

Impact of Digital Marketing and Social Factors on Customer Behavior Towards The Residential Construction In Shangdong, China

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Abstract:

This research aimed to (1) assess the demographic factors that affect customer behavior towards residential construction in Shandong, China, and (2) examine the influence of digital marketing and social factors on customer's behavior towards residential construction in Shandong, China—the conceptual framework based on CDJ model. The sample was 400 customers, or expected to be the customers of the residential construction business in Shandong province, China. Statistics used to analyze data were descriptive statistics, including Frequencies, Mean, and Standard Deviation, and inferential statistics were Independent Samples t-test, One-way ANOVA, LSD, and Multiple Linear Regression. The analysis found that most customers, or expecting to be customers of the residential construction business in Shandong province, China, are females aged 36-45, married, have a Bachelor's degree, have a monthly income of 10,000-20,000 yuan, and are state-owned employees. The hypotheses found that the significant difference in educational background affects customers' behavior differently. Digital marketing influences customer behavior, including SEM, display ads, influencers, and social factors, including family, reference groups, roles, and status. The recommendations to improve the residential construction business are provided in detail.

Keywords: digital marketing, social factors, residential construction, housing purchase

Introduction

Digital marketing has changed the way firms communicate with their customers and how those customers behave in many different industries, including China's retail and real estate markets. In their research on the Chinese real estate industry, Li (2022)

demonstrated how digital marketing increases real estate businesses' transaction volumes by increasing consumers' intention to buy homes through tailored product and service offerings. In a similar vein, Wang (2023) looked at digital payment systems, which are an essential part of digital marketing strategies, and studied how it affected consumer behavior. The results reveal that online environments designed for essential consumer groups, like women and college students, significantly contribute to economic growth. These studies highlight the impact of digital marketing on consumer behavior, economic growth, and sectoral development in China's specific market.

Digital marketing has several advantages, e.g., increasing consumer involvement and changing purchasing habits (Jossy & Reena, 2024). However, there are still certain obstacles to overcome, especially when trying to tailor these methods to certain demographics and market segments in China, like the construction industry in Shandong. Research on these characteristics in regional settings is urgently needed so businesses like Shandong China Construction Sixth Engineering Bureau Corp., Ltd. may optimize their digital marketing tactics to impact consumer behavior positively. Filling this void will have two purposes: first, it will add to what is already known about the effects of digital marketing on consumer behavior, and second, it will provide practical advice to companies in China that are trying to improve their digital marketing campaigns for specific demographics.

To fill this knowledge vacuum, researchers in China's construction industry should analyze how digital marketing influences consumer behavior, specifically, how businesses like Shandong China Construction Sixth Engineering Bureau Corp., Ltd. use digital marketing to increase customer engagement, satisfaction, and loyalty. This research is essential for filling in the gaps in our knowledge about how digital marketing impacts customer behavior in an industry that has historically used fewer digital platforms for communication. By filling this knowledge gap, companies in the construction industry would better understand how to use digital marketing in China to reach their target population and cater to their tastes and preferences.

Research Objectives

(1) To assess the demographic factors that affect customer behavior towards residential construction in Shandong, China.

(2) To examine the influence of digital marketing and social factors on customer's behavior towards residential construction in Shandong, China.

Research Questions

(1) How do demographic factors affect customer behavior toward residential construction in Shandong, China?

(2) How does digital marketing influence the customer's behavior towards residential construction in Shandong, China? And in what way?

(3) How do social factors influence the customer's behavior toward residential construction in Shandong, China? And in what way?

Research Hypotheses

H₁: Different demographic factors, including gender, age, educational

background, occupation, and monthly income, affect customer behavior toward residential construction in Shandong, China, differently.

H₂: Digital marketing influences customer behavior towards residential construction in Shandong, China.

H₃: Social factors influence customer behavior towards residential construction in Shandong, China.

Research Framework

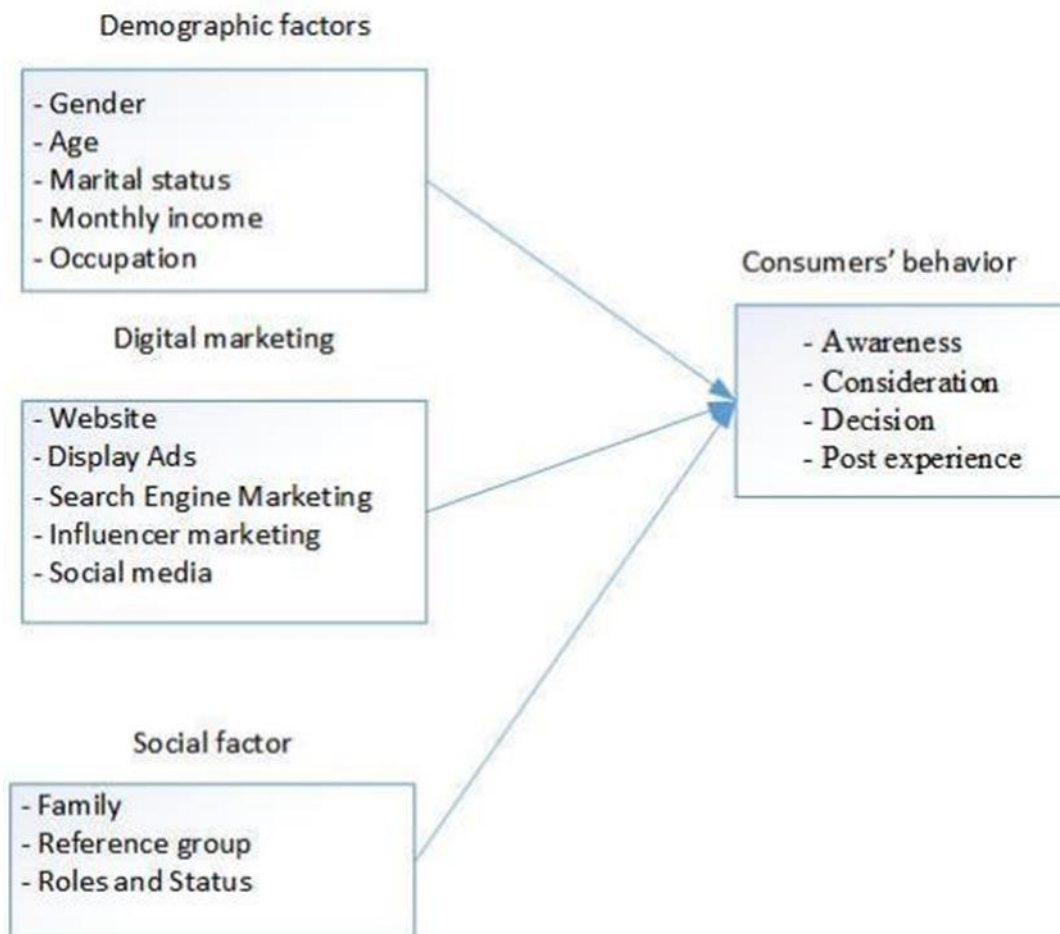


Figure 1: Research Framework

Literature Review

Consumer's behavior

Understanding consumer behavior is crucial for businesses to develop effective marketing strategies and deliver products or services that meet consumer needs and preferences. One well-known consumer behavior is social identity theory (SIT), developed by Tajfel and Turner (1986), which explains how social group memberships influence self-concept and behavior. Key concepts of SIT are social categorization, social identification, and social comparison. The applications of SIT are in consumer behavior, intergroup relations, and organizational behavior. SIT is applied to understand consumer behavior and brand preferences. Consumers often

align with brands that reflect their social identity. The theory of planned behavior (TPB) developed by Ajzen (1991) suggests that attitudes, subjective norms, and perceived behavioral control collectively shape an individual's intention to perform a particular behavior. Deci & Ryan (2000) proposed self-determination theory (SDT) that identifies autonomy, competence, and relatedness as fundamental psychological needs that drive intrinsic motivation and well-being. Gryshchenko and Shkoda (2023) proposed the theory of reasoned action (TRA), which focuses on how attitudes and subjective norms affect behavioral intentions, with implications for digital marketing strategies.

Court, Elzinga, Mulder, and Vetvik (2009) proposed a consumer decision journey (CDJ) that describes the stages consumers go through when purchasing, including assessment, consideration, decision, and post-purchase experience. CDJ is a theory that is relevant in the field of digital marketing. It was developed to define customers' processes before, during, and after purchasing. The introduction of digital marketing has led to the development of this theory, which emphasizes the non-linear and ever-changing nature of interactions between consumers and brands across various digital channels for consumers. This study is about customers' behavior towards residential construction, which is a long-term commitment by nature and requires careful review before making a decision. Therefore, this research used CDJ as a theory to develop a research framework.

Digital Marketing

Digital marketing is a marketing approach that uses emerging media, such as digital technology and the Internet, as well as technical means, such as big data and artificial intelligence (AI), to promote products or services, enhance brand influence, and improve sales performance through targeted marketing strategies and activities. Key principles of digital marketing include precise targeting, diversified channels, and continuous innovation. This study concentrates on popular media channels consisting of websites, display Ads, search engine marketing (SEM), influencer marketing, and social media, which are described in detail as follows.

The website is the main online presence for businesses and offers details about their goods and services and brand messaging. A well-designed website is the center of online activity and improves a company's reputation. Evans et al. (2020) research emphasizes how website design and usability affect user engagement and conversion rates.

Display Advertising or Display Ads. Refers to display advertising entails posting graphical or multimedia advertisements on websites or platforms owned by other parties to reach target audiences. These advertisements may appear as interactive rich media, banners, or movies. Li et al. (2019) claim that display advertising can raise brand awareness and improve website traffic when properly targeted and optimized.

Search Engine Marketing (SEM) encompasses paid search advertising, where advertisers bid on keywords to display ads in search engine results pages (SERPs). It includes pay-per-click (PPC) advertising on platforms like Google Ads and Bing Ads. Cho et al. (2020) examine the impact of SEM on consumer behavior and purchase

intentions, emphasizing the importance of keyword relevance and ad quality in driving clicks and conversions.

Influencer Marketing involves collaborating with individuals with a significant following and influence in a particular niche or industry to promote products or services. Influencers create authentic content that resonates with their audience, driving engagement and trust. De Veirman et al. (2019) explored the effectiveness of influencer marketing in enhancing brand credibility and purchase intentions among consumers.

Social media platforms such as WeChat, Sina Weibo, Douyin (TikTok), and Tencent QQ provide opportunities for businesses to engage with their target audience, build brand awareness, and drive conversions. Kaplan and Haenlein (2019) discussed the role of social media in shaping consumer behavior and fostering brand-consumer relationships through interactive communication and user-generated content.

Social Factors

Social factors directly or indirectly related to consumer behavior are relevant in daily life, including family, reference groups, roles, and consumption status. Family members significantly influence purchasing decisions and roles in the buying process. Family involvement is crucial in determining criteria and financial planning for residential construction. Reference Groups such as close friends, colleagues, and public figures greatly influence purchase decisions. Understanding these influences helps in shaping marketing strategies.

Roles and Status

Consumers interact with various social groups, leading to the creation of multiple roles. For instance, a woman might be a 'daughter' within her family and a 'marketing manager' at work. Each role involves anticipated activities and responsibilities.

Related Studies

Digital marketing and social factors are critical in shaping consumer behavior in the residential construction industry. Understanding these elements helps design targeted marketing strategies that resonate with consumers' needs and preferences. Recent studies in customer behavior reveal diverse aspects of how consumer actions and preferences shape brand loyalty and marketing strategies. Kasianova and But-Husaim (2022) emphasize the importance of understanding consumer purchase responses and long-term loyalty to enhance market share and competitive advantage. Iyer and Soni (2023) discuss how integrating digital channels and social media requires coordinated efforts across various departments to improve the customer experience. In the B2B sector, Bilro, Loureiro, and Souto (2023) stress the need for a comprehensive understanding of B2B customer behavior to engage effectively with clients.

Demographic research has also been highlighted, with Kangalakova et al. (2022) projecting Kazakhstan's population growth and regional variations, which are crucial for strategic planning. Stupariu (2023) suggests that Europe should improve demographic policies through better coordination and participation to address

declining birth rates and aging populations. Rostovskaya, Bedrina, and Khramova (2023) trace the evolution of demographic research, while Gower et al. (2022) advocate for standardized models like the Demes data model to enhance demographic data analysis.

In the tourism and healthcare sectors, research by Elgarhy and Mohamed (2022) and Mutia and Pujianto (2022) demonstrates the significant impact of the 7Ps marketing mix on customer satisfaction and business profitability. Warganegara and Nurya (2023) show that effective promotion strategies are key to increasing tourism visits. Swami (2023) and Tan (2023) underline the importance of digital marketing in reaching and engaging global audiences, while Qian et al. (2023) highlight its role in transforming brand promotion and consumer engagement.

China Construction Sixth Engineering Bureau, a top global enterprise, excels in real estate development and architectural design. With over 11,000 employees and a strong focus on engineering and construction, it combines real estate development with engineering contracting to create high-quality residences and maintain a leading position in its industry.

Methodology

This study aims to assess the demographic factors that affect customers' behavior toward residential construction in Shandong, China, and to examine the influence of digital marketing and social factors on customer's behavior toward residential construction in Shandong, China. The conceptual framework was developed based on customers' behavior and decision-making process, which include consideration, assessment, decision, and post-experience. Digital marketing concentrates on media channels, including websites, display Ads., SEM, influencer marketing, and social media. The social factors include family, reference group, and roles and status. The demographic factors include gender, age, marital status, monthly income, and occupation. The target population consists of customers who expect to be the customers of the residential construction business in Shandong Province, China. Data were collected from customers or expected to be the customers of the residential construction business in Shandong province, China. The sample size was 400, calculated using Cochran's formula. Data were collected through an online platform using a convenience sampling method. To ensure the quality and confidence of the questionnaires, the content validity test using Item Object Consistency (IOC) by 3 experts in the field. The reliability test using Cronbach's alpha coefficient (α) for social factors, digital marketing, and customer behavior were 0.906, 0.891, and 0.959. Statistics used to analyze data were Independent sample t-test, One-way ANOVA, and Multiple linear regression.

Findings

Descriptive Statistics

The analysis found that the respondents were 58.3% female and 41.8% male. Age distribution is skewed towards older groups, with 37.3% aged 36-45 and 38.0% aged 56 or older, indicating the market caters to middle-aged and older consumers. Most of the respondents were married, with 45.3% being married. Educational

background is relatively high, with 51.3% holding a bachelor's degree and 26.3% having a master's degree or higher. Income distribution reveals that 40% earn between 10,000-20,000 yuan monthly, and 22.5% earn less than 10,000 yuan. There are no respondents with the highest income above 30,000 yuan, indicating a low to middle-income market. Occupation reveals relatively equal distribution: state-owned employees 29.3%, unemployed 22.3%, and private company employees 17.5%. Table 1 displays the descriptive statistics of the respondents' opinion level on digital marketing. The results reveal that in terms of providing information, Search Engine Marketing (SEM) is at the top level, followed by display advertising and social media marketing. This suggests that the company should prioritize these areas when planning digital marketing strategies.

Table 1: Opinion level on digital marketing

Digital Marketing	1	2	3	4	5	Mean	SD	Meaning	Rank
Website	6	75	222	97	0	3.03	0.700	Neutral	5
Display Ad	4	38	174	109	75	3.53	0.936	Agree	2
SEM	9	33	152	125	81	3.59	0.974	Agree	1
Influencer	3	52	232	113	0	3.14	0.652	Neutral	3
Social media	5	77	215	103	0	3.04	0.707	Neutral	4
Overview of digital marketing	3	53	227	117	0	3.15	0.660	Neutral	

The respondents agree that the social factor's opinion is considered when selecting a residential area. Table 2 reveals that the reference group is the most influential, followed by role and status. These findings underscore the importance of peer groups and social status in housing decisions, suggesting that family influence is less critical than traditionally assumed. Residential construction companies should consider marketing strategies that leverage social proof and status-oriented messaging.

Table 2: Opinion level on social factors

Social Factors	1	2	3	4	5	Mean	SD	Meaning	Rank
Family	6	75	222	97	0	3.02	0.700	Neutral	3
Reference Group	3	34	161	121	81	3.61	0.928	Agree	1
Role and Status	11	42	141	130	76	3.54	1.003	Agree	2
Overview of social factor	3	45	171	111	70	3.50	0.660	Agree	-

Table 3 reveals that the opinion level on the overview of customers' behavior on

purchasing decisions toward residential construction is at the agreed level. In detail consideration, the 'consideration' stage ranks highest, followed closely by the 'decision' stage. However, the lower opinions in the assessment and post-experience stages indicate areas for improvement. Companies should enhance initial engagement strategies and post-purchase follow-ups to ensure a consistent customer experience across all stages.

Table 3: Opinion level on customers' behavior

Customer's Behavior	1	2	3	4	5	Mean	SD	Meaning	Rank
Assessment	12	51	158	125	75	3.46	1.028	Neutral	4
Consideration	11	31	158	125	75	3.56	3.56	Agree	1
Decision	12	41	152	126	69	3.50	0.991	Agree	2
Post Experience	12	40	159	117	72	3.49	0.996	Neutral	3
Overview of customer's behavior	10	34	152	133	71	3.55	0.962	Agree	-

Inferential statistics

The independent sample t-test and ANOVA were used to test hypothesis 1. Table 4 shows the analysis results showing that gender, age, marital status, monthly income, and occupation have no significant effect on customers' behavior toward residential construction in Shandong, China. However, the differences in educational background significantly affect customers' behaviors towards residential construction in Shandong, China, in this study at a statistically significant of 0.05. The post hoc analysis using LSD for the multiple comparisons of the difference in educational background group demonstrated that the customers with the educational background Master's Degree or higher are more aware of the customer's behavior than the high school or lower group.

Table 4: Analysis results on the effects of demographic factors

Demographic factors	Purchase Decision	Analysis Results
Gender	-	$t(398) = 1.132, p = 0.258$
Age	-	$F(4,395) = 0.513, p = 0.726$
Marital Status	-	$F(2,397) = 2.710, p = 0.068$
Educational Background	√	$F(2,397) = 4.019, p = 0.019^*$
Monthly Income	-	$F(3,396) = 1.111, p = 0.344$
Occupation	-	$F(5,394) = 0.992, p = 0.422$

- No different effects at the statistically significant of 0.05

√ having different effects at the statistically significant of 0.05

To test hypothesis 2, multiple linear regression was used to evaluate the influence

of five independent variables, website, display ad., SEM, influencer, and social media, on five dependent variables: *assessment*, *consideration*, *decision*, *post-experience*, and *customer behavior*. Table 5 shows the analysis results that *SEM*, *display ad*, and *influencer* has a positive relationship with customer's behavior, with a multiple correlation (R) of 0.847 and able to predict the value of the analysis equation equal to 76.30 percent. Table 7 shows the prediction equation for the influence of digital marketing on customer behavior and all stages of residential construction. *SEM*, *display ads*, and *influencers* significantly influence the overview of *customer behavior* at all stages except the *decision stage*, where *SEM* has no influence.

Table 5: The analysis results of social factors influence customer behavior and all stages

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
Assessment	0.890	0.793	0.791	0.470
Consideration	0.863	0.744	0.742	0.494
Decision	0.852	0.726	0.725	0.520
Post Experience	0.828	0.685	0.683	0.561
Customer's behavior	0.874 ^a	0.765	0.763	0.468

Predictors: (Constant), SEM, Display Ad., Influencer

To test hypothesis 3, multiple linear regression was used to evaluate the influence of three independent variables, family reference group and role and status, on five dependent variables: *assessment*, *consideration*, *decision*, *post-experience*, and *customer behavior*. Table 6 shows the analysis results that *family*, *reference group*, and *role and status* have a positive relationship with customer's behavior, with a multiple correlation (R) of 0.876 and able to predict the value of the analysis equation equal to 76.60 percent. Table 7 shows the prediction equation for the influence of social factors on customer behavior and all stages of residential construction. *Reference groups*, *roles*, and *status* influenced the overview of the customer's behavior and all stages involved at the statistical significance value of 0.05.

Table 6: The analysis results of social factors influence customer behavior and all stages

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
Assessment	0.908	0.824	0.823	0.432
Consideration	0.863	0.744	0.742	0.493
Decision	0.865	0.749	0.747	0.499
Post Experience	0.830	0.688	0.686	0.558
Customer's behavior	0.876	0.767	0.766	0.466

Predictors: (Constant), Family, Reference Group, Role and Status

Table 7 Forecasting Equations for digital marketing and social factors influence customer's behavior and all stages

Hypotheses	Forecasting Equations
H2: The digital marketing influence customer's behavior towards the residential construction, Shandong, China. $\hat{Y}_T$ = Customer behavior $\hat{Y}_1$ = Assessment $\hat{Y}_2$ = Consideration $\hat{Y}_3$ = Decision $\hat{Y}_4$ = Post Experience X_3 = SEM X_2 = Display Ads. X_4 = Influencer	$\hat{Y}_T = 0.130 + .539X_3 + .267X_2 + .173X_4$ (.000*) (.000*) (.001*) $\hat{Y}_1 = -0.245 + .570X_3 + .322X_2 + .167X_4$ (.000*) (.000*) (.002*) $\hat{Y}_2 = 0.135 + .420X_3 + .397X_2 + .162X_4$ (.000*) (.000*) (.004*) $\hat{Y}_3 = .253 + .503X_3 + .408X_2$ (.000*) (.000*) $\hat{Y}_4 = .142 + .539X_3 + .253X_2 + .166X_4$ (.000*) (.000*) (.010*)
H3: The social factors influence customer's behavior towards the residential construction, Shandong, China $\hat{Y}_T$ = Customer behavior $\hat{Y}_1$ = Assessment $\hat{Y}_2$ = Consideration $\hat{Y}_3$ = Decision $\hat{Y}_4$ = Post Experience X_1 = Family X_2 = Reference Group X_3 = Roles and Status	$\hat{Y}_T = 0.333 + 0.030X_1 + 0.352X_2 + 0.525X_3$ (.541) (.000*) (.000*) $\hat{Y}_1 = -.083 + .047X_1 + .303X_2 + .651X_3$ (.307) (.001*) (.001*) $\hat{Y}_2 = .251 + .100X_1 + .411X_2 + .429X_3$ (.058) (.001*) (.001*) $\hat{Y}_3 = .204 + .046X_1 + .352X_2 + .531X_3$ (.383) (.001*) (.001*) $\hat{Y}_4 = .282 + .055X_1 + .402X_2 + .450X_3$ (.354) (.001*) (.001*)

Discussion

Demographic factor

Demographic factors are crucial in dividing up the market, especially in the residential construction market, due to different demands from various personal profiles, needs, and habits. Home purchasing decisions involve a long-term commitment to both financial and environmental aspects. It requires a careful review of various concerns from trusted sources of information. However, several studies

from various regions and nations report on the significance of demographic factors that affect customers' behavior in house purchasing (Forsythe, 2016; Lei, 2017; Tan, W. & Goh, Y., 2018; Kabir, Jamal, & Kairy, 2023). This study found that the differences in demographic factors, including gender, age, marital status, monthly income, and occupation, had no significant effect on the customer's behavior, which complies with Ariyawansa (2007). However, in detail consideration, this study found that the differences in marital status affect customers' decision-making behavior in the *assessment* stage, which can be elaborated by the fact that married status was the largest sample group (45.3%) in this study, providing a high volume of reviewed information to support *assessment* stage. The considerations may include house spacing designs, environment, facilities, eco-friendly designs with high-tech conveniences, and posh amenities. The marketer should consider providing rich information to support purchasing decision-making. Residential construction companies can target distinct market segments using gender-specific, age-group, or occupation-group preferences in marketing tactics and product offers. Homes that are more technologically advanced, have more adaptable floor plans, have a green touch, and incorporate eco-friendly elements may appeal more to younger generations like Millennials and Generation Z (Kumar et al., 2024).

On the other hand, the Baby Boomer generation may value accessibility features, a one-story design, and being close to healthcare facilities and other amenities. In addition, companies should tailor pricing strategies, financing choices, and home designs to different customer segments' financial capabilities and lifestyle preferences by segmenting. Housing price level and growth decrease the household's enthusiasm for purchasing a new house (Dong, Hui, Yi & Zhang, 2022). Understanding the different needs of each preferred group will help them better focus their marketing to suit the customers' demands.

The significant finding of this research was that differences in educational background significantly affect customers' decision-making regarding house purchasing. The Customer's home construction business behavior is heavily influenced by educational background. Customers with high educational backgrounds may be pickier about house details such as eco-friendly designs, high-tech conveniences, and posh amenities. Customers with lesser educational backgrounds may value practicality, affordability, and community facilities more. However, perceived behavioral control and willingness to pay had insignificant effects on customers' intention to purchase eco-friendly houses (Chanda et al., 2023). Companies should consider pricing strategies, financing choices, and home designs to match customers' financial capabilities and lifestyle preferences by segmenting the target market based on demographic criteria.

Digital Marketing

The study of digital marketing concerning purchase decisions has been conducted in a variety of scenarios, products, and nations (Cherukur & Priya, 2020; Liem, 2023; Solikhah, Faransisca, & Baitul Jannah, 2024) due to the nature of digital marketing in cost-effectiveness and a tremendous commercial impact on the business.

Bala and Verma (2018) also argued that knowing which social media sites a company's target market utilizes is another key factor in guaranteeing that online marketing will succeed. This study demonstrated that search engine marketing (SEM), display ads., and influencers significantly influenced customers' decision-making to house purchasing. Residential construction in Shandong province, China, can use these results in marketing channels, including SEM display ads. Moreover, influencer promotes their marketing strategies, increase market share, boost brand visibility, create leads, and drive conversion. Although SEM encompasses paid search advertising, advertisers must bid on keywords to display ads in search engine results pages and the importance of keywords, relevance, and ads. Quality is still driving clicks and conversations (Cho et al., 2020), and it is still shining and able to reach the target group in a wide area. However, the results from this study demonstrated that SEM does not influence customers' behavior in the decision stage. It is another point of view that might be useful in considering business strategies for a residential construction company.

Digital marketing, including SEM, display ads, and influencers, can significantly benefit residential construction companies in Shandong, China, by engaging with their target audience, showcasing their work, and building brand awareness. Companies may make their business more relatable and build relationships with potential customers by making eye-catching visual content, posting updates on ongoing projects, and interacting with followers through comments and messages. From the results of this study, using the influencer will greatly benefit the business by expediting the customers' purchasing decisions. A marketing influencer is an individual who has a significant following and creates authentic content, mostly video content and live stream, that resonates with the audience to drive engagement and earn trust. Due to easy access to various online information, wrong content can easily destroy individuals' or businesses' reputations. A positive reputation built through interpersonal interactions and positive recommendations is the key to supporting business continuity (Bareweng et al., 2024). Building trust with potential customers in residential construction in Shandong province, China, is very important, and influencers can be one of the good choices for digital marketing.

Social factor

Social factors heavily impact customer behavior in Shandong, China's home construction business. Social factors, such as peer recommendations and community perceptions, significantly impact customer preferences, buying decisions, and brand perceptions. A business's reliability, trustworthiness, and reputation can be greatly affected by positive reviews, testimonials, and recommendations from friends, family, and colleagues. Residential construction companies in Shandong, China, can use social proof to entice new clients and promote brand loyalty by cultivating positive relationships with existing ones and encouraging them to share their experiences with others.

This study found that social factors, including *family*, *reference groups*, and *roles and status*, influenced the overview of customer's behavior and all stages involved,

including *assessment, consideration, decision, and post-experience stage*. However, the family influence is not statistically significant.

Recommendation

Due to advanced technology and the ability to find information for the residential construction business, it is very easy and convenient for everyone. Providing rich and strong information will help support the long-term continuity of the business. Smart usage of digital marketing is necessary to promote business through online platforms such as SEM, display ads, and influencers. **For future research**, longitudinal studies could better understand customer behavior patterns in China's home construction sector. In order to evaluate the efficacy of marketing strategies and initiatives, researchers can detect long-term trends by monitoring changes in customer preferences, purchasing patterns, and market trends over time. To better grasp the factors influencing customer behavior in the area, longitudinal research would be ideal for studying the interplay and evolution of demographic factors, digital marketing initiatives, and social effects.

To gain a more in-depth knowledge of customer attitudes, motivations, and decision-making processes in the residential construction sector of Shandong, China, qualitative research methods like focus groups, interviews, and ethnographic studies can complement quantitative analysis, which offers valuable statistical insights. Compared to quantitative surveys, qualitative research allows researchers to delve deeper into the motivations behind customer behavior, potentially revealing previously unknown insights. Researchers can learn more about the complex elements affecting homebuyers' decisions, contentment, and brand impressions by talking to experts in the field, homebuyers themselves, and other interested parties.

Customer behavior varies among regions, provinces, or cities in China. It would be helpful to perform cross-cultural studies to understand better these variances and the cultural influences on housing preferences and purchasing behavior. Researchers can learn more about the cultural norms, social expectations, and market dynamics that impact Shandong's housing decisions and market trends by comparing customer attitudes, beliefs, and behaviors with those in other parts of China or worldwide. Companies could benefit from cross-cultural research by learning more about the specific elements influencing customer behavior in Shandong, China, and then adapting their marketing tactics and product lines to appeal to a broader range of customers.

Researchers in China's Shandong province could find niches in the home building industry by applying sophisticated market segmentation methods like cluster or latent class analysis. Segmenting the market according to demographics, psychographics, or behavioral patterns allows researchers to find untapped niches with specific wants, needs, and buying habits. Companies can gain a competitive edge and deeper market penetration by understanding the market's heterogeneity and using that knowledge to create segment-specific marketing strategies, products, and customer experiences.

The home construction industry in Shandong, China, is ripe for digital

marketing optimization. Therefore, studying how different strategies and techniques affect customer behavior in this space would be wise. Digital marketing channels, campaigns, and engagement methods can be evaluated for their impact on customer engagement and conversion results by examining key performance indicators (KPIs) such as website traffic, conversion rates, and return on investment (ROI). Another way to find the best digital marketing techniques and maximize the marketing budget is to run A/B tests and multivariate analysis.

The understanding of the social dynamics at work in housing decisions could be enhanced by investigating how social factors, including community involvement, social proof, and peer recommendations, impact customer behavior in the residential building industry of Shandong, China. The social networks of homebuyers, industry experts, and community stakeholders can be mapped out using social network analysis tools. These techniques reveal the interpersonal linkages, communication channels, and patterns of information flow within these networks. Companies can benefit from social impacts to increase brand recognition, trust, and customer loyalty in the region if they have a good grasp of information dispersion, social contagion effects, and network architecture.

To keep ahead of market changes and take advantage of new opportunities, enterprises in the residential construction industry of Shandong, China, should investigate emerging trends and technologies influencing customer behavior. Sustainable building techniques, modular construction methods, innovative house technology, and VR/AR experiences during the homebuying process are all potential areas for further research. Researchers can help businesses in the highly competitive home construction industry innovate and stand out by keeping an eye on technology developments, market disruptors, and shifting customer tastes.

It would be highly interesting to study how green building methods and sustainable design elements affect customer behavior in the residential construction industry of Shandong, China, in light of the increasing focus on sustainability and environmental responsibility. Studies may examine how people feel about eco-friendly houses, what kinds of appliances they like, and how much they're willing to spend on green certifications like LEED or China's Green Building Evaluation Label. Marketers, product designers, and policymakers can benefit from a better understanding of the factors driving demand for sustainable housing and how customers view environmental responsibility.

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