THE INFLUENCES OF DIGITAL MARKETING ON CATERING QUALITY COMPETITIVENESS

YAN YANG

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
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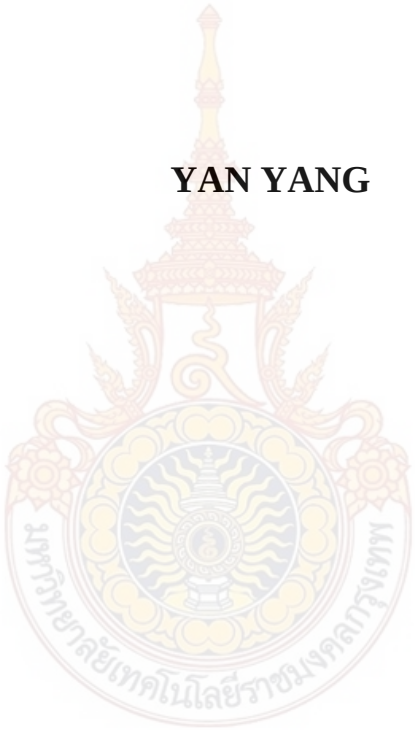

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Author	Yan YANG
Major	Master of Management (Management Science)
Advisor	Associate Professor Dr. Daranee Pimchangthong

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Rajamangala University of Technology Krungthep in Partial Fulfillment
of the Requirements for the Master's Degree

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Director of the Institute of Science Innovation and Culture
Date…Month…Year…

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ABSTRACT

The catering business is exceptionally diverse, with consumers increasingly favoring digital means to enhance the dining experience. Digital marketing is essential in increasing catering companies' competitiveness and market share. This paper will investigate and demonstrate the impact of the independent variable demographic factors, including gender, age, marital status, educational background, occupation, and monthly income, and the dependent variable digital marketing, including the three digital means of social media, online advertising, and online branding on the quality competitiveness of the catering businesses. The study adopts a rigorous quantitative research design, utilizing a comprehensive questionnaire distributed to a sample size of 400 participants. The statistical analysis is multifaceted, encompassing descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (including independent samples t-test, one-way ANOVA, LSD, and multiple linear regression. The results of the hypotheses found that age, educational background, occupation, and monthly income affect the competitiveness of catering quality. Digital marketing positively relates to quality competitiveness with multiple correlation (R) = .952. The ability to predict the analytical equation is 90.6%.

Keywords: catering industry, consumer preferences, digital transformation, quality competitiveness, digital marketing

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Yan YANG

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CHAPTER I

INTRODUCTION

1.1 Background and Rationale

As a vast and diverse industry on a global scale, the catering industry plays a vital role in providing a wide range of culinary choices and serving as a hub for social interactions and cultural exchanges. According to the *"2022 China Catering Industry Annual Report"* released by China Hotel Association and Xinhua News Agency, the catering industry in China reached ¥4689.5 billion in 2021, with a year-on-year growth of 18.6%, almost recovering to the level before the pandemic. However, with the continuous evolution of lifestyles and increasing consumer demands, the catering industry faces new challenges and opportunities. Digital transformation has emerged as a significant trend in the catering industry, essential for enhancing competitiveness and meeting the demands of modern consumers.

The catering industry is an exceptionally diverse sector, encompassing various types of businesses, from traditional restaurants and fast-food chains to food trucks and delivery platforms. This diversity necessitates that businesses continuously adapt and innovate their menus and operational models to meet the ever-changing consumer demands. Digital transformation has already reshaped how the catering industry operates. Many consumers prefer mobile applications for restaurant searches, online ordering, food delivery, or reservations. Social media and online reviews have become critical factors influencing consumers' choices of restaurants and menus. These digital tools not only enhance consumer convenience but also improve the overall dining experience at restaurants. In this digital age, catering businesses must actively embrace digital technologies to enhance efficiency, improve customer experiences, and maintain a competitive advantage.

COVID-19 has impacted the whole world since 2019, especially regarding

customers' dietary patterns. It has become a vital mission to improve the food production and service process if businesses wish to pursue sustainability due to the general environment being changed by the epidemic. The sustainability of food systems inherently implies not only customer satisfaction but also the saving of costs. The catering service must find new ways to increase customer loyalty and satisfaction while implementing improved practices for building their brand image and modern decoration (Chung et al., 2021).

The increasing digitization of economies has highlighted the importance of digital transformation and how it can help businesses stay competitive (Kraus et al., 2021). The exploitation and integration of digital technologies often affect large parts of companies and even go beyond their borders by impacting products, business processes, sales channels, and supply chains. Potential benefits of digitization are manifold and include increases in sales or productivity, innovations in value creation, and novel forms of customer interaction, among others. As a result, entire business models can be reshaped or replaced (Hoang & Le Tan, 2023).

In the age of digitization, organizations should think of advanced strategies to increase their competitiveness and market share by employing the potential of digital content and enhancing their digital capabilities. Recently, many digital media platforms have appeared available to organizations to build their brand, reach their target customers, retain them, and promote their products. Digital media represented a real revolution that made it difficult for organizations to survive in the business environment without investing in these means. Therefore, this study will investigate the impact of digital marketing on the competitiveness of the catering business (Fernandez-Miguelez, 2020). To study and prove the impact of three digitization methods, including social media, online advertisement, and online branding, on the competitiveness of the catering business. The study aims to provide insights and guidance for catering business decision-makers and practitioners on addressing digital marketing challenges by leveraging digital tools to enhance competitiveness and adapt to market dynamics.

1.2 Research Questions

The research questions are as follows:

1) How do demographic factors affect the competitiveness in the catering business?

2) What kind of digital marketing influences the competitiveness in the catering business?

1.3 Research Hypotheses

Based on the research questions above, the following research hypotheses can be proposed:

H1: The differences in demographic factors, including gender, age, marital status, educational level, occupation, and monthly income, affect the quality competitiveness of catering businesses differently.

H2: Digital marketing, including social media, online advertisements, and online branding, influences the quality competitiveness of catering businesses.

1.4 Research Objectives

These objectives aim to provide a comprehensive understanding of how digital marketing contributes to the competitiveness of catering businesses in the modern digital landscape. The research objectives for this study are as follows:

To investigate the impact of demographic factors on the quality competitiveness of the catering industry.

To examine how digital marketing influences the quality competitiveness of the catering business.

1.5 The Scope and Limitation of Study

1.5.1 Content

This study focuses on the impact of digital transformation on the competitiveness of the Chinese Catering Business. Variables: The independent variables under investigation are social media, online advertisement, and online branding; the dependent variable is the competitiveness of the catering business.

1.5.2 Area of Study

This study focuses on the catering business in Kunming City, Yunnan Province. The catering business in this study is the popular catering business, which includes rice noodles, barbecues, and hotpots, as reported by Baidu in 2023 (Jitterbug, 2023).

1.5.3 Sample and Population

The target sample for this study consists of customers who have used the catering business in Kunming City, Yunnan province. Due to the number of customers that cannot be determined, to ensure the representative of the population, 400 samples will be target samples for this study based on Yamane (1973) for an infinite population.

The research employed a convenience random sampling method. These methods were crucial for ensuring sample diversity and representation, thereby enhancing the credibility and universality of the study.

1.5.4 Duration

This study is conducted from August through November 2023.

1.6 Research Framework

The conceptual framework developed from the study of the impact of digital marketing on the competitiveness of the restaurant industry (Singh, Singh & Dhir, 2022) is as follows.

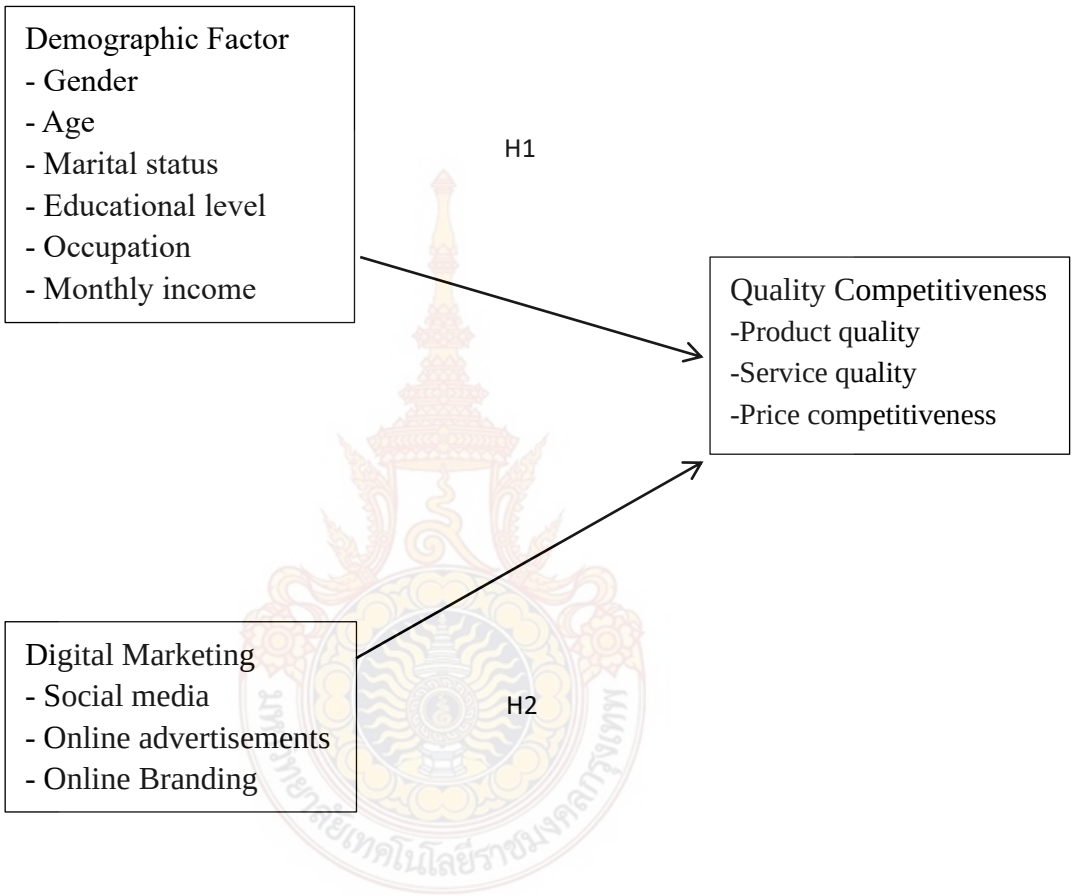

Figure 1.1 Conceptual Framework

1.7 Definition of Key Terms

Social media refers to the content production and exchange platform on the Internet based on user relationships. Social media is a tool and platform that people use to share opinions, insights, experiences, and views. This stage mainly includes social networking sites, Facebook, Twitter, WeChat, and blogs. Social media should be a process in which many netizens spontaneously contribute, extract, create news and

information, and then spread it.

Online Branding refers to shaping and establishing a brand image through the internet and digital channels to attract and retain customers and convey specific values and messages. Online branding typically includes establishing a brand presence on social media, designing professional websites, and conducting online advertising campaigns to enhance brand popularity and attractiveness.

Online Advertisement refers to marketing methods conducted through the Internet and digital platforms such as websites, social media, and search engines to display and disseminate advertising messages to attract potential customers or audiences. Online advertising can take various forms, including banner ads, video ads, social media ads, and search engine ads to increase brand awareness, promote product sales, or convey specific information. It often relies on digital technologies and internet platforms for precise audience targeting and measurement of advertising effectiveness.

Quality Competitiveness is the term that describes a company's ability and Competitiveness relative to competitors in the market. Quality competitiveness typically involves multiple factors, such as product or service quality, cost-effectiveness, market share, innovation capability, brand recognition, and customer satisfaction. In the Catering Business, Quality competitiveness involves providing high-quality food and services, effective cost management, attracting and retaining customers, and building a brand reputation.

Product Quality refers to the performance, reliability, durability, safety, and other characteristics of the product, reflecting whether the product can meet the needs and expectations of consumers.

Service Quality refers to how a service provider can meet or exceed customers' needs and expectations during the service process. It is the core competitiveness of the service in the market.

Price Competitiveness refers to the ability of a business to provide products or services comparable to or better than those of its competitors at lower costs and more

reasonable profits.

Catering Businesses are food and beverage businesses that primarily operate food and beverage services, providing customers with various food and beverages such as rice noodles, barbecue, and hotpot.

CHAPTER II

LITERATURE REVIEW

The influences of digital marketing on catering quality competitiveness have been reviewed in documents, textbooks, articles, and relevant research to formulate research concepts, which are being carried out in the following sequence.

2.1 Related Theories

This section discusses social media, online advertisement, online branding, and quality competitiveness.

2.1.1 Demographic

The impact of Demographics on the competitive edge of catering enterprises includes various demographic factors such as gender, age, marital status, education level, occupation, and monthly income. Understanding these interactions can assist organizations in adopting targeted strategies to address the influence of demographics on the competitiveness of catering businesses, thereby enhancing employee welfare and job performance.

Gender: Research indicates that gender can influence consumer preferences and dining habits (Smith, 2020). For instance, women may be more inclined towards healthier menu options, while men may prefer heartier meals. Online marketing and advertising strategies tailored to gender-specific preferences can impact a restaurant's customer base and competitiveness. Studies have also shown that gender-based differences in online restaurant reviews can influence customer choices (Johnson & Brown, 2019).

Age: Different age groups have varying online behavior and preferences (Lee & Kim, 2018). Younger generations are often more tech-savvy and may rely on online reviews and recommendations when choosing dining options. Catering to the

online preferences of different age groups, such as offering mobile-friendly ordering platforms or social media promotions, can affect competitiveness. Furthermore, generational differences in the use of social media and online reviews for restaurant selection have been explored in recent research (Anderson & Carter, 2021).

Marital Status： Research has examined the impact of marital status on dining preferences (Roberts & Turner, 2017). Studies have shown that single and married consumers in the restaurant industry may have different preferences. Marital status can influence online restaurant reviews and dining choices (Zhang & Li, 2019).

Educational Level： The influence of education level on online restaurant review ratings and their impact on restaurant performance has been studied (Wang & Chen, 2018). Higher education may result in more sophisticated tastes and a greater inclination to research restaurants online. This factor can affect the competitiveness of catering enterprises, as establishments offering unique and high-quality dining experiences may attract educated consumers. Consumer education levels and their relationship to online restaurant review content have also been examined (Johnson & White, 2020).

Occupation： Occupation-based differences in the use of online food delivery services have been analyzed (Thompson & Davis, 2019). Occupations can determine individuals' dining patterns. For example, busy professionals may seek quick online delivery options, while those with flexible schedules prefer dine-in experiences. Online ordering and delivery services and advertising strategies should align with the needs of various occupations. Furthermore, research has explored different occupations' online food ordering preferences and their implications for restaurant marketing strategies (Chen & Harris, 2018).

Monthly Income： The effect of monthly income on restaurant choice has been investigated (Kim & Lee, 2021). Evidence from online reviews and ratings suggests that income levels can significantly influence dining choices. People with higher incomes may be willing to spend more on dining experiences, while those with

lower incomes may prioritize affordability. Online promotions, pricing strategies, and menu offerings should cater to the income brackets of the target audience. Additionally, research has examined income levels and their impact on dining preferences by analyzing online restaurant review data (Wu & Zhang, 2017).

2.1.2 Social Media

Social media are paid advertisements on social media platforms to promote a company's products, services, or brands. Social media allows people to interact with others freely and offers multiple ways for marketers to reach and engage with consumers. Due to its dynamic and emergent nature, the effectiveness of social media as a marketing communication channel has presented many challenges for marketers. It is considered to be different from traditional marketing channels. Many organizations are investing in their social media presence because they appreciate the need to engage in existing social media conversations to build their consumer brand. Social media are increasingly replacing traditional media, and more consumers are using them as a source of information about products, services, and brands (Siriwardana, 2020).

Social media also referred to as social networking media, has been the subject of research by many scholars with different perspectives on what it is and its connotations. In the early days of research, scholars regarded social media as a novel form of online media characterized by openness, interactivity, and community features. Users gained more excellent participation opportunities within this space, where they could generate more content. Social media was initially seen as a technological tool for new information sharing as it evolved. People could use this tool to publish created content, allowing more individuals to view and propagate it. Building upon traditional media, social media leveraged new technologies to facilitate information dissemination, expanding the channels for information distribution and diversifying content. This transformation has significantly changed the global media industry (Duanbing, 2021).

2.1.3 Online Advertisement

Online advertisement refers to marketing methods conducted through the

Internet and digital platforms, such as websites, social media, and search engines, to display and disseminate advertising messages to attract potential customers or audiences. Online advertising can take various forms, including banner ads, video ads, social media ads, and search engine ads to increase brand awareness, promote product sales, or convey specific information. It often relies on digital technologies and internet platforms for precise audience targeting and measurement of advertising effectiveness.

2.1.4 Online Branding

Online branding refers to shaping and establishing a brand image through the internet and digital channels to attract and retain customers and convey specific values and messages. Online branding typically includes establishing a brand presence on social media, designing professional websites, and conducting online advertising campaigns to enhance brand popularity and attractiveness. Converting leads involves turning potential customers or prospects (leads) into paying customers. This process typically includes nurturing and guiding leads through various sales funnel stages until they purchase or take the desired action, such as signing up for a service or requesting more information (McLeod,2020).

2.1.5 Quality Competitiveness

Quality competitiveness refers to the ability of an organization to effectively compete in the marketplace, which is influenced by various factors such as market size, customer preferences, pricing strategies, and production capabilities. In other words, a business can gain and maintain a favorable position in the marketplace compared to its competitors.

Quality Competitiveness studies how organizations gain competitive advantage in the marketplace. From the customer's point of view, Quality competitiveness refers to the ability of a quality to meet the needs and expectations of its customers and to provide products or services that the customers find valuable, thus gaining an advantage and success in the marketplace.

Product quality is an essential manifestation of quality competitiveness and

the main basis for consumers to choose products. In broad terms, quality refers to the flow of service, or the level of value, that consumers derive from a product. It is multidimensional, encompassing a wide variety of factors. Moreover, quality is subjective because consumers may perceive or value specific quality attributes differently. Quality is a multidimensional concept encompassing, inter alias, a product's durability, reliability, location, design and aesthetic appeal, performance, and safety. Product choice can also be treated as a quality attribute. However, it remains dissociable from the individual product itself. In essence, quality is a relative concept insofar as the level of quality found in any one product is defined by reference to the quality levels of other products.

Service quality includes technical indicators such as efficiency, accuracy, reliability, and responsiveness of services and non-technical factors such as courtesy, care, trust, and communication of services. Improvement in service quality can increase customer satisfaction and loyalty, reduce customer complaints and turnover, and increase the market share and reputation of the service (Sun, 2017).

The fundamental measure of a business's competitiveness in the market is its pricing strategy, which comprises a range of cost components and the product or service's selling price. A business's profitability and cash flow, as well as its capital efficiency and return on investment, can all be enhanced by increased price competitiveness. It can also lower risks and liabilities. (Whang, 2017).

2.2 Related Studies

2.2.1 Social Media

Social media is a collective term for websites and applications focusing on communication, community-based input, interaction, content-sharing, and collaboration. Social media has emerged as one of the most significant communication and information dissemination tools in the 21st century. Its rise has transformed how people interact with information, brands, social interactions, and entertainment across

various domains. Over the past few decades, researchers have conducted extensive studies on different aspects of social media, spanning disciplines such as psychology, business, education, and social impact. Derived from a previous study, Shahbaznezhad, Dolan, and Rashidirad (2021) described social media content that influences engagement has been conceptualized into three main categories: rational (also referred to as informational, functional, educational, or current event), interactional (e.g., experiential, personal, employee, brand community, customer relationship, cause-related), and transactional (also referred to as remunerative, brand resonance, sales promotion).

Many social media platforms support diverse content-sharing methods, communication styles, and audience interactions. The breakdown of some types is as follows:

1. Social networking sites: These sites emphasize fostering and preserving user relationships. Facebook, LinkedIn, and MySpace are a few examples (though their use has decreased).

2. Microblogging platform: Users can instantly post brief updates, ideas, or multimedia content on microblogging services. The most well-known example is Twitter, where posts are character-limited.

3. Media Sharing Platforms: These platforms allow users to share many kinds of media, including pictures, movies, and audio files. YouTube, Instagram, Snapchat, and TikTok are examples of these platforms.

4. Discussion forums: Online forums allow users to participate in conversations on various subjects, usually arranged into threads. One excellent example is Reddit, which has many communities (subreddits) covering nearly every topic under the sun.

5. Content Curation Platforms: These platforms allow users to find, arrange, and exchange content from the internet. One famous example is Pinterest, where users can "pin" pictures and links to boards with specific themes.

6. Review and Opinion Platforms: Platforms like Yelp and TripAdvisor specialize in user-generated reviews and opinions about businesses, services, and experiences.

7. Blogging Platforms: Although not often categorized as traditional social media, platforms like Medium and WordPress allow users to post lengthy writing pieces, discuss their opinions, and engage with readers through shares and comments.

8. Professional Networking Platforms: These platforms focus on connecting professionals for networking, job-seeking, and business-related activities. The best example in this category is LinkedIn.

Each type possesses unique characteristics, such as real-time interaction, multimedia sharing, and user-generated content. These distinctive features have exerted a profound impact on research across diverse fields. This paper aims to provide an overview of key trends and findings in the literature on social media to enhance the understanding of its influence and potential.

2.2.2 Online Branding

Online Branding is one of the essential forms of digital transformation. By establishing websites, social media accounts, and other digital channels, businesses can better interact with customers, enhance their brand image, and increase their visibility. Techniques such as search engine optimization (SEO) and search engine marketing (SEM) can also be used to improve the rankings in search results, thereby increasing traffic and exposure of the brand. Smith (2019) examines the effects of digital transformation on online branding, specifically focusing on the role of social media and search engine optimization in building and enhancing brand image. Johnson (2020) discusses various digital transformation strategies businesses can adopt to improve online branding efforts, such as creating a solid brand identity, engaging with customers through social media, and utilizing data analytics to optimize marketing campaigns.

2.2.3 Online Advertising

Online Advertising is another crucial form of digital transformation. By

placing ads on the internet, businesses can expand target audiences and attract more potential customers. Online ads have a broader reach and higher precision than traditional advertising methods. Furthermore, companies can use data analysis and artificial intelligence (AI) technologies to monitor and optimize ad effectiveness in real-time, improving ad campaign efficiency and return on investment. Brown (2020) investigates the impact of the COVID-19 pandemic on digital advertising and its implications for businesses. It highlights the challenges and opportunities the current situation presents and provides insights into how businesses can adapt advertising strategies to stay relevant and successful.

2.2.4 Online Service Quality

Online Service Quality is a key element of digital transformation. Businesses can provide more convenient and efficient customer service experiences by establishing online service platforms. For example, through online customer service systems and self-service portals, customers can communicate and exchange information with businesses anytime to solve problems. Additionally, businesses can leverage big data analytics and AI technologies to analyze customer behavior and feedback in-depth, continuously improving product and service quality. Chen (2019) examines the relationship between digital transformation and customer experience management. It highlights the benefits of leveraging digital channels to enhance service quality, e.g., real-time communication, personalized support, and data-driven decision-making. Zhang (2020) discusses how big data analytics can be used to identify trends, patterns, and areas for improvement in online service quality. It provides examples of how businesses successfully implement data-driven approaches to enhance customer satisfaction and loyalty.

2.2.5 Quality Competitiveness Research

In strategic management and marketing, the Quality Competitiveness Theory, also called the Quality-Based Competition Theory, emphasizes the significance of product or service quality in gaining a competitive advantage. Quality

competitiveness is pivotal in achieving sustainable success and market leadership for businesses across various industries. Quality competitiveness is critical in the catering industry, where providing excellent products and services is essential to client happiness and loyalty. According to Smith, Johnson et al. (2022), quality is crucial in determining how competitive the hospitality sector, which includes catering services, becomes. Catering companies must put quality first in every facet of their business operations to stand out and prosper in a market where culinary prowess, presentation, and client experience are critical. A dedication to quality distinguishes catering companies from the competition in various ways, from locating premium, fresh products to guaranteeing faultless presentation and attentive service. Catering businesses can build a solid reputation, encourage repeat business, and obtain a competitive edge in the market by continuously exceeding customer expectations and providing unforgettable dining experiences.

Numerous studies have shown that various factors can affect quality competitiveness. According to Zhang and Yang (2022), a supportive business environment can increase quality competitiveness. Jin and Gong (2014) stressed the need for steady economic growth trends to improve quality competitiveness. Zhu et al. (2018) investigated the implications of financial sector openness on quality competitiveness. Cheng et al. (2020) examined how economic and technological policies affect quality competitiveness. The research by Zhang (2023) focused on digital finance and its influence on quality competitiveness and suggested that technological innovation, resource capabilities, green technology innovation, and prototyping innovation can enhance quality competitiveness. Su and Li (2021) highlighted the positive impact of corporate social responsibility, charity work, corporate culture, and training on quality competitiveness. Wang et al. (2020) discovered that corporate governance information disclosure and shareholding in financial institutions could improve credit efficiency and reduce capital mismatch, thereby enhancing quality competitiveness. Regarding corporate characteristics, Hu et

al. (2021) pointed out that corporate social responsibility, charitable activities, corporate culture, and training can all enhance quality competitiveness, while corporate culture needs to follow cost-benefit principles for optimal results.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This study adopted a quantitative research design using a questionnaire to collect and analyze data to answer the research questions and test the research hypotheses. The questionnaire was created with four main sections: title, introduction, body of the questionnaire, and conclusion. Apart from background questions related to the respondents, all other measurement items in this study's questionnaire utilize a Likert five-point scale. In this scale, 1 represents "completely disagree," 2 represents "disagree," 3 represents "unsure," 4 represents "agree," and 5 represents "completely agree." Respondents are required to select their responses based on their circumstances.

Respondents for this study came from Catering Businesses in Kunming, Yunnan Province, and consumers from various fields and classes, so the questions were organized according to the relevant variables. Besides the questionnaire body, the other three sections are equally significant, impacting the response rate. The questionnaire title concisely summarizes the content of the survey, enabling respondents to grasp the questionnaire's purpose quickly. The introductory statement serves as an "introduction letter" for the survey, containing information about the survey's objectives, significance, instructions for completion, and a confidentiality statement to guide respondents and alleviate concerns about data security, thereby enhancing the reliability of the survey results. The concluding remarks, typically expressed in brief language, convey gratitude to the respondents for their cooperation.

3.2 Research Population and Samples

3.2.1 Population

Participants in this study were consumers of the catering business in Kunming, Yunnan Province. The following data is derived from Kunming catering chain's top ten brand list data by CNPP brand list in the list of big data analytic and CN10 row list technology through the information collection and organization, and based on extensive data statistics and human according to the market and parameter conditions change the analysis of the research and professional evaluation, is big data, cloud computing, number of residence statistics factual and objective presentation of the results, CN10 / CNPP is China's long-established and objective and fair evaluation and research institutions / big data cloud computing business, through extensive collection and compilation of a large amount of data from around the world, combined with professional and independent research and evaluation, regular release of updated and objective and fair rankings (Maigoo, 2023).

Kunming, Yunnan Province Catering Business Data (2017-2018) - Online Order Rankings

Brand	Type	Location	Concern Index
TangWu	barbecue	The First City of South Asia	10682

3.2.2 Samples

Since the number of population is unknown, the sample size is determined at a 95% confidence level with a sampling error within 5% from the Yamane table. Therefore, the sample size for this study was 400 customers of the catering business in Kunming City, Yunnan Province.

3.2.3 Sampling Methods

This study employed a convenience sampling method. These methods were crucial for ensuring sample diversity and representativity, thereby enhancing the

credibility and universality of the study. By utilizing these approaches, the research aimed to minimize sampling bias and ensure that the findings more accurately portrayed the characteristics of the surveyed individuals.

3.3 Data Collection

The primary data collection method for this study is distributing questionnaires to these employees. The survey period is August through November 2023.

(1) Customized questionnaires for catering business consumers in Kunming, Yunnan Province, China, on the "Wenjuanxing" platform. The questionnaire can be customized based on research needs, including various question types and logical branches.

(2) Distributing questionnaires through the online platform "Wenjuanxing" is efficient, convenient, and advantageous. The specific plan includes:

(3) The link to the questionnaire was shared with the target audience, catering business customers in Kunming, Yunnan Province, China."Wenjuanxing" provides various distribution methods, such as email, enabling the quick delivery of questionnaires to the target audience.

(4) Setting an appropriate deadline to ensure the collection of a sufficient number of valid questionnaires within a reasonable time frame.

3.4 Research Instrument

This study employs a questionnaire survey as the research tool. A questionnaire survey is a method in which researchers utilize controlled scales to investigate issues and acquire reliable information. The process involves constructing the final questionnaire and distributing and collecting it through web links. The questionnaire comprises three main sections:

Part 1: Demographic Factors: This section includes basic personal information about the participants, including gender, age, marital status, educational level, occupational status, and monthly income. The questionnaire is of the checklist type.

Part 2: Digital Marketing: This section aims to find the participant's opinions on digital marketing, which includes social media, online advertising, and online branding. The questionnaires are designed to collect the respondent's opinion using a 5-point Likert scale.

Part 3: Quality Competitiveness: This section aims to ascertain the participant's thoughts on the relative merits of pricing, service, and product quality. The surveys use a 5-point Likert scale to get respondents' opinions.

From parts 2 – 3, the respondents were asked to rate their level of opinion about the questions in terms of the degree of agreement or disagreement that the following numbers can indicate: 1: Strongly disagree; 2: Disagree; 3: Neutral; 4: Agree; and 5: Strongly agree. The interpretation of the average values is shown in Table 3.1.

Table 3.1: Score Level, Average Value, and Meaning

Score Level	Average Value	Meaning
5	4.50 – 5.00	Excellent
4	3.50 – 4.49	Good
3	2.50 – 3.49	Moderate
2	1.50 – 2.49	Less
1	1.00 – 1.49	Least

3.5 Reliability and Validity

3.5.1 Content Validity

The validity of the questionnaires will be tested by IOC (item-objective congruence), which is one method to quantitatively measure content expert judgments of items to evaluate the fit between test items and the table of specifications. Three managers from the catering business will examine the content validity. The content and measurement of the questions will be evaluated to cover and complete the research issues. The experts are required to rate the questionnaires as having the following meaning:

+1 The question is consistent with the content of the measurement objective.

0 Not sure the question is consistent with the measurement objective's content.

-1 The question is not consistent with the content of the measurement objective.

The results of all expert evaluations are used to calculate the IOC index according to the formulas of Rovinelli and Hambleton (1977) as follows:

$IOC = \Sigma R/N$

ΣR = total rating score from all experts for each question

N = number of experts

If the calculated IOC index is greater than or equal to 0.5, it is considered that the questions follow the research objectives. Therefore, the questions are chosen. If any question has a value that does not reach the 0.5 criterion and it is necessary to use that question, then that question will be revised again according to the advice of experts.

Expert 1: He Juan, Manager, Shangri-La Jiahua Food Co.

Expert 2: Li Xu, Manager, Kunming Jinshui Fine Meat Co.

Expert 3: Song Qilu, Manager, Kunming Barbecue Co.

From the calculation, the IOC index for all questions is greater than 0.5 (see Appendix B for details); therefore, the questions are measured in accordance with the research objectives.

3.5.2 Reliability

The reliability test was conducted using 30 participants to assess the consistency and stability of the questionnaires used in this study. Cronbach's alpha coefficient was calculated to evaluate the internal consistency of the scales. Hair et al. (2010) state that a Cronbach's alpha value above 0.70 indicates acceptable reliability.

The pretest was done using the developed questionnaires to perform a reliability test. The reliability test used Cronbach's alpha to assess the scale's stability and the measurement variables' accuracy. Table 3.2 demonstrates Cronbach's alpha value of the pretest, and all Cronbach's alpha values are greater than 0.7; it indicates that the questionnaire's scale passed the reliability test and the questionnaires can be used to collect data.

Table 3.2: Reliability Test-30 Test Samples

Factors	Variables	Cronbach's α Coefficient	Number of Items
Quality Competitiveness	Product Quality	0.893	3
	Service quality	0.916	3
	Price competitiveness	0.886	3
Digital Marketing	Social media	0.911	4
	Online advertisements	0.948	6
	Online Branding	0.894	3

Table 3.2 presents the results of the reliability test for various variables. The reliability of a variable is assessed using Cronbach's α coefficient, which measures the internal consistency or reliability of the items within each construct. Here are the reliability test results: Quality Competitiveness: Product quality has a Cronbach's α coefficient of 0.893, indicating high internal consistency. Service quality has a Cronbach's α coefficient of 0.916, indicating high internal consistency. Price competitiveness has a Cronbach's α coefficient of 0.886, showing high internal consistency.

Social Media has a Cronbach's α coefficient of 0.911, indicating excellent internal consistency. Online Advertisements have a high Cronbach's α coefficient of 0.948, demonstrating exceptional internal consistency. Online Branding has a Cronbach's α coefficient of 0.894, indicating high internal consistency.

Overall, the variables in this study demonstrate strong internal consistency, suggesting that the items within each construct are reliably measuring the intended concepts. This reliability enhances the validity of the research findings and suggests that the survey questions are consistent and dependable.

3.6 Data Analysis

3.6.1 Descriptive Statistics

Descriptive statistics will summarize the respondents' demographic characteristics, company features, independent variables (online advertising, online sales, online service), and dependent variables (firm Competitiveness). This summary will include measures such as means, standard deviations, and ranges to describe these various aspects of the study.

3.6.2 Inferential Statistics

The following inferential statistics were applied to the data analysis and hypothesis testing at a 0.05 level of statistical significance.

H1: The differences in demographic factors, including gender, age, marital status, educational level, occupation, and monthly income, affect the quality competitiveness of catering businesses differently.

The statistics used are an independent sample t-test and a one-way ANOVA. For one-way ANOVA results, if significant values are found, post hoc analysis using LSD is performed.

H2: Digital marketing, including social media, online advertisements, and online branding, influences the quality competitiveness of catering businesses.

The statistics used is multiple linear regression.

CHAPTER IV

RESEARCH RESULTS

This chapter presents the research results in two sections. The first section provided the descriptive statistics of the variables used in the study, including demographics, digital marketing, and quality competitiveness. The second section discussed the empirical results of hypotheses testing using an independent sample t-test, one-way ANOVA, and multiple regression. Finally, a summary of all hypotheses tested was also provided.

4.1 Descriptive Statistics

The sample of this study was 400 customers who had used the catering business in Kunming, Yunnan province. This part will present the descriptive statistics results, including demographic factors and descriptive statistics of all dependent and independent variables.

4.1.1 Demographic Factor

The analysis of demographic factors regarding six areas, including gender, age, marital status, educational level, occupation, and monthly income, were analyzed using frequency and percentage, as shown in Table 4.1.

Table 4.1: Descriptive Statistics of Demographic Data

Gender	Frequency	Percent
Male	201	50.2
Female	199	49.8
Total	400	100

Table 4.1: Descriptive Statistics of Demographic Data (cont.)

Age	**Frequency**	**Percent**
20 - 30 years old	120	30.0
31 - 40 years old	173	43.3
41 - 50 years old	51	12.8
51 years old or older	56	14.0
Total	400	100
Marital Status	**Frequency**	**Percent**
Single	10	2.5
Married	336	84.0
Divorce	38	9.5
Widow	16	4.0
Total	400	100
Educational Level	**Frequency**	**Percent**
High School or lower	36	9.0
College or Technical School	281	70.3
Bachelor's Level	65	16.3
Master's Level or higher	18	4.5
Total	400	100
Occupation	**Frequency**	**Percent**
Student	17	4.3
Civil Servant/Business Worker	179	44.8
Freelancer/Self-employed	104	26.0
Others	100	25.0
Total	400	100
Monthly Income	**Frequency**	**Percent**
5000RMB and below	31	7.8
5001-10000RMB	194	48.5
10001-15000RMB	119	29.8
15001RMB and above	56	14.0
Total	400	100

Table 4.1 reveals the data of the sample group from customers who have used the catering business in Kunming City, Yunnan province, for 400 samples. The majority are male at 50.2% and aged between 31-40 at 43.3%. 84% are married, and 70.3% graduated from college or technical school. Occupations are diverse, with 44.8% of civil servants/business workers. Income levels vary, with the highest percentage falling within the 5001-10000RMB category (48.5%).

4.1.2 Descriptive Statistics of Variables

Table 4.2: The Descriptive Statistic of Digital Marketing

Digital Marketing	1	2	3	4	5	Mean	SD	Meaning	Rank
Social media	11	75	45	190	79	3.63	1.082	Good	3
Online advertisements	9	88	70	173	60	3.47	1.061	Moderate	2
Online Branding	15	79	90	167	49	3.39	1.052	Moderate	1
Overview of digital marketing	11	41	113	208	27	3.50	0.870	Good	

Table 4.2 presents the descriptive statistics of the study's independent variables, including social media, online advertisements, and online branding. Each variable is measured on a Likert scale ranging from 1 to 5, with the highest score indicating an excellent level of engagement or presence. The analysis results show that the mean value of social media is 3.63, indicating that the customers' opinion level about the content on social media platforms is good. The standard deviation of 1.082 suggests some variability in the responses, but overall, the customers perceive social media positively. For online advertisements, the mean value is 3.47, which is slightly lower than that of social media. The standard deviation of 1.061 indicates less variability in the responses compared to social media. This suggests that customers are moderately exposed to online advertisements. For online branding, the mean score is 3.39, which is the lowest among the three variables. The standard deviation of 1.052

indicates less variability in the responses compared to online advertisements. This suggests that the customers have a moderate level of engagement with online branding activities.

Table 4.3: The Descriptive Statistic of Quality Competitiveness

Quality Competitiveness	1	2	3	4	5	Mean	SD	Meaning	Rank
Product Quality	11	91	79	166	53	3.40	1.062	Moderate	2
Service quality	16	88	80	154	62	3.40	1.110	Moderate	1
Price competitiveness	15	80	92	157	56	3.40	1.071	Moderate	3
Overall quality competitiveness	13	42	138	179	28	3.42	0.889	Moderate	

Table 4.3 presents the descriptive statistics of the study's dependent variables, including product quality, service quality, and price. The analysis results show that the mean of the product quality is 3.40, indicating that the product quality is rated at a moderate level. The standard deviation (SD) is 1.062, which suggests some variation in the respondents' responses to product quality, but the fluctuation is slight. In the ranking of quality competitiveness, product quality is ranked 2. The mean value of Service quality is 3.40, and SD is 1.110, which indicates that the moderate level of service quality is stable but fluctuates slightly. Service quality ranks 1st in quality competitiveness and is considered the most essential factor. Price competitiveness has a mean of 3.40 and a standard deviation of 1.071, indicating some variation in the responses to the Price competitiveness factor, but it is generally viewed positively. Total quality competitiveness had a mean value of 3.42 and a standard deviation of 0.889. Overall, total quality competitiveness was relatively stable, and the standard deviation was low, indicating that the overall level of competitiveness was relatively consistent.

4.2 Inferential Statistics

In this study, gender is a two-point discrete variable. Age, Marital status, Education level, Occupation, and Monthly income are more than three discrete variables. Therefore, independent samples t-test and one-way ANOVA were used to test whether demographics affect the quality competitiveness of catering businesses located in Kunming City, Yunnan Province, differently.

The multiple linear regression was used to test the influences of digital marketing, including social media, online advertising, and online branding, on the quality competitiveness of catering businesses in Kunming City, Yunnan Province.

The study results are presented in two parts according to the study's objectives.

Part I: The analysis of demographic factors affects the quality competitiveness of catering businesses in Kunming City, Yunnan Province.

Part II: The digital marketing analysis influences the quality competitiveness of catering businesses in Kunming City, Yunnan Province.

4.2.1 The Demographic Factors Affect the Quality Competitiveness of the Catering Business Located in Kunming City, Yunnan Province

Hypothesis 1: The differences in demographic factors, including gender, age, marital status, educational level, occupation, and monthly income, affect the quality competitiveness of catering businesses differently.

H1a: Gender differences affect the quality competitiveness of the catering business differently.

Independent Sample t-test was used to analyze data to test the difference in mean values between 2 data groups at the statistically significant level of 0.05.

Table 4.4: Gender Affects the Quality Competitiveness of the Catering Business

Quality Competitiveness	Gender	N	Mean	Std. Deviation	t-value	*df*	Sig
Product Quality	male	201	3.31	1.066	-1.595	398	0.112
	female	199	3.48	1.053			
Service Quality	male	201	3.29	1.099	-1.843	398	0.066
	female	199	3.50	1.114			
Price competitiveness	male	201	3.40	1.100	0.010	398	0.992
	female	199	3.40	1.044			
Overview	male	201	3.38	0.898	-0.890	398	0.374
	female	199	3.46	0.880			

From Table 4.4, the analysis results of gender differences affect quality competitiveness in product quality, service quality, and Price competitiveness. In the overview of quality competition, the results found that the t-value = -0.890 and the significant value = 0.374, greater than the statistically significant value of 0.05. It can be concluded that gender has no different effects on the overview of the quality competitiveness of the catering business.

Regarding product quality, service quality, and Price competitiveness, the results found that t-values = -1.595, -1.843, 0.010, and the significant value = 0.112, 0.066, and 0.992, greater than the statistically significant value of 0.05. It can be concluded that gender has no different effects on the product quality, service quality, and Price competitiveness of the catering business.

H1b: The differences in age affect the quality competitiveness of the catering business differently

One-way ANOVA was used to analyze data to test the difference of mean values among more than 2 data groups at the statistically significant level of 0.05.

Table 4.5: Age Affects the Quality Competitiveness of the Catering Business

Quality competitiveness		Sum of Squares	df	Mean Square	F	Sig.
Product Quality	Between Groups	6.862	3	2.287	2.045	.107
	Within Groups	442.936	396	1.119		
	Total	449.797	399			
Service Quality	Between Groups	9.602	3	3.201	2.630	.050
	Within Groups	481.988	396	1.217		
	Total	491.590	399			
Price competitiveness	Between Groups	10.316	3	3.439	3.043	.029*
	Within Groups	447.482	396	1.130		
	Total	457.798	399			
Overview	Between Groups	9.737	3	3.246	4.206	.006*
	Within Groups	305.541	396	0.772		
	Total	315.277	399			

From Table 4.5, the analysis results of age difference affect quality competitiveness in product quality, service quality, and Price competitiveness. In the overview of quality competition, the results found that the F-value = 4.206 and the significant value = 0.006, which is less than the statistically significant value of 0.05. It can be concluded that age has different effects on the overview of the quality competitiveness of the catering business. The analysis of multiple comparisons of different age groups using LSD is demonstrated in Table 4.5.

Considering the other variables, the results found that Price competitiveness has an F-value = .029, less than the statistically significant value of 0.05. It can be concluded that age has different effects on the Price competitiveness of the catering business. The analysis of multiple comparisons of different age groups using LSD is demonstrated in Table 4.6.

Table 4.6: The Multiple Comparisons of the Different Age Groups that Affect the Overview of the Quality Competitiveness

		Mean Difference (I-J)			
Age group		Group J			
	$\bar{X}$	20-30 years	31-40 years	41-50 years	More than 50 years
Group I		3.24	3.46	3.75	3.36
20-30 years	3.24	-	-.221 (.035)*	-0.503 (<0.001)*	-0.115 (0.417)
31-40 years	3.46		-	-0.283 (0.044)*	0.105 (0.436)
41-50 years	3.75			-	0.388 (0.023)*
More than 50 years	3.36				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.6 presents the mean comparison of the customers' age group, which affects the quality and competitiveness of the catering business. The customers in the age group 20-30 years old have a lower mean than those in the age group 31-40 years and group 41-50 years with a significant value equal to .035 and <.001.

The customers in the age group 31-40 years old have a lower mean than those in the age group 40-50 years old, with a significant value equal to .044.

The customers in the age group 41-50 years old have a higher mean than those in the age group more than 50 years old, with a significant value equal to .023.

Table 4.7: The Multiple Comparisons of the Different Age Groups that Affect the Quality Competitiveness in Price

		Mean Difference (I-J)			
Age group		Group J			
	$\bar{X}$	20-30 years	31-40 years	41-50 years	More than 50 years
Group I		3.17	3.48	3.63	3.43
20-30 years	3.17	-	-.313 (.014)*	-.461 (.010)*	-.262 (.129)

31-40 years	3.48	-	.148 (.384)	.051 (0.334)
41-50 years	3.63		-	.199 (.334)
More than 50 years	3.43			-

** The mean difference is significant at the 0.05 level*
Dependent Variable: Quality competitiveness

Table 4.7 presents the mean comparison of the customers' age group, which affects quality competitiveness in the price of the catering business. The customers in the age group 20-30 years old have a lower mean than those in the age group 31-40 years and group 41-50 years with significant values equal to .014 and .010.

H1c: The differences in marital status affect the quality competitiveness of the catering business differently

One-way ANOVA was used to analyze data to test the difference in mean values between more than two data groups at the statistically significant level of 0.05.

Table 4.8: Marital Status Affects the Quality Competitiveness of the Catering Business

Quality Competitiveness		Sum of Squares	df	Mean Square	F	Sig.
Product Quality	Between Groups	6.847	3	2.282	2.040	.108
	Within Groups	442.950	396	1.119		
	Total	449.797	399			
Service Quality	Between Groups	10.731	3	3.577	2.946	.033*
	Within Groups	480.859	396	1.214		
	Total	491.590	399			
Price competitiveness	Between Groups	5.137	3	1.712	1.498	.215
	Within Groups	452.660	396	1.143		
	Total	457.797	399			
Overview	Between Groups	5.969	3	1.990	2.547	.056
	Within Groups	309.308	396	0.781		
	Total	315.277	399			

From Table 4.8, the analysis results of marital status differences affect quality competitiveness in product, service, and Price. In the overview of quality

competition, the results found that the F-value = 2.547 and the significant value = .056, greater than the statistically significant value of 0.05. It can be concluded that marital status has no different effects on the overview of the quality competitiveness of the catering business.

Considering the other variables, the results found that service quality has an F-value = 2.946 and a significant value = .033, less than the statistically significant value of 0.05. It can be concluded that marital status has different effects on the service quality of the catering business. The analysis of multiple comparisons of the different marital status groups using LSD is demonstrated in Table 4.8.

Table 4.9: The Multiple Comparisons of the Different Marital Status Groups that Affect Quality Competitiveness in Service Quality

		Mean Difference (I-J)			
Marital status group		Group J			
	$\bar{X}$	Single	Married	Divorce	Widow
Group I		4.20	3.33	3.63	3.63
Single	4.20	-	.867	.568	.575
			(.015)*	(.147)	(.196)
Married	3.33		-	-.298	-.292
				(.115)	(.302)
Divorce	3.63			-	.000
					(.984)
Widow	3.63				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.9 presents the mean comparison of marital status groups that affect quality competitiveness in the service quality of the catering business. The customers in the single group have a higher mean than those in the married group, with a significant value equal to .015.

H1d: The differences in educational level affect the quality competitiveness of the catering business differently.

One-way ANOVA was used to analyze data to test the difference of mean values among more than 2 data groups at the statistically significant level of 0.05.

Table 4.10: Educational Level Affects the Quality Competitiveness of the Catering Business

Quality Competitiveness		Sum of Squares	df	Mean Square	F	Sig.
Product Quality	Between Groups	4.585	3	1.528	1.359	.255
	Within Groups	445.213	396	1.124		
	Total	449.798	399			
Service Quality	Between Groups	23.903	3	7.968	6.747	.000*
	Within Groups	467.687	396	1.181		
	Total	491.590	399			
Price competitiveness	Between Groups	11.764	3	3.921	3.481	.016*
	Within Groups	446.034	396	1.126		
	Total	457.798	399			
Overview	Between Groups	13.906	3	4.635	6.091	.000*
	Within Groups	301.371	396	0.761		
	Total	315.278	399			

From Table 4.10, the analysis results of educational level differences affect quality competitiveness in product quality, service quality, and Price competitiveness. In the overview of quality competition, the results found that the F-value = 6.091 and the significant value = .000 less than the statistically significant value of 0.05. It can be concluded that educational level has different effects on the overview of the quality competitiveness of the catering business. The analysis of multiple comparisons of the different educational level groups using LSD is demonstrated in Table 4.10.

Considering the other variables, the results found that service quality and Price competitiveness have F-values = 6.747 and 3.481 and significant values = .000 and .016, less than the statistically significant value of 0.05. It can be concluded that educational level has different effects on the service quality and Price competitiveness

of the catering business. The analysis of multiple comparisons of the different marital status groups using LSD is demonstrated in Tables 4.11 and 4.12.

Table 4.11: The Multiple Comparisons of the Different Educational Level Groups that Affect the Overview of Quality Competitiveness

		Mean Difference (I-J)			
Educational Level Group		Group J			
	$\bar{X}$	High School or lower	College or Technical School	Bachelor's Level	Master's Level or higher
Group I		3.86	3.44	3.18	3.00
High School or lower	3.86	-	0.420 (.007)*	0.676 (1.03)	0.861 (1.36)
College or Technical School	3.44		-	0.257 (0.49)	0.441 (0.86)
Bachelor's Level	3.18			-	0.185 (0.64)
Master's Level or higher	3.00				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.11 shows the pair mean comparison of the educational level group that affects the overall quality competitiveness of the catering business. The mean of the high school or lower group is higher than the college or technical school group, with a significant value of 0.007.

Table 4.12: The Multiple Comparisons of the Different Educational Level Groups that Affect the Quality Competitiveness in Service Quality

Educational Level Group		Mean Difference (I-J) Group J			
	$\bar{X}$	High School or lower	College or Technical School	Bachelor's Level	Master's Level or higher
Group I		4.00	3.41	3.15	2.78
High School or lower	4.00	-	0.587 (.002)*	0..846 (.000)*	1.222 (.000)*
College or Technical School	3.41		-	0.259 (.084)	0.635 (.017)*
Bachelor's Level	3.15			-	0.376 (.195)
Master's Level or higher	2.78				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.12 shows the pair mean comparison of the educational level group that affects quality competitiveness in service quality of the catering business. The mean of the high school or lower group is higher than the college or technical school group, Bachelor's level group, and Master's level or higher group with a significant value of 0.002, 0.000, and 0.000, respectively.

The mean of the college or technical school group is higher than the Master's level or higher group with a significant value of 0.017.

Table 4.13: The Multiple Comparisons of the Different Educational Level Groups that Affect the Quality Competitiveness in Price

Educational Level Group		Mean Difference (I-J) Group J			
	$\bar{X}$	High School or lower	College or Technical School	Bachelor's Level	Master's Level or higher
Group I		3.78	3.43	3.09	3.28
High School or lower	3.78	-	0.351 (.063)	0.685 (.002)*	0.500 (.103)
College or Technical School	3.43		-	0.335 (.022)*	0.149 (.563)
Bachelor's Level	3.09			-	-0.185 (.512)
Master's Level or higher	3.28				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.13 shows the pair mean comparison of the educational level group that affects quality competitiveness in the price of the catering business. The mean of the Bachelor's level group is lower than that of the high school or lower group and college or technical school group with a significant value of 0.002 and 0.22.

H1e: The differences in occupation affect the quality competitiveness of the catering business differently.

One-way ANOVA was used to analyze data to test the difference of mean values among more than 2 data groups at the statistically significant level of 0.05.

Table 4.14: Occupation Affects the Quality Competitiveness of the Catering Business

Quality Competitiveness		Sum of Squares	df	Mean Square	F	Sig.
Product Quality	Between Groups	27.809	3	9.270	8.699	.000*
	Within Groups	421.989	396	1.066		
	Total	449.798	399			
Service Quality	Between Groups	26.581	3	8.860	7.746	.000*

	Within Groups	465.009	396	1.174		
	Total	491.590	399			
Price competitiveness	Between Groups	25.580	3	8.527	7.812	.000*
	Within Groups	432.217	396	1.091		
	Total	457.798	399			
Overview	Between Groups	24.874	3	8.291	11.306	.000*
	Within Groups	290.403	396	0.733		
	Total	315.277	399			

Table 4.14 shows the analysis results of occupation difference that affects the product quality, service quality, Price competitiveness, and overview of quality competitiveness of the catering business, which has a significant value less than 0.05, meaning that the difference of occupation affects the product quality, service quality, Price competitiveness, and overview of quality competitiveness of catering business differently. The analysis of multiple comparisons of different Occupation groups using LSD is demonstrated in Table 4.14 – 4.17.

Table 4.15: The multiple comparisons of the different educational occupation groups that affect the quality competitiveness in product quality

		Mean Difference (I-J)			
Occupation group		Group J			
	$\bar{X}$	Student	Civil Servant/ Business Worker	Freelancer/ Self-employed	Others
Group I		2.18	3.48	3.36	3.50
Student	2.18	-	-1.304 (.000)*	-1.179 (.000)*	-1.324 (.000)*
Civil Servant/ Business Worker	3.48		-	0.125 (.328)	-0.020 (.879)
Freelancer/ Self-employed	3.36			-	-0.144 (.319)
Others	3.50				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.15 shows the pair mean comparison of occupation groups that affect quality competitiveness in product quality of the catering business. The mean value of the student group is lower than that of the civil servant/business worker group, freelancer/self-employed group, and others, with a significant value of .000, .000, and .000 accordingly.

Table 4.16: The Multiple Comparisons of the Different Educational Occupation Groups that Affect the Quality Competitiveness in Service Quality

		Mean Difference (I-J)			
Occupation group		Group J			
	$\bar{X}$	Student	Civil Servant/ Business Worker	Freelancer/ Self-employed	Others
Group I		2.18	3.42	3.46	3.48
Student	2.18	-	-1.248 (.000)*	-1.285 (.000)*	-1.304 (.000)*
Civil Servant/ Business Worker	3.42		-	-0.037 (.782)	-0.055 (.903)
Freelancer/ Self-employed	3.46			-	0.018 (.903)
Others	3.48				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.16 shows the pair mean comparison of occupation groups that affect quality competitiveness in the catering business's service quality. The mean value of the student group is lower than that of the civil servant/business worker group, freelancer/self-employed group, and others, with a significant value of .000, .000, and .000 accordingly.

Table 4.17: The Multiple Comparisons of the Different Educational Occupation Groups that Affect the Quality Competitiveness in Price

		Mean Difference (I-J)			
Occupation group		Group J			
	$\bar{X}$	Student	Civil Servant/ Business Worker	Freelancer/ Self-employed	Others
Group I		2.24	3.39	3.54	3.47
Student	2.24	-	-1.150 (.000)*	-1.303 (.000)*	-1.235 (.000)*
Civil Servant/ Business Worker	3.39		-	-0.153 (.236)	-0.085 (.517)
Freelancer/ Self-employed	3.54			-	0.068 (.640)
Others	3.47				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.17 shows the pair mean comparison of occupation groups that affect quality competitiveness in the price of the catering business. The mean value of the student group is lower than that of the civil servant/business worker group, freelancer/self-employed group, and others, with a significant value of .000, .000, and .000 accordingly.

Table 4.18: The Multiple Comparisons of the Different Educational Occupation Groups that Affect the Overview of Quality Competitiveness

		Mean Difference (I-J)			
Occupation group		Group J			
	$\bar{X}$	Student	Civil Servant/ Business Worker	Freelancer/ Self-employed	Others
Group I		2.24	3.46	3.49	3.46
Student	2.24	-	-1.228 (.000)*	-1.255 (.000)*	-1.255 (.000)*
Civil Servant/ Business Worker	3.46		-	-0.27 (.801)	0.004 (.973)

Freelancer/ Self-employed	3.49	-	0.30 (.800)
Others	3.46		-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.18 shows the pair mean comparison of occupation groups that affect the overview of the quality competitiveness of the catering business. The mean value of the student group is lower than that of the civil servant/business worker group, freelancer/self-employed group, and others, with a significant value of .000, .000, and .000 accordingly.

H1f: The differences in monthly income affect the quality competitiveness of the catering business differently.

One-way ANOVA was used to analyze data to test the difference of mean values among more than 2 data groups at the statistically significant level of 0.05.

Table 4.19: Monthly Income Affects the Quality Competitiveness of the Catering Business

Quality competitiveness		Sum of Squares	df	Mean Square	F	Sig.
Product Quality	Between Groups	8.160	3	2.720	2.439	.064
	Within Groups	441.637	396	1.115		
	Total	449.798	399			
Service Quality	Between Groups	14.270	3	4.757	3.946	.009*
	Within Groups	477.320	396	1.205		
	Total	491.590	399			
Price competitiveness	Between Groups	7.021	3	2.340	2.056	.106
	Within Groups	450.776	396	1.138		
	Total	457.797	399			
Overview	Between Groups	8.709	3	2.903	3.750	.011*
	Within Groups	306.568	396	0.774		
	Total	315.278	399			

Table 4.19 shows the analysis results of the monthly income difference that affects the service quality and overview of quality competitiveness of the catering business, which has a significant value of less than 0.05, meaning that the difference of monthly income affects service quality and overview of quality competitiveness of catering business differently. The analysis of multiple comparisons of different Occupation groups using LSD is demonstrated in Table 4.19 – 4.20.

Table 4.20: The Multiple Comparisons of the Different Monthly Income Groups that Affect the Quality Competitiveness in Service Quality

		Mean Difference (I-J)			
Monthly income group		Group J			
	$\bar{X}$	5000RMB or lower	5001-10000RMB	10001-15000RMB	15001RMB or higher
Group I		3.19	3.43	3.58	3.00
5000RMB or lower	3.19	-	-0.234 (.271)	-0.386 (.082)	0.194 (.431)
5001-10000RMB	3.43		-	-0.152 (.235)	0.428 (.011)*
10001-15000RMB	3.58			-	0.580 (.001)*
15001RMB or higher	3.00				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.20 shows the mean comparison of monthly income groups that affect quality competitiveness in the service quality of the catering business. The mean value of the 15001RMB or higher group is smaller than the 5001-10000RMB group and 10001-15000RMB group, with a significant value of .011 and .001.

Table 4.21: The Multiple Comparisons of the Different Monthly Income Groups that Affect the Overview of Quality Competitiveness

		Mean Difference (I-J)			
Monthly Income Group		Group J			
	$\bar{X}$	5000RMB or lower	5001-10000RMB	10001-15000RMB	15001RMB or higher
Group I		3.13	3.49	3.50	3.14
5000RMB or lower	3.13	-	-0.361 (.035)*	-0.375 (.035*)	-0.014 (.944)
5001-10000RMB	3.49		-	-0.015 (.887)	0.347 (.010)*
10001-15000RMB	3.50			-	0.361 (.012)*
15001RMB or higher	3.14				-

** The mean difference is significant at the 0.05 level*

Dependent Variable: Quality competitiveness

Table 4.21 shows the pair mean comparison of monthly income groups that affect the overview of the quality competitiveness of the catering business. The mean value of the 5000RMB or lower group is smaller than the 5001-10000RMB group and 10001-15000RMB group, with a significant value of .035 and .035, respectively.

The mean value of the 15000RMB or higher group is smaller than the 5001-10000RMB group and 10001-15000RMB group, with a significant value of .010 and .012, respectively.

4.2.2 The Digital marketing influences the quality competitiveness of catering businesses in Kunming City, Yunnan Province

Hypothesis 2: Digital marketing, including social media, online advertisements, and online branding, influences the quality competitiveness of the catering business.

Multiple linear regression was used to estimate the relationship between two or more independent variables: social media, online advertisements, and online branding, and one dependent variable, product quality. The forms of the estimating equations are as follows

$\hat{Y}_T = b_0 + b_1X_1 + b_2X_2 + {}_3X_3$

$\hat{Y}_1 = b_0 + b_1X_1 + b_2X_2 + {}_3X_3$

$\hat{Y}_2 = b_0 + b_1X_1 + b_2X_2 + {}_3X_3$

$\hat{Y}_3 = b_0 + b_1X_1 + b_2X_2 + {}_3X_3$

Where dependent variables are:

$\hat{Y}_T$ = Overview of quality competitiveness

$\hat{Y}_1$ = Product Quality

$\hat{Y}_2$ = Service Quality

$\hat{Y}_3$ = Price competitiveness

Independent variables are:

X_1 = social media

X_2 = Online advertisements

X_3 = Online branding

H2a: Digital marketing, including social media, online advertisements, and online branding, influences the overview of the quality competitiveness of the catering business

Multiple linear regression is used to analyze data and develop the forecasting equation at the confidence level of 95%

Table 4.22 Summary of the Model of Digital Marketing that Influences the Overview of Quality Competitiveness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.952[c]	.907	.906	.266	2.009

c. Predictors: (Constant), online branding, online advertisements, social media

d. Dependent Variable: quality competitiveness

From Table 4.22, the analysis results show that digital marketing has a positive relation with an overview of quality competitiveness with multiple correlations

(R) = .952. The ability to predict the analytical equation is 90.6% at the statistically significant level of 0.05

Table 4.22 presents the reliance value of all independent variables; the lowest value is 0.727, which is not less than 0.2, indicating no correlations among the 3 independent variables.

Table 4.23 The Multiple Linear Regression Coefficients for the Influences of Digital Marketing on an Overview of Quality Competitiveness

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
3 (Constant)	.035	.057		.615	.539		
Online Branding	.348	.015	.420	23.668	.000*	.745	1.343
Online Advertisement	.356	.014	.434	24.876	.000*	.770	1.298
Social media	.289	.014	.360	20.026	.000*	.727	1.376

a. Dependent Variable: quality competitiveness

Table 4.23 consists of 3 predictor variables, including online branding, advertisement, and social media, which developed a prediction equation.

$$\hat{Y}_T = 0.035 + 0.348X_1 + 0.356X_2 + 0.289X_3$$

The equation can explain that the coefficient of digital marketing R Square is equal to 0.907, the Adjusted R-Square is equal to 90.6%, and the independent variables are unrelated.

In summary, the analysis results indicate that digital marketing has influenced the overview of quality competition. All three variables have a significant value of .000, .000, and .000, respectively.

H2b: Digital marketing, including social media, online advertisements, and online branding, influences quality competitiveness in the product quality of the

catering business. Multiple linear regression is used to analyze data and develop the forecasting equation at a % confidence level of 95%.

Table 4.24 Summary of the Model of Digital Marketing that Influences Quality Competitiveness in Product Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.515[c]	.265	.259	.914	2.091

c. Predictors: (Constant), online branding, online advertisements, social media

d. Dependent Variable: quality competitiveness

From Table 4.24, the analysis results show that digital marketing has a positive relation with an overview of the quality competitiveness in product quality with multiple correlation (R) = .515. The ability to predict the analytical equation is 25.90% at the statistically significant level of 0.05

Table 4.25 presents the reliance value of all independent variables; the least value is 0.727, which is not less than 0.2, indicating no correlation among the three independent variables.

Table 4.25 The Multiple Linear Regression Coefficients for the Influences of Digital Marketing on the Competitiveness of Product Quality

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.115	.197		5.668	.539		
Online Branding	.240	.050	.238	4.763	.000*	.745	1.343
Online Advertisement	.216	.050	.220	4.355	.000*	.727	1.376
Social media	.198	.049	.197	4.023	.000*	.770	1.298

a. Dependent Variable: quality competitiveness

Table 4.25 consists of 3 predictor variables, including online branding, online advertisement, and social media, which developed a prediction equation as follows $\hat{Y}_1 = 1.115 + 0.240X_1 + 0.216X_2 + 0.198X_3$

The equation can explain that the coefficient of digital marketing R Square is equal to 0.515, the Adjusted R-Square is equal to 25.90%, and the independent variables are unrelated.

In summary, the analysis results indicate that digital marketing has influenced the quality competitiveness in product quality. All three variables have a significant value of .000, .000, and .000, respectively.

H2c: Digital marketing, including social media, online advertisements, and online branding, influences the quality competitiveness in service quality of catering business

Multiple linear regression is used to analyze data and develop the forecasting equation at the confidence level of 95%

Table 4.26 Summary of the Model of Digital Marketing that Influences the Quality Competitiveness in Service Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.545[c]	.297	.292	.934	2.133

c. Predictors: (Constant), online branding, online advertisements, social media

d. Dependent Variable: quality competitiveness

From Table 4.26, the analysis results show that digital marketing positively relates to the quality competitiveness in service quality with multiple correlations (R) = .297. The ability to predict the analytical equation is 29.20% at the statistically significant level of 0.05

Table 4.27 presents the reliance value of all independent variables; the

lowest value is 0.727, which is not less than 0.2, indicating no correlation among 3 independent variables.

Table 4.27 The Multiple Linear Regression Coefficients for the Influences of Digital Marketing on the Competitiveness of Service Quality

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.892	.201		4.435	.539		
Online Branding	.287	.052	.272	5.565	.000*	.745	1.343
Online Advertisement	.284	.050	.272	5.565	.000*	.770	1.298
Social media	.150	.051	.147	2.968	.000*	.727	1.376

a. Dependent Variable: service quality

Table 4.27 consists of 3 predictor variables, including online branding, online advertisement, and social media, which developed a prediction equation as follows $\hat{Y}_2 = 0.892 + 0.287X_1 + 0.284X_2 + 0.150X_3$

The equation can explain that the coefficient of digital marketing R Square is equal to 0.297, the Adjusted R-Square is equal to 29.20%, and the independent variables are unrelated.

In summary, the results of the analysis indicate that digital marketing has influenced the competitiveness of service quality. All three variables have a significant value of .000, .000, and .000, respectively.

H2d: Digital marketing, including social media, online advertisements, and online branding, influences the quality competitiveness in the price of catering business.

Multiple linear regression is used to analyze data and develop the forecasting equation at the confidence level of 95%

Table 4.28 Summary of the Model of Digital Marketing that Influences Quality Competitiveness in Price

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.563[c]	.317	.312	.889	2.084

c. Predictors: (Constant), online branding, online advertisements, social media

d. Dependent Variable: quality competitiveness

From Table 4.28, the analysis results show that digital marketing positively relates to quality competitiveness in price with multiple correlations (R) = .563. The ability to predict the analytical equation is 31.20 % at the statistically significant level of 0.05

Table 4.29 presents the reliance value of all independent variables; the least value is 0.727, which is not less than 0.2, indicating no correlation among the three independent variables.

Table 4.29 The Multiple Linear Regression Coefficients for the Influences of Digital Marketing on the Quality Competitiveness of Price

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
3	(Constant)	.918	.191		4.797	.539		
	Online Branding	.295	.049	.290	6.024	.000*	.745	1.343
	Online Advertisement	.294	.048	.292	6.167	.000*	.770	1.298
	Social media	.126	.048	.127	2.614	.000*	.727	1.376

a. Dependent Variable: quality competitiveness

Table 4.29 consists of 3 predictor variables, including online branding, advertisement, and social media, which developed the following prediction equation.

$$\hat{Y}_3 = 0.918 + 0.295X_1 + 0.294X_2 + 0.126X_3$$

The equation can explain that the coefficient of digital marketing R Square is equal to 0.563, the Adjusted R-Square is equal to 31.20%, and the independent variables are unrelated.

In summary, the results of the analysis indicate that digital marketing has influenced the quality competitiveness in price. All three variables have a significant value of .000, .000, and .000, respectively.

Table 4.30 Summary of Demographic Data Affects the Quality Competitiveness of Catering Business, Kunming City

Demographic	Product Quality	Service Quality	Price competitiveness	Overview of Quality Competitiveness
Gender	-	-	-	-
Age	-	-	✓	✓
Marital Status	-	✓	-	-
Educational Background	-	✓	✓	✓
Occupation	✓	✓	✓	✓
Monthly Income	-	✓	-	✓

- *no different effects at the statistical significance of 0.05*
- ✓ *have different effects at the statistical significance of 0.05*

Table 4.31 Summary of the Digital Marketing Influence on the Quality Competitiveness of the Catering Business in Kunming City

Quality Competitiveness	R	R Square	Adjusted R Square	Std. Error of the Estimate
-Product Quality	.515[c]	.265	.259	.914
-Service quality	.545[c]	.297	.292	.934
-Price competitiveness	.563[c]	.317	.312	.889
Overview	.952[c]	.907	.906	.266

c. Predictors: (Constant), online branding, advertisements, social media

d. Dependent Variable: quality competitiveness

Table 4.32 Summary Forecasting Equations for Digital Marketing Influences the Quality Competitiveness of Catering Business, Kunming City

Quality Competitiveness	Forecasting Equations
-Product Quality	$\hat{Y}_1 = 1.115 + 0.240X_1 + 0.216X_2 + 0.198X_3$
-Service quality	$\hat{Y}_2 = 0.892 + 0.287X_1 + 0.284X_2 + 0.150X_3$
-Price competitiveness	$\hat{Y}_3 = 0.918 + 0.295X_1 + 0.294X_2 + 0.126X_3$
Overview	$\hat{Y}_T = 0.035 + 0.348X_1 + 0.356X_2 + 0.289X_3$

X_3 = online branding, X_2 = online advertisements, X_1 = social media

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the research results, discussions, and recommendations. Firstly, this section presents the research conclusions and discusses the findings and limitations. Finally, suggestions for future research are given. The objectives of this research were to investigate the impact of demographic factors on the quality competitiveness of the catering business in Kunming City, Yunnan province, and to examine how digital marketing influences the quality competitiveness of the catering business in Kunming City, Yunnan province.

5.1 Conclusion

The conceptual framework of this study is composed of two independent variables: demographic factors and digital marketing. The dependent variable was quality competitiveness, which included product quality, service quality, and price competitiveness. The demographic factors include gender, age, marital status, educational level, occupation, and monthly income. Digital marketing includes social media, online advertisements, and online branding.

The analysis results demonstrate that among the catering business's customers who are the respondents to this research, the number of males and females is quite the same. However, most are in the age group of 31–40, married, and have a college or technical school educational background. The majority of them work as civil servants or business workers. In terms of monthly income, most of them are in the 5001–10,000 RMB range.

The respondents' opinion on the overview of digital marketing was reasonable. In detailed consideration, the social media content was good, and the online advertisements and branding were moderate.

The respondents' opinions on the overview of quality competitiveness, product quality, service quality, and price competitiveness are moderate.

Regarding inferential analysis, the results found that differences in age, educational background, occupation, and monthly income affect the overview of quality competitiveness differently. The analysis results demonstrate differences for each variable as follows:

1. The difference in occupation affects product quality differently.
2. The difference in marital status, educational background, occupation, and monthly income affects service quality differently.
3. The differences in age, educational background, and occupation affect prices differently.

Digital marketing influences the overview of quality competitiveness. The analysis utilized multiple linear regression to estimate the influence of digital marketing factors, including social media, online advertisements, and online branding, on the overview of quality competitiveness. The result shows that digital marketing significantly influences the overview of quality competitiveness, with an R-squared value of 0.907. The standardized coefficients Beta for each independent variable, including social media, online advertisements, and online branding, are 0.420, 0.434, and 0.360, respectively. The results of the analysis demonstrate that digital marketing significantly influences the overview of quality competitiveness in catering businesses in Kunming. All three independent variables, including social media, online advertisements, and online branding, have a statistically significant favorable influence on the overview of quality competitiveness. However, the results indicate that online advertising has the highest influence on the overview of quality competitiveness, followed closely by social media and online branding.

Digital marketing influences product quality. The analysis results reveal that social media, online advertisement, and online branding influenced product quality in the same direction with an R-squared value of 0.265. The standardized coefficients

Beta for each independent variable, including online branding, advertisement, and social media, are 0.238, 0.220, and 0.197, respectively. The analysis demonstrates that digital marketing significantly influences product quality in catering businesses in Kunming City. All three independent variables, including social media, online advertisements, and online branding, have a statistically significant favorable influence on product quality. However, the results indicate that online branding has the highest impact on product quality, followed closely by online advertisement and social media.

Digital marketing influences service quality. The analysis shows that digital marketing positively influences service quality in the same direction, with an R-squared value of 0.297. The standardized coefficients Beta for each independent variable, including online branding, advertisement, and social media, are 0.272, 0.272, and 0.147, respectively. The results of the analysis demonstrate that digital marketing significantly influences service quality in catering businesses in Kunming. All three independent variables, including online branding, advertisements, and social media, have a statistically significant positive influence on service quality. However, the results indicate that online branding and advertisements have the same influence on service quality, followed by social media.

Digital marketing influences price competitiveness. The analysis shows that digital marketing significantly influences price competitiveness with an R-squared value of 0.317. The standardized coefficients Beta for the independent variables are online branding, online advertisement, and social media, which are 0.290, 0.292, and 0.127, respectively. The analysis demonstrates that digital marketing significantly influences the price competitiveness of catering businesses in Kunming City. All three independent variables, including online branding, advertisements, and social media, have a statistically significant positive influence on price competitiveness. However, the results indicate that online branding and advertisements have the same influence on price competitiveness, followed by social media.

5.2 Discussion

The study results indicated that the gender difference has no statistically significant difference in product quality, service quality, price competitiveness perception, and the overall perception of quality competitiveness. In other words, gender did not play a significant role in shaping customers' perceptions of catering businesses in these aspects. While some studies, such as Gagné & Nguyen (2007) and Ladkin & Teixeira (2017), explore how gender influences server perceptions of service quality in the restaurant industry, which may offer some parallels to the catering business, Owing to their widespread use, technologies are integral to modern life. People are becoming more and more reliant on using technology for everything. Customers' decisions may be influenced by gender disparities in online restaurant reviews, according to Johnson and Brown (2019). Divergences in overconfidence and attitudes toward competition typically lead to disparities in competitiveness (Niederle &Vesterlund, 2011).

The findings revealed that the age difference did not significantly impact product and service quality perceptions. However, there was a significant difference in price competitiveness perception among various age groups, with customers aged 20-30 rating prices differently than other age groups. Additionally, the age difference has a statistically significant effect on the overview perception of quality competitiveness.

5.3 Recommendations

5.2.1 Differential Market Strategies

Tailor market strategies differ based on demographic factors such as gender, age, marital status, education level, occupation, and monthly income. This includes designing advertisements, services, and products to meet various customer segments'

diverse needs and preferences. Customer satisfaction and loyalty can be enhanced by segmenting the market and providing personalized experiences.

5.2.2 Engage in Social Media

Catering businesses and restaurants should actively engage in social media platforms by providing useful information and engaging content. Social media is a vital channel for interacting with customers, conveying brand values, and boosting brand loyalty. Regularly updating social media content and promptly responding to customer feedback helps establish a positive online brand image.

5.2.3 Online Advertising Investment

To enhance service quality competitiveness, the catering business can increase investments in online advertising, especially on search engines and other online platforms. Catering businesses can highlight product information, creative menus, and service advantages through online advertising, attracting more potential customers and improving their expected service experiences.

5.2.4 Brand Promotion

Catering businesses should intensify their online brand promotion efforts to raise awareness and recognition. Effective online brand promotion allows catering businesses to establish a distinctive brand image, enhance customer trust, and foster loyalty, thereby increasing service quality competitiveness.

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APPENDICES

QUESTIONNAIRE

Dear Sir/Madam,

Hello! Thank you very much for participating in this questionnaire survey. This questionnaire aims to study the impact of digital transformation on the Competitiveness of the catering industry. The research results will provide references for enhancing competitive advantages in uncertain environments. This survey is conducted anonymously and does not involve any personal privacy. The survey results will be used for academic research purposes only. Therefore, you do not need to have any concerns. Please fill out the questionnaire based on the actual situation of your company. Once again, thank you for your support. If you would like to receive the results of this study, please leave your email address.

I. Demographic

The following questionnaire investigates several important demographic variables to help analyze the study, so please fill it out carefully.

1. Your gender:

① Male ② Female

2. Your age:

① 20 -30 years old ② 31-40 years old

③ 41 years old-50 years old ④ More than 50 years

3. Your marital status:

① Single ② Married ③ Divorce ④ Widow

4. Your educational level:

① High School or lower ② College or Technical School

③ Bachelor's Level ④ Master's Level or higher

5. Your Occupation:

① Student ② Civil Servant/Business Worker

③ Freelancer/Self-employed ④ others (please specify)

6. Your monthly income:

① 5000RMB and below ② 5001-10000RMB

③ 10001-15000RMB ④ 15001RMB and above

II. Digital Marketing

Please read the following questions carefully and tick the boxes according to your opinion. 1 = completely disagree; 2 = disagree; 3 = unsure; 4 = agree; 5 = completely agree.

Social Media (e.g. Wechat, dingdingtalk, QQ etc.)	1	2	3	4	5
7. The content from social media platforms about the catering business provides valuable information.					
8. The content from social media platforms about the catering business provides visual and auditory enjoyment.					
9. The social media channel is easy to reach and participate in.					
10. It is convenient to find catering businesses from social media.					
Online Advertisements	1	2	3	4	5
11. I would prioritize the advertising band found in search engines when using the catering business.					
12. I tend to use the catering business, often seen in online advertisements on social media, e.g.,					

WeChat, DingTalk, and QQ.					
13. The details of the catering business online advertisements meet my expectations and needs.					
14. The creative menu of the catering business online advertisement draws my attention.					
15. The catering business online advertisements can inspire me to make a purchase					
16. The video live stream from the influencer can inspire me to use the catering business.					

Online Branding	1	2	3	4	5
17. I think online branding is effective in increasing brand awareness.					
18. I regularly follow and participate in online branding activities.					
19. I would choose my favorite brands based on the content and quality of the online branding campaigns.					

III. Quality Competitiveness

Please read the following questions carefully and tick the boxes according to your opinion. 1=completely disagree; 2=disagree; 3=neutral; 4=agree; 5=completely agree

Product Quality	1	2	3	4	5
20. I found that the catering service provides good quality raw materials.					
21. I think the catering service provides standard product quality.					
22. I think the catering service provides reasonable product value.					
Service Quality	1	2	3	4	5
23. I am satisfied with the professional service of the catering business.					

24. The catering business provides quick and smooth service.					
25. The catering business provides service as I expected.					
Price Competitiveness	1	2	3	4	5
26. Catering business price is reasonable.					
27. I am satisfied with the product price transparency					
28. I chose a catering business based on product price.					

This concludes the questionnaire. Thank you!

问卷调查

尊敬的先生/女士：

你好！非常感谢您参与本次问卷调查。本问卷旨在研究数字化转型对餐饮业竞争力的影响。本研究结果将为餐饮业人员在不确定环境中提升竞争优势参考。本调查是匿名进行的，不涉及任何个人隐私。调查结果将仅用于学术研究目的。因此，您不需要有任何问疑虑。请根据您的实际情况填写调查问卷。再次感谢您的支持。如果您想收到本次研究的结果，请留下您的电子邮件地址。

Ⅰ.人口统计学

下面的问卷调查了一些人口统计学变量，这些变量对帮助分析研究很重要，所以请仔细填写。

1.你的性别：

①男性　　②女性

2.您的年龄：

①20-30 岁　　②31-40 岁

③41 岁-50 岁　　④超过 50 年

3.您的婚姻状况：

①单身　　②已婚

③离婚　　④寡妇

4.您的教育水平：

①高中或更低　　②学院或技术学校

③学士的水平　　④大师级别或更高级别

5.您的职业：

①学生　　②公务员/工人

③自由职业者/自营职业者　　④其他（请说明）

6.您的月收入：

①5000 人民币及以下　　②5001-10000 人民币

③10001-15000 人民币　　④15001 人民币及以上

Ⅱ. 数字营销

请仔细阅读以下问题，并根据您的意见在方框内打勾。1=完全不同意；2=不同意；3=不确定；4=同意；5=完全同意。

社交媒体(例如：微信，叮叮当声，QQ等)	1	2	3	4	5
7.社交媒体平台上有关餐饮业务的内容提供了有用的信息。					
8.社交媒体平台上有关餐饮业务的内容提供了视觉和听觉享受。					
9.社交媒体渠道易于接触和参与。					
10.从社交媒体上找到餐饮业务很方便。					
在线广告	1	2	3	4	5
11.在使用餐饮业务时，我会优先使用搜索引擎中的广告频带。					
12.我倾向于使用经常在社交媒体上看到的餐饮企业网络广告，如微信、钉钉、QQ等。					

13. 餐饮业在线广告的细节满足了我的期望和需求。					
14. 餐饮商务在线广告的创意菜单引起了我的注意。					
15. 餐饮业的在线广告能激发我的购买欲望。					
16. 来自影响者的视频直播可以激发我使用餐饮业务的灵感。					
在线品牌	1	2	3	4	5
17. 我认为在线品牌推广对于提高品牌知名度是有效的。					
18. 我经常关注并参与在线品牌推广活动。					
19. 我会根据在线品牌推广活动的内容和质量来选择我最喜欢的品牌。					

III. 质量竞争力

请仔细阅读以下问题，并根据您的意见勾选各方框。1=完全不同意；2=不同意；3=中立；4=同意；5=完全同意

产品质量	1	2	3	4	5
20. 我发现餐饮服务提供了高质量的原材料。					
21. 我认为餐饮服务的产品质量符合标					

准。					
22.我认为餐饮服务提供了合理的产品价值。					
服务质量	1	2	3	4	5
23.我对餐饮业的专业服务很满意。					
24.餐饮业提供快捷、顺畅的服务。					
25.餐饮业提供了我所期望的服务。					
价格竞争力	1	2	3	4	5
26.餐饮业务价格合理。					
27.我对产品价格的透明度感到满意。					
28.我根据产品价格来选择餐饮业。					

调查问卷结束了，谢谢！

INDEX OF ITEM OBJECTIVE CONGRUENCE (IOC)

Digital Marketing					
Social Media	**Expert 1**	**Expert 2**	**Expert 3**	**IOC index**	
1. The content from social media platforms about the catering business provides useful information.	1	1	1	1	
2. The content from social media platforms about the catering business provides visual and auditory enjoyment.	1	1	1	1	1.00
3. The social media channel is easy to reach and participate in.	1	1	1	1	
4. It is convenient to find catering businesses from social media.	1	1	1	1	
Online Advertisement	**Expert 1**	**Expert 2**	**Expert 3**	**IOC index**	
5. I would prioritize the advertising band found in search engines when using the catering business.	1	1	1	1	
6. I tend to use the catering business often seen in an online advertisement on social media, e.g., WeChat, DingTalk, QQ	1	1	1	1	
7. The details of the catering business online advertisements meet my expectations and needs.	1	1	1	1	
8. The creative menu of the catering business online advertisement draws my attention.	1	1	1	1	0.945
9. The catering business online advertisements can inspire me to make a purchase	1	0	1	0.67	
10. The video live stream from the influencer can inspire me to use the catering business.	1	1	1	1	

Online Branding	**Expert 1**	**Expert 2**	**Expert 3**	**IOC index**	
11. I think online branding is effective in increasing brand awareness.	1	1	1	1	1.00
12. I regularly follow and participate in online branding activities.	1	1	1	1	
13. I would choose my favorite brands based on the content and quality of the online branding campaigns.	1	1	1	1	
Quality Competitiveness					
Product Quality	**Expert 1**	**Expert 2**	**Expert 3**	**IOC index**	
14. I found that the catering service provides good quality raw materials.	1	1	1	1	1.00
15. I think the catering service provides standard product quality.	1	1	1	1	
16. I think the catering service provides reasonable value for the product.	1	1	1	1	
17. I found that the catering service provides good quality raw materials.	1	1	1	1	
Service Quality	**Expert 1**	**Expert 2**	**Expert 3**	**IOC index**	
18. I am satisfied with the professional service of the catering business.	1	1	1	1	1.00
19. The catering business provides quick and smooth service.	1	1	1	1	
20. The catering business provides service as I expected.	1	1	1	1	
Price Competitiveness	**Expert 1**	**Expert 2**	**Expert 3**	**IOC index**	
21. Catering business price is reasonable.	1	1	1	1	1.00
22. I am satisfied with the product price transparency	1	1	1	1	
23. I chose a catering business based on product price.	1	1	1	1	

Reliability Test

Scale: ALL VARIABLES

Reliability Statistics

Cronbach's Alpha	N of Items
.911	4

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure

Item Statistics

	Mean	Std. Deviation	N
Q7	3.87	1.383	30
Q8	3.40	1.221	30
Q9	3.47	1.042	30
Q10	3.33	1.093	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q7	10.20	8.855	.870	.861
Q8	10.67	10.092	.818	.877
Q9	10.60	11.421	.770	.896
Q10	10.73	11.168	.761	.897

Scale: ALL VARIABLES

Cronbach's Alpha	N of Items
.948	6

Item Statistics

	Mean	Std. Deviation	N
Q11	3.40	1.404	30
Q12	3.40	1.404	30
Q13	3.27	1.015	30

Cronbach's Alpha	N of Items

Q14	3.43	1.073	30
Q15	3.10	.803	30
Q16	3.23	.858	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q11	16.43	21.564	.940	.929
Q12	16.43	21.564	.940	.929
Q13	16.57	25.978	.850	.938
Q14	16.40	25.352	.861	.937
Q15	16.73	28.892	.725	.953
Q16	16.60	27.352	.859	.941

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.894	3

Item Statistics

	Mean	Std. Deviation	N
Q17	3.37	1.520	30
Q18	3.27	1.015	30
Q19	3.23	1.104	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q17	6.50	3.914	.843	.851
Q18	6.60	6.179	.809	.858
Q19	6.63	5.757	.814	.840

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.893	3

Item Statistics

	Mean	Std. Deviation	N
Q20	3.67	1.516	30
Q21	3.60	1.248	30
Q22	3.33	1.061	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q20	6.93	4.409	.881	.782
Q21	7.00	5.931	.794	.845
Q22	7.27	6.961	.755	.892

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.916	3

Item Statistics

	Mean	Std. Deviation	N
Q23	3.43	1.382	30
Q24	3.43	1.073	30
Q25	3.40	1.037	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q23	6.83	3.937	.870	.869
Q24	6.83	5.316	.839	.877
Q25	6.87	5.499	.831	.887

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.886	3

Item Statistics

	Mean	Std. Deviation	N
Q26	3.57	1.591	30
Q27	3.47	.937	30
Q28	3.50	1.009	30

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q26	6.97	3.275	.869	.842
Q27	7.07	6.202	.799	.856
Q28	7.03	5.757	.834	.816

BIOGRAPHY

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EDUCATIONAL BACKGROUND: 01/03/2015-03/07/2017

Bachelor's Degree in Civil Engineering

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WORKING EXPERIENCE: From December 2017 to now
Yunnan Jiaotong Institute Asset Management Co., LTD.,
Yunnan Transportation Distance Learning Center asset administrator, Cashier

August 2019 - December 2022
Instructor of Yunnan Vocational and Technical College of Transportation.

July 2013 - November 2017
Yunnan Vocational and Technical College of Communications Finance and Asset Management Department
Buyer, Asset Manager