelligence (AI) in targeting and segmentation strategies within the real estate sector in Iraqi Kurdistan. Within the scope of this research, AI applications' influence on customer experience and segmentation effectiveness was investigated. The final results from both qualitative and quantitative analysis revealed important conclusions. The majority of participants perceived AI to be useful in the real estate sector. Although there was a weak relationship between (AI) usefulness and customer experience, through open-ended questions, they suggested that (AI) can benefit this sector by enhancing customer interactions, particularly in marketing and personalization of their offerings. Therefore, this outcome indicates that dimensions such as (AI) usefulness cannot be measured through close-ended questions. In addition, the findings suggested that AI technologies have many benefits, such as the personalization of content and instant customer support if it is integrated into the system. But they also highlight the challenges on the way, such as data quality and privacy can hinder AI's ability to segment effectively and improve customer experiences. Respondents indicated that data quality issues e.g., incomplete customer datasets and infrastructure gaps e.g., unreliable internet are some of the challenges. Thus, the lack of full integration of AI applications may prevent AI from being beneficial in enhancing customers in the real estate sector in Iraqi Kurdistan. Therefore, this study fills the regional gap by showing that AI readiness alone is not sufficient in Kurdistan due to all the barriers discussed in this study.

There was a positive relationship between AI frequency and segmentation strategies. This shows that as AI frequency use increases, targeting and segmentation practices are improving too. However, barriers such as difficulties in system integration and lack of real-time data show down the frequency usage of AI, which can result in not leveraging the full potential of AI in marketing strategies. Thus, the necessary AI infrastructure needs to be there to achieve its full potential in marketing strategies. Therefore, despite AI's theoretical promise, respondents reported limited real-world impact in Iraqi Kurdistan.

Moreover, the AI readiness dimension does not impact AI frequency use and segmentation, thus, it has no role in enhancing customer experience. Therefore, it suggests that AI readiness is not enough to increase the frequency of use and improve customer experience unless the main barriers and challenges are addressed and the necessary infrastructure is built with AI integration backbones. The findings suggest AI usefulness showed a positive correlation with effective segmentation but was not a strong predictor of successful segmentation when regressed and analyzed. Thus, aligning with the TAM model, perceived AI usefulness did not translate to customer experience improvement due to operational barriers. Through open-ended questions, professionals emphasized AI's benefits in marketing strategies, content creation, and facilitating property selection, but they also highlighted barriers such as data quality and lack of infrastructure for system integration, which reduces the full potential benefits of AI in segmentation practices within the real estate sector in Iraqi Kurdistan.

There was weak support for the hypothesis that suggests the higher AI frequency usage, the better AI readiness, and so the overall customer experience and segmentation will improve. Some barriers, such as lack of infrastructure, high costs, and resistance to change, slow down the adoption of AI applications, reducing their role in improving customer experience and segmentation strategies. For example, the research regression model explains only 24.2% of the variance

in AI-driven segmentation effectiveness ($R^2 = 0.242$), highlighting AI's limited current impact in Iraqi Kurdistan's real estate sector. This weak descriptive power differs hugely with global levels (e.g., 50%+ R^2 in U.S. markets), reflecting region-specific barriers highlighted in the research: data quality gaps [4], infrastructure deficits [15], and cultural resistance. While AI's theoretical potential aligns with TAM and Diffusion of Innovation frameworks, practical adoption is slow and stands due to Kurdistan's reliance on manual processes and fragmented IT systems issues, which are less prevalent in AI-mature markets like the UAE or Singapore. To bridge this gap, the findings advocate for localized training [14], public-private infrastructure partnerships [9]. These steps, rooted in global best practices, could transform AI from a theoretical promise into a practical tool for Kurdistan's evolving real estate sector.

RESEARCH IMPLICATIONS

This study aims to provide guides to marketing professionals in the real estate sector in Iraqi Kurdistan on the role of AI in Marketing segmentation and targeting strategies. It serves the need of professionals on what they need to do to leverage AI in marketing and provide necessary explanations on government and other institutional roles in providing necessary infrastructure in this field. The finding in this research suggests the need for AI-specific frameworks from policy and regulatory bodies. The lack of significant influence from AI readiness suggests that existing policies may provide necessary support in incentivizing AI adoption effectively. Building trust and reducing doubt in AI usage requires AI-friendly regulations, including data privacy laws from policymakers in this region. In addition, it would be wise for the Government to collaborate with tech firms and real estate stakeholders to invest and provide funds for AI projects or subsidize infrastructure upgrades to develop innovation hubs. KRG needs to balance AI adoption with broader economic stability goals.

The weak correlation between AI frequency and customer experience reflects gaps in IT infrastructure deficits, such as weak internet or limited cloud computing access. Investing in foundational infrastructure is important in enabling real-time analytics and AI integration. Tax incentives and grants for AI integration could reduce barriers and encourage companies to consider upgrading their outdated systems. Moreover, it will reduce resistance to change and eliminate cultural skepticism toward AI technologies. In Kurdistan, organizations in general and the real estate companies in particular need to address the skill gaps and provide necessary training in areas such as standardized data practices and transparency in data usage. Poor data quality can impact AI effectiveness in segmentation and targeting practices. While lack of data transparency could hinder AI's role in building trust and concern.

There are other issues, such as economic and resource constraints, that are barriers to AI readiness. For small firms, high costs upfront for AI applications and lack of infrastructure can impact their decision and appetize for AI adaption. As it was argued earlier, providing funds or subsidizing through microfinancing schemes could open their appetite for AI readiness. Other solutions include tailoring AI technologies to Iraqi Kurdistan's unique market dynamic can provide a more local solution rather than relying on generic tools that may be more relevant and effective. Therefore, based on these arguments in this study, the scholars recommend future research on how policy and infrastructure investment impact AI adoption and examines AI challenges in adjacent sectors.

RECOMMENDATIONS

1. Develop Data Management: There were lots of challenges and barriers in data management that could impact the effectiveness of AI usage in the real estate targeting and segmentation strategies in Iraqi Kurdistan. Real estate companies should heavily invest in data management practices, ensuring data accuracy in a consistent and timely manner. These practices help real estate firms to use AI applications to their full potential and improve segmentation accuracy.

2. Improve System Integration: To let the data flow smoothly and be analyzed effectively in segmentation strategies, firms in this sector should invest in building the necessary AI infrastructure to support AI adoption and prioritize the integration of AI technologies. This includes investing in IT system upgrades to improve data privacy and security.

3. Invest in Human Resources Development: Employee development through providing training and AI-related courses, such as technical and practical applications of AI, is essential in enhancing AI readiness and improving customer experiences. These trainings will empower employees to use AI applications in the best way and improve segmentation strategies, resulting in more satisfied customers.

4. Focus on Personalization: In the real estate sector, where customers invest heavily in property buying, AI technologies should be used to address their unique needs through personalized targeting and segmentation strategies.

5. Establish Regional Data Governance Frameworks: policy makers need to create standardized data collection protocols (e.g., unified property databases) to improve data accuracy and interoperability, addressing challenges like fragmented customer records. Additionally, partner with tech firms to fund AI innovation hubs that provide cloud infrastructure and real-time analytics tools for small-to-medium enterprises (SMEs).

CONCLUSION

For the first time, this research aims to investigate the role of AI applications in targeting and segmentation in the real estate sector in Iraqi Kurdistan. The results suggest that AI can improve customer experience and segmentation strategies, yet there are many challenges and barriers that impact its full potential and reduce its effectiveness. While AI technologies are seen as useful in many countries, their role in targeting and segmentation strategies in improving customer experience was not as visible as expected. Therefore, it was advised that to benefit from AI applications to their full potential, the real estate firms in Iraqi Kurdistan should invest in AI infrastructure. This way, companies can adopt AI and integrate AI technologies into themselves. Additionally, human development through technical and practical training should complement the upgrade to empower employees and enhance segmentation strategies. Only by taking these steps, the real estate firms in Iraqi Kurdistan benefit from AI applications to their full and improve customer experience.

In conclusion, AI is the future, and every sector should invest in and leverage its technological benefits. This statement applies to real estate companies, and they should transform their marketing and customer engagement strategies. However, it is not without any challenges and barriers, it requires overcoming them if firms in this sector need successful implementation and execution.

REFERENCES

[1] S. Verma, S. S. Bhattacharyya, S. Kumar, and S. K. Roy, "Artificial intelligence in marketing: Systematic review and future research direction," International Journal of Information Management Data Insights, vol. 1, no.1, pp. 100002, 2021. https://doi.org/10.1016/j.jjimei.2020.100002

[2] S. M. George, B. Sasikala, T. Gowthami, P. Sopna, M. Umamaheswari, and D. P. Dhinakaran, "Role of artificial intelligence in marketing strategies and performance," Migration Letters, vol. 21, no. S4, pp. 1589–1599, 2024.

[3] M. H. Huang, and R. T. Rust, " Technology-driven service strategy," J. of the Acad. Mark. Sci. vol. 45, pp. 906–924, 2017. https://doi.org/10.1007/s11747-017-0545-6

[4] M. Basha, M. "Impact of artificial intelligence on marketing," East Asian Journal of Multidisciplinary Research, vol. 2, no. 3, pp. 993-1004, 2023. https://doi.org/10.55927/eajmr.v2i3.3112.

[5] J. Sterne, "Artificial intelligence for marketing: Practical applications," Wiley. 2017. https://www.google.iq/books/edition/Artificial_Intelligence_for_Marketing/o_YtDwAAQBAJ?hl=en&gbpv=1

[6] C. Mele, and T. Russo Spena, "Artificial intelligence in services. In Artificial intelligence in services (NP)," Edward Elgar Publishing, 2023. https://doi.org/10.4337/9781802202595.Artificial.Intelligence.in.Services

[7] P. Thaichon, and S. Quach, S. (Eds.), "Artificial intelligence for marketing management," [eBook], Routledge, 2023. https://www.google.iq/books/edition/Artificial_Intelligence_for_Marketing_Ma/QU-IEAAAQBAJ?hl=en&gbpv=1

[8] S. Teixeira, and J. Remondes, (Eds.), "The use of artificial intelligence in digital marketing: Competitive strategies and tactics," [eBook], IGI Global. 2023.

https://www.google.iq/books/edition/The_Use_of_Artificial_Intelligence_in_Di/vOvkEAAAQBAJ?hl=en&gbpv=1

[9] J. Bulchand-Gidumal, E. W., Secin, P. O'Connor, and D. Buhalis, D., "Artificial intelligence's impact on hospitality and tourism marketing: Exploring key themes and addressing challenges," Current Issues in Tourism, vol. 27, no.14, pp. 2345-2362, 2024. https://doi.org/10.1080/13683500.2023.2229480

[10] H. Kim, K. K. F. So, S. Shin, and J. Li, J., "Artificial intelligence in hospitality and tourism: Insights from industry practices, research literature, and expert opinions," Journal of Hospitality & Tourism Research, vol. 48, no.1, pp. 3-30. 2024. https://doi.org/10.1177/10963480241229235

[11] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," MIS Quarterly, vol. 13, no. 3, pp. 319-340, 1989. https://doi.org/10.2307/249008

[12] E. M. Rogers, "Diffusion of innovations (5th ed.), Free Press, 2003.

[13] A. Payne, and P. Frow, " A strategic framework for customer relationship management," Journal of Marketing, 69(4), 167-176, 2005. https://doi.org/10.1509/jmkg.2005.69.4.167

[14] R. Kumar, "Research methodology: A step-by-step guide for beginners [eBook]. SAGE Publications. ISBN: 9781526457080, 1526457083, 2018.

[15] Y. K. Dwivedi, L. Hughes, E. Ismagilova, G. Aarts, C. Coombs, T. Crick, M. D. Williams, "Artificial Intelligence (AI): Multidisciplinary perspectives on emerging 46 challenges, opportunities, and agenda for research, practice and

policy," International Journal of Information Management, vol. 57, Article 101994, 2021. https://doi.org/10.1016/j.ijinfomgt.2019.08.00

[16] M. H. Huang, and R. T. Rust, R. T. , " A framework for collaborative artificial intelligence in marketing," Journal of Retailing, vol. 98, no. 2, pp. 209–223, 2022. https://doi.org/10.1016/j.jretai.2021.03.001

[17] M. H. Huang, and R. T. Rust, R. T. Artificial intelligence in service. Journal of Service Research, vol. 21, no. 2), pp. 155–172, 2018. https://doi.org/10.1177/1094670517752459

[18] J. J. Li, M. A. Bonn, and B. H. Ye, B. H, "Hotel employee's artificial intelligence and robotics, awareness and its impact on turnover intention: The moderating roles of perceived organizational support and competitive psychological climate," Tourism Management, vol. 73, pp. 172–181. 2019. https://doi.org/10.1016/j.tourman.2019.02.006

[19] G. Volkmar, P. M. Fischer, and S. Reinecke, "Artificial Intelligence and Machine Learning: Exploring drivers, barriers, and future developments in marketing management," Journal of Business Research, vol. 149, pp. 599–614, 2022.

[20] B. Thormundsson, "AI corporate investment worldwide 2015-2022, 2024," Accessed on 10/02/2025 https://www.statista.com/statistics/941137/ai-investment-and-funding-worldwide/

[21] MIT Technology Review Insights, The global AI agenda: North America. *MIT Technology Review*. 2020. https://mittrinsights.s3.amazonaws.com/ AIagenda2020/NAAIagenda.pdf

[22] Y. Masnita, J. K. Ali, A. Zahra, N. Wilson, and W. Murwonugroho, "Artificial intelligence in marketing: Literature review and future research agenda," Journal of System and Management Sciences, vol. 14, no.1, pp.120-140, 2024. https://doi.org/10.33168/JSMS.2024.0108

[23] D. Chaffey, "Digital marketing: Strategy, implementation, and practice," Pearson Education, 2020.

[24] S. Brough, S. GRASPED The impact of cultural attitudes on marketing, Vol. 3: Crafting marketing magic in a culturally connected world [eBook]. GRASPED Digital, 2024. Available at: https://www.google.iq/books/edition/GRASPED_The_Impact_of_Cultural_Attitudes/B98BEQAAQBAJ?hl=en&gbpv=1

[25] P. Kotler, and K. L. Keller, "Marketing management" (15th ed.), Pearson.,2016.

[26] N. Hennigs, K. P. Wiedmann, and C. Klarmann, "What is luxury?," Marketing Review St. Gallen, vol. 29, no. 4, pp. 38-45, 2012. https://doi.org/10.1362/146934712X13406919478584

[27] S. Said, S. (2023). The role of artificial intelligence (AI) and data analytics in enhancing guest personalization in hospitality. *Journal of Modern Hospitality*, *2*(1), 1-13, 2023.

[28] Y. Liu, C. Gu, and J. Li, "The application of AI in luxury real estate marketing: Insights from agents and consumers," International Journal of Market Research, vol. 63, no.3, pp. 273-290, 2021.

[29] M. H. Huang, and R. T. Rust, "Artificial intelligence in service," Journal of Service Research, vol. 21, no. 2, pp. 155-172, 2021. https://doi.org/10.1177/1094670517752459

[30] C. Prentice, X. Wang, S. M. C. Loureiro, "The role of artificial intelligence in service innovation within the hospitality sector," Journal of Hospitality Marketing & Management, vol. 29, no. 7, pp. 785-803, 2020.

[31] F. J. Hair, P. R. Bush, J. D. Ortinuau, "Marketing Research Within a Changing Information Environment," London: The McGraw-Hill Companies, 2002.

[32] A. Bryman, "Social research methods," (5th ed.). Oxford University Press, 2016.

[33] J. F. Hair, R. E. Anderson, B. J. Babin, and W. C. Black, "Multivariate data analysis (7th ed.). Pearson, 2010.

[34] B. Yoo, N. Donthu, and T. Lenartowicz, "Measuring Hofstede's Five Dimensions of Cultural Values at the Individual Level: Development and Validation of CVSCALE," Journal of International Consumer Marketing, vol. 23, pp. 193-210, 2011.

[35] A. Bryman, and E. Bell, "Business Research Methods," Second Edition, United States; Oxford University Press, 2007.

[36] P. Baines, B. Chansarkar, 2002. Introducing Marketing Researc,. England: John Wiley & Sons Ltd, 2002.

[37] J. Cohen, "Statistical power analysis for the behavioral sciences," (2nd ed.), Lawrence Erlbaum Associates, 1988.

[38] A. Field, "Discovering statistics using IBM SPSS statistics," (5th ed.), Sage Publications, 2018.

[39] F. P. Cook, "SPSS-Version, 18.0," University of Colorado Denver, Center for Nursing Research, 2010.

https://www.google.iq/books/edition/Research_Methodology/J2J7DwAAQBAJ?hl=en&gbpv=1