Effectiveness of Social Media in Culinary and Tourism Marketing

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Abstract

This meta-analysis examines the impact of social media on culinary and tourism marketing, synthesizing previous studies. Results show that the use of social media significantly increases marketing effectiveness, engagement and tourist visits to culinary and tourism destinations. Culinary destinations and businesses that use social media have higher visitation rates than those that do not. A lower bound value of -0.045 and an upper bound of 1.247 with an average effect size of 0.61 indicate a strong impact. Variation in marketing effectiveness is evidenced by a Q value of 2449.890; p < .001. This research provides a strong basis for marketing practitioners in the tourism and culinary industries to better understand and utilize social media in their marketing strategies, in order to achieve better marketing objectives and improve the reputation of destinations and culinary businesses.

KEY WORDS: *Social Media, Culinary, Tourism*

INTRODUCTION

In the growing digital age, social media has become one of the most effective communication and marketing tools [1]. Social media platforms such as Facebook, Instagram, Twitter, and TikTok not only allow users to connect and share information [2], but also provide opportunities for businesses to reach a global audience. Social media offers a dynamic and interactive platform for businesses to promote their products and services through various forms of content, including text, images, videos and user stories [3]. The ability of social media to reach millions of users worldwide makes it a very powerful tool in digital marketing strategies [4].

Social media has a number of advantages over traditional marketing media [5], [6]. Firstly, social media allows for two-way interaction between businesses and consumers. This means that businesses can receive direct feedback from consumers and customise their marketing strategies according to consumer needs and preferences [7]. Secondly, social media allows businesses to utilise data analytics to measure the effectiveness of their marketing campaigns and make data-driven decisions [6], [8]. Thirdly, social media allows businesses to utilise the power of influencers and regular users to promote their products and services through reviews, testimonials, and user-generated content [5].

The culinary and tourism industries are two sectors that rely heavily on visuals and customer experience [3]. In recent years, both industries have experienced significant growth, largely thanks to the role of social media [2], [6]. The rapid growth in the culinary and tourism industry cannot be separated from the ability of social media to facilitate the rapid and widespread dissemination of information [9]. Social media allows culinary and tourism businesses to showcase stunning destinations and mouth-watering cuisines through images, videos and user stories [7], [10]. This helps to attract the interest and curiosity of potential customers, which in turn can increase visits and sales.

In the culinary industry, social media has become an important tool for promoting restaurants, cafes, and food products [11]. Culinary businesses can utilise social media to post pictures and videos of their food, share recipes, and hold contests or special promotions to attract customers [7]. In the tourism industry, social media allows tourist destinations to promote natural beauty, culture, and local attractions to a global audience [7]. Through attractive visual content, tourist destinations can attract the

attention of potential tourists and increase the number of visits.

Social media plays an important role in promoting tourism and food destinations. Platforms such as Facebook, Instagram, Twitter and TikTok allow businesses to showcase stunning destinations and mouth-watering cuisines through images, videos and user stories [7], [12]. User reviews and testimonials also play an important role in building reputation and trust for a particular destination or culinary product [13]. Social media users often share their experiences with their friends and followers, which can help spread the word and increase the visibility of a destination or culinary product [9].

In addition, social media allows businesses to utilise the power of influencers to promote tourism and culinary destinations [14], [15]. Influencers are individuals who have a large following on social media and are considered to have influence in their followers' purchasing decisions [16], [17]. By working with influencers, businesses can reach a wider audience and build trust with potential customers. Content created by influencers is often more trusted by consumers compared to traditional adverts, as they are considered more authentic and trustworthy [8], [18].

However, while there is plenty of anecdotal evidence of the effectiveness of social media in culinary and tourism marketing, there is still a fundamental question that needs to be answered: how effective is social media actually in this context? Are there significant differences in effectiveness between different platforms? These questions require more in-depth and systematic analyses to provide accurate and reliable answers. This research will focus on a meta-analysis to evaluate the effectiveness of social media in culinary and tourism marketing based on various studies that have been conducted previously.

The main objective of this study is to analyse the effectiveness of social media in culinary and tourism marketing through a meta-analysis approach [1], [19]. By combining and analysing results from various previously conducted studies, this research seeks to provide a more comprehensive picture of the impact of social media in these two sectors. Meta-analysis allows researchers to identify common patterns and trends from various studies, as well as provide a more accurate estimation of the effectiveness of social media in culinary and tourism marketing.

This research is expected to provide valuable insights for marketing practitioners in the culinary and tourism industry [18]. With a better understanding of the effectiveness of social media, businesses can design more effective and efficient marketing strategies [6], [13]. In addition, the results of this study will also provide practical recommendations to improve the use of social media in culinary and tourism marketing. For example, this research can help businesses determine which social media platforms are most effective for reaching their target audiences, what types of content are most engaging for customers, and how to measure the success of their marketing campaigns [2].

This research will focus on studies published in the last 5 years to ensure the relevance and actuality of the data analysed. In addition, this research will be limited to major social media platforms such as Facebook, Instagram, Twitter, and TikTok, which are the platforms with the largest user base and significant impact in the context of digital marketing [2]. As such, the results of this study are expected to provide an accurate and reliable picture of the effectiveness of social media in culinary and tourism marketing.

LITERATUR REVIEW

Digital marketing refers to marketing strategies that utilise digital technology and the internet to reach consumers [17]. It encompasses a variety of methods and channels, including websites, email, search engines, social media, and mobile apps [12], [20]. Digital marketing aims to reach a wider audience in a more efficient and measurable way compared to traditional marketing. According to Chaffey and Ellis-Chadwick (2016) [4], digital marketing allows businesses to interact with consumers directly and personally, providing experiences that are tailored to individual needs and preferences [7], [13].

Social media has become one of the most

popular and effective digital marketing tools [17], [21]. Platforms such as Facebook, Instagram, Twitter, and TikTok provide channels for businesses to communicate directly with their consumers, build relationships, and promote their products or services [14], [18]. Social media allows businesses to utilise visually appealing content, such as images and videos, to capture consumers' attention. In addition, social media also provides analytical data that is useful for measuring the success of marketing campaigns and making necessary adjustments.

Culinary marketing has unique characteristics as it relies heavily on visual and sensory appeal [22]. Appetising images and videos of food can capture consumers' attention and encourage them to try the product. Culinary marketing also often utilises customer reviews and testimonials, which can provide quality assurance and increase consumer trust. Authentic content and personal experiences from customers are often more effective in attracting consumer interest compared to traditional advertising.

Tourism marketing also has distinctive characteristics, especially when it comes to highlighting the natural beauty, culture, and local attractions of a destination [10], [19]. Social media allows tourist destinations to share stories, images, and videos that showcase their uniqueness and appeal. Tourism marketing also often involves collaboration with influencers and travel bloggers, who can provide reviews and recommendations that are trusted by their followers. The use of hashtags and viral campaigns on social media can also increase the visibility and appeal of tourism destinations.

Social media has a significant impact on consumer purchasing decisions. These platforms allow consumers to search for information about products or services, read reviews, and view recommendations from friends or influencers [15]. Studies show that positive reviews and visually appealing content can increase consumer interest and purchase intent. Social media also allows consumers to interact with brands and get quick responses to their questions or concerns, which can increase customer satisfaction and loyalty.

Online reviews and testimonials play an important role in building reputation and trust in a product or service [15], [23]. Consumers often look for reviews from other users before making a purchase decision, and positive reviews can increase perceptions of quality and trust in a brand. Research shows that reviews written by users who are considered credible and reviews that provide specific details about their experience tend to be more influential. In addition, negative reviews that are handled well by businesses can demonstrate their commitment to customer satisfaction and strengthen consumer confidence.

RESEARCH METHODS

A. Data Collection

This research is a meta-analysis that collects all papers from various literature sources on the same subject and uses statistical methods to summarise the literature findings. The main objective of this study is to determine whether social media can help attract travellers in acquiring travel and culinary interests. Each article to be collected discusses how social media helps promote tourism and culinary destinations. The main sources of article data are Science Direct and Google Scholar. These two pages serve as global article search engines with connections to multiple article sources. Articles published between 2014 and 2023 containing the keywords social media, culinary marketing, and tourism marketing will be assessed for inclusion in this meta-analysis, to prevent papers with biased data and to ensure a broad coverage of the data obtained. PRISMA is the research methodology used in this study. In cases where this approach searches for data in a methodical and appropriate manner, the data will be analysed [24], [25].

B. Inclusion and exclusion criteria

In order to achieve similar results and limit the journal search, inclusion and exclusion criteria were applied. While the quality of the articles to be ignored is referred to as the exclusion criteria, the quality of the articles to be examined is referred to as the inclusion criteria. Articles that do not fulfil the requirements for inclusion in the study will be rejected. The inclusion criteria for this meta-

analysis are shown in Table I. Articles that met the exclusion criteria had the opposite criteria to those that met the inclusion criteria. The reference materials of this article do not contain any articles that fulfil the exclusion criteria.

Table 1. Article Selection and Inclusion Criteria

Criteria	Inklusi
Learning Model	All articles that discuss social media to improve students' thinking skills
Year of journal publication	Articles published from 2019 to 2024
Type of article	Research published in accredited international/national journals or proceedings
Research Design	Research that uses a control group and an experimental group
Research Instruments	Research that conducts pretest and posttest
Research Data	Studies that provide information on the mean (M), standard deviation (SD), and sample size (n)

C. Analysis Technique

The data analysis methodology in this study uses the random effect hedge model meta-analysis method. The data collected must be heterogeneous to fulfil the requirements of this model. Impact size value (d), standard error (SEg), mean (M), standard deviation (SD), and sample size (n) were calculated by collecting and analysing data on these parameters in the publications searched [26]. Inclusion requirements must be met by the articles selected for meta-analysis, and the data collected must match the data specified in the study inclusion criteria. Equation 1 can be used to determine the effect size value of articles [27].

$$d = \frac{M_2 - M_1}{\sqrt{\frac{(n_1-1)S_1^2+(n_2-1)S_2^2}{n_1+n_2-2}}} \quad (1)$$

$$SE_g = \sqrt{JxV_d} \quad (2)$$

$$J = 1 - \frac{3}{4(n_1+n_2-2)-1} \quad (3)$$

$$V_d = \frac{n_1+n_2}{n_1.n_2} + \frac{d^2}{2(n_1+n_2)} \quad (4)$$

After determining the effect size and standard error values, data analysis was conducted using the JASP statistical analysis application. The purpose of this application is to assist in conducting meta-analyses of the papers found. The heterogeneity value, effect size, minimum/maximum effect size value, and bias value of the studied publications were all analysed using the JASP application. As a result, the meta-analysis conclusions and bias values of the articles were determined. It is important to note that data analysis must first use equations 1, 2, 3, and 4 above before using the JASP programme.

RESULTS AND DISCUSSION

A. Result

The total number of articles obtained using the predefined search terms was 120. Google Scholar, Science Direct, and Proquest database search results were used to find these articles. Up to six articles out of the total 120 articles received had to be discarded. This was due to the fact that the omitted articles were the same as those found using different search engine databases, making it necessary to remove the same articles. As a result, 114 articles were obtained. After going through the similarity filtering process, the articles were examined for titles and abstracts. Many papers were removed at this stage when the abstracts and titles of the retrieved articles were examined, as many of them did not fit the purpose of the meta-analysis. In addition, the subtitles of the articles were checked to determine how many classes were used in the study and whether the test format was adequate.

After this stage, 37 publications were considered to meet the initial meta-analysis standards. A final selection stage was still applied to these articles to determine whether each article met the

requirements for data presentation. The final selection resulted in 6 publications being included in the meta-analysis. Twenty studies in total met the data requirements of the study, which included the mean (M), standard deviation (SD), and number of participants (n) of the control and experimental classes. Figure 1. displays the article selection process conducted.

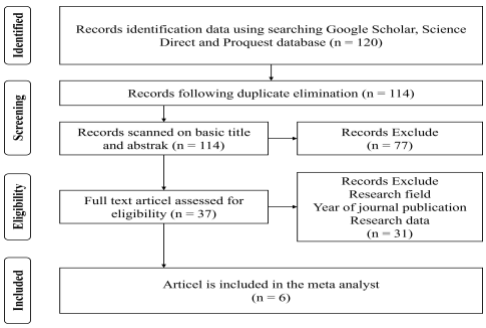

Figure 1. Article selection using PRISMA method

Research on the role of social media in culinary and tourism marketing has shown that social media can significantly help in promoting tourism and culinary destinations. These studies show how social media can increase the number of travellers who visit a particular destination and choose a particular cuisine. In addition, social media can also influence travellers' assessments of destinations and culinary experiences, helping potential travellers make decisions about where they want to visit. These studies show that the use of social media can have a positive impact on tourism and culinary marketing. The analyses conducted in this meta-analysis include study designs with experimental and control groups, as well as sample sizes, mean values and standard deviations. These data were then used to calculate the effect sizes and standard error values required in the meta-analysis. Table 2 displays the effect size and standard error values for each study used.

Table 2. Article Selection and Inclusion Criteria

Author	Code	Control Group			Experiment Group			d	SE_g
		n	M	SD	n	M	SD		
Y.H. Zheng et al	[8]	320	3.63	0.79	320	3.94	0.69	0.418	0.08
C. Suttikun and P. Mahasuweerachai	[28]	408	4.54	1.27	408	4.66	1.23	0.096	0.07
R. Yung et al.	[5]	216	2.2	1.04	216	3.78	0.78	1.719	0.113
P.R. Walsh and R. Dodds	[29]	1003	4.16	2.08	1003	3.16	1.98	-0.492	0.045
T. Hussain et al	[14]	576	2.21	0.979	576	2.78	1.137	0.537	0.06
D. Boto-Garcia and J.F. Banos-Pino	[30]	61590	0.538	0.214	61590	0.77	0.088	1.418	0.006
Average Effect Size (SE)								0.616	

Table 2. shows that the two classes used in all studies published in conferences or journals are the experimental group and the control group, each with a sample size (n), mean value (M), and standard deviation (SD). Standard error (Seg) and effect size (d) can be calculated once these values are obtained. The average impact of using social media (experimental group) and not using social media (control group) can be shown by the effect size value in each of the collected studies. After the acquisition of the data shown in Table 2, data analysis was conducted to determine whether the study would produce positive or negative results.

1) Heterogeneity result

The purpose of heterogeneity testing is to ensure the suitability of the meta-analysis model used. The Hedges random effect model is the meta-analysis model used. Heterogeneity testing in random effect meta-analysis models should also follow this standard [31]. The results of the data analysis displayed in Table 3 show that the effect size values of the studies were heterogeneous, with a Q value = 2449.890; p <.001. Therefore, Hedges' random effects analysis approach can be used to assess the average effect size estimate of the 6 studies that provided data for the meta-analysis.

Table 3. Fixed and Random Effects

	Q	df	p
Test of Residual Heterogeneity	2449.890	5	< .001

[1]*p* -values are approximate.

[2]The model was estimated using Hedges method.

2) Summary of effect/mean effect size

A statistical evaluation of the average effect size or summary effect was conducted to ascertain the level of significance regarding the impact of social media on tourism and culinary marketing. A statistical data analysis method known as the Wald test was used to conduct the test. The Wald test, sometimes referred to as the wald chi-square test, is one of the statistical test methods used to determine whether a therapy given to the object of research has a significant impact [32]. Based on the data analysis in Table 4, which is based on the results of the meta-analysis using random effects, social media strongly influences travellers' judgement. Wald test for hedged model with lower and upper bounds [-0.045; 1.247] (z = 1.825; p = 0.068; 95% CI). Social media proved to have a good and high impact on tourism and culinary marketing, as seen from the average value of the random effect size of rRE = 0.614. The

interpretation of this category is based on Cohen's d (1998), which states that (r = 0.1) is a low category, (r = 0.5) is a medium category, and (r = 0.8) is a low category. [33].

Table 4. Summary Effect Test

					95% Confidence Interval	
	Estimate (r_{RE})	Standard Error	z	p	Lower	Upper
Intercept	0.614	0.336	1.825	0.068	-0.045	1.247

[1]Wald test.

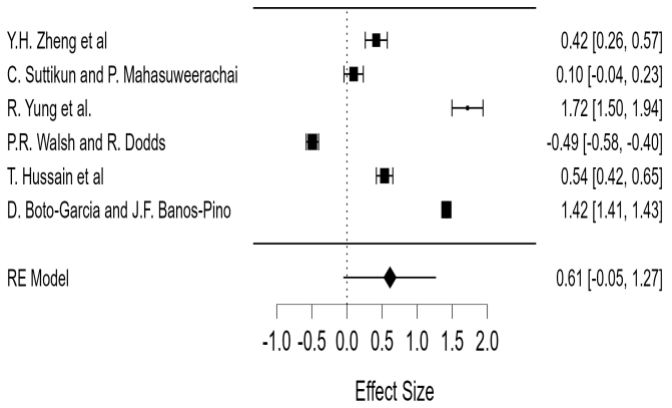

Fig 2. Forest Plot

In more detail, the forest plot image Fig. 2 displays the meta-analysis of all investigations conducted. The name of the researcher, the effect size, the lower limit and upper limit of the effect size, and the average effect size achieved are all displayed in the forest plot. The information displayed in the forest plot graph shows that the magnitude of the effect obtained from the investigated studies varied. The observed values ranged from a low of -0.49 to a high of 1.72 with an overall mean effect size of 0.61.

3) Results of article bias testing

There should be no research bias in the articles used in this meta-analysis to obtain high-quality research that is free from evidence of data manipulation. According to H. Kwon, D [34]. Testing for bias in meta-analysis research seeks to find data fabrication in the various studies incorporated in the meta-analysis. Using statistical data analysis techniques developed by Rosenthal, such as fail-safe N and funnel plots, one can determine the level of bias in a study. If there are more than 5K+10 at the fail-safe N value, the study will be considered unbiased [26]. K is the total number of studies included in the meta-analysis. Twenty publications included in the meta-analysis were evaluated to determine the level of bias in the publication of the articles. The level of article bias found during this analysis is depicted by the Forest Plot in Figure 3.

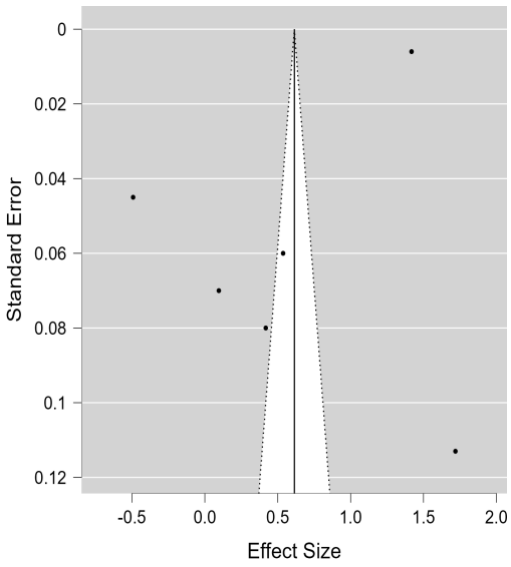

Fig. 3. Funnel Plot

The funnel plot illustration makes it clear that there are no open spots. This suggests that there is no publication bias in the 6 studies. The resulting bias value in the funnel plot is statistically unknown. Rosenthal's fail-safe N test was used to support the claim of article bias. With a significant goal of 0.05 and an observed significance of less than 0.001, the bias results of Table 5. show that 242427 is a fail-safe N number. K = 6 in this case means that (5K + 10) = 5(6) + 10 = 40. This finding indicates that N (242427) > 5K + 10 (40) is the fail-safe value. The results of this funnel plot analysis and Rosenthal's fail-safe value can be used to support the assertion that the 6 papers in this meta-analysis are free from publication bias.

Table 5. Bias Measurement Results From Metode Fail-Safe N Rosenthal

	Fail-safe N	Target Significance	Observed Significance
Rosenthal	242427.000	0.050	< .001

B. Discussion

This research focuses on the effectiveness of social media in culinary and tourism marketing, and its impact on tourists' interests and decisions. The main objective of this research is to analyse the extent to which social media can increase the number of tourists visiting tourist destinations and choosing specific cuisines [35]. The results show that social media has a significant impact on various aspects of marketing, including traveller engagement, increased number of visits, and positive assessments of tourism and culinary destinations [9], [10]. Social media also plays an important role in helping potential travellers make more informed decisions about the places they want to visit [2], [6].

This research highlights that social media is not just a promotional tool, but also an approach that enables direct interaction and engagement between businesses and consumers. Social media allows visual content and user reviews to contribute to the reputation and attractiveness of tourism and food destinations [18]. In this context, social media serves as a dynamic platform that supports tourism and culinary marketing in a more personalised and immersive way [11].

The meta-analysis conducted in this study involved evaluating studies that examined the effectiveness of social media in culinary and tourism marketing. The analysis included studies with experimental and control group research designs, and considered sample size, mean scores, and standard deviation. The results of this meta-analysis show that social media significantly increases travellers' engagement and their visit intentions. A lower bound value of -0.045 and an upper bound of 1.247, with a mean effect size of 0.61, indicate a strong impact of social media use in this context.

Overall, this study concludes that the use of social media in culinary and tourism marketing not only enhances marketing but also strengthens motivation, engagement and business outcomes in these industries. Social media has great potential to continue to support the development of tourism and culinary marketing in the digital era, providing significant positive impacts for businesses and consumers.

CONCLUSION

The conclusion of this meta-analysis shows that social media significantly increases the effectiveness of culinary and tourism marketing. It is evident that destinations and culinary businesses that utilise social media as a marketing tool (experimental group) have higher levels of tourist engagement and visits compared to those that do not use social media (control group). With a lower limit value of -0.045 and an upper limit of 1.247, the average effect size value achieved is 0.61. In addition, the magnitude of the impact was heterogeneous, as evidenced by a Q value of 2449.890; $p < .001$. The 6 articles included in the meta-analysis, which had a fail-safe value of N (242427) > 5K + 10 (40), also had no publication bias.

The results of this study show that the use of social media can significantly increase tourists' interest and decisions in choosing destinations and culinary. This research confirms that businesses that actively utilise social media in their marketing strategies have a great impact on achieving their marketing goals. It shows clearly that destinations and culinary businesses that use social media perform better in terms of attracting tourists and improving reputation compared to those that do not use social media. The findings show how social media enhances the effectiveness of culinary and tourism marketing during the promotion process. It is hoped that this research will provide a basis for marketing practitioners in the tourism and culinary industries to better understand and utilise social media in their marketing strategies.

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