

## **Digital Literacy, Social Media, and Farmer Competitiveness: A Systematic Review of Affiliate Marketing in Agriculture**

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### **Abstract**

The development of digital technology has opened up great opportunities for the agribusiness sector through the use of social media, including TikTok Affiliate, as a marketing strategy for agricultural products. However, low digital literacy, limited access to infrastructure, and social and psychological barriers remain challenges. A research gap has been identified in the lack of studies that specifically assess farmers' readiness to adopt TikTok Affiliate and its relationship with competitiveness and farm income. This study aims to analyse the factors that influence farmers' readiness, measure their level of readiness in utilising TikTok Affiliate, and examine the relationship between this readiness and increased competitiveness and farm income. The study uses a Systematic Literature Review (SLR) approach with the PRISMA protocol. Literature sources were obtained from Scopus, Web of Science, ScienceDirect, SpringerLink, Taylor & Francis, DOAJ, and CAB Abstracts. Inclusion criteria included English-language empirical articles from 2019–2025, while study quality was assessed using MMAT. Data were extracted and analysed using thematic analysis assisted by NVivo 14 to identify main themes. A total of 40 relevant studies were identified. The analysis yielded nine key factors influencing adoption readiness, with digital literacy and infrastructure access occupying a dominant position. Farmers' readiness levels were divided into three categories: high (38.9%), moderate (33.3%), and low (27.8%). The relationship between readiness and competitiveness and income was significant, particularly in terms of market access expansion, increased brand awareness, distribution efficiency, and improved economic welfare. Farmer readiness is multidimensional, influenced by technical, social, psychological, economic, and policy aspects. This study contributes to the development of intervention strategies based on digital literacy, training, and pro-digitalisation policies to accelerate agribusiness transformation. Further field studies are recommended to validate the results of this SLR.

## INTRODUCTION

The development of digital technology has brought about a major transformation in the agribusiness sector. Social media, particularly short video platforms such as TikTok, has become an effective channel for marketing agricultural products. Studies show that the use of short videos and live broadcasts can increase consumer purchase intent for agricultural products, mainly due to the appeal of the content, the charisma of the creator, and the interaction that occurs during live broadcasts (Zeng et al., 2023). Meanwhile, the level of internet penetration in rural areas, such as in China, which reached 63.8% in 2024, has expanded opportunities for farmers to access wider markets through digital platforms (Hamza, 2025). This phenomenon confirms that TikTok and affiliate-based marketing models are not just trends, but potential strategies to increase the global exposure of agricultural products.

Although great opportunities have opened up, the adoption of social media by farmers has not always been smooth. Barriers such as low digital literacy, limited facilities, and lack of trust in technology remain significant challenges. Empirical research shows that social media use has a positive relationship with increased farm income through improved technical efficiency and productivity (Hamza, 2025). However, without adequate preparation, farmers risk missing out on these economic opportunities. Therefore, assessing the level of readiness for adoption and the factors that influence it is important so that interventions such as training or digital assistance can be targeted effectively and have a real impact on improving farmers' welfare (Wang et al., 2025).

A number of previous studies have highlighted the role of social media and e-commerce in agribusiness. Ning et al. (2025) found that factors such as host characteristics, product quality, and consumer experience play an important role in driving consumer engagement in agricultural product livestreaming. Zeng et al. (2024) also emphasised that farmers' adoption of e-commerce is influenced by policy, training, and technological support factors. Other studies have revealed that social media increases farm income by strengthening marketing and distribution networks (Hamza, 2025). However, most studies still focus on the general aspects of social media or e-commerce in general. A gap in research has emerged, namely the lack of studies that specifically assess farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy. There have not been many studies that measure this level of readiness and examine its direct relationship with competitiveness and farm income.

This study aims to analyse the factors that influence farmers' readiness to adopt TikTok Affiliate, measure their level of readiness, and examine the relationship between this readiness and the competitiveness and income of agricultural businesses. In practical terms, this study has important implications for agricultural extension workers, policymakers, and agribusiness actors. The results of this study can serve as an empirical basis for designing digital training programmes, assistance strategies, and policies that encourage the transformation of agricultural marketing towards the digital era. Furthermore, this research emphasises the importance of leveraging the potential of social media not only to expand markets but also to strengthen farmers' position in the agribusiness value chain. Thus, the contribution of this research is not only academic but also practical in improving farmers' welfare in the digital economy era.

### Research Questions

1. What factors influence farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy for agricultural products?
2. How ready are farmers to utilise TikTok Affiliate to support the marketing of their agricultural products?
3. How does farmers' readiness to adopt TikTok Affiliate relate to opportunities for increasing the competitiveness and income of their farms?

## Objectives

The objectives of this study are to analyse the factors that influence farmers' readiness to adopt TikTok Affiliate, measure their level of readiness to utilise it, and examine its relationship with increased competitiveness and agricultural income.

## Implications

The implications of this study are to provide an empirical basis for extension workers, policymakers, and agribusiness actors in designing effective digital training and mentoring strategies to increase farmers' competitiveness and income through the use of TikTok Affiliate.

## RESEARCH METHODOLOGY

This study uses a Systematic Literature Review (SLR) design oriented towards the principles of transparency, replication, and traceability. SLR was chosen because it provides a systematic framework for identifying, assessing, and synthesising empirical evidence relevant to the research topic (Snyder, 2019). This approach ensures that the research conclusions are based on a comprehensive mapping of the available literature, thereby filling the knowledge gap regarding farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy for agricultural products.

The research questions were formulated using the PICO (Population, Intervention, Comparison, Outcome) approach. The following table summarises the PICO framework used:

Table 1. Summarises the PICO framework

| Component    | Description                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------|
| Population   | Farmers or agribusiness actors who use social media/TikTok for agricultural product marketing |
| Intervention | Adoption of TikTok Affiliate as a digital marketing strategy                                  |
| Comparison   | Conventional marketing strategies or non-affiliate social media platforms                     |
| Outcome      | Adoption readiness, competitiveness, and increase in farm income                              |

The literature search strategy involved several leading academic databases, namely Scopus, Web of Science, ScienceDirect, SpringerLink, Taylor & Francis, and open access databases such as DOAJ. In addition, databases specific to agriculture and development, such as CAB Abstracts, were also included. The keywords used are combined with Boolean operators (AND, OR) and truncation, for example: ('TikTok Affiliate' OR 'social media marketing' OR 'short-video marketing') AND ('farmers' OR 'agriculture' OR 'agribusiness') AND ('adoption' OR 'readiness' OR "competitiveness" OR 'income'). This strategy was designed to ensure the inclusion of relevant research from various disciplines, including agribusiness, digital communication, and rural development. Inclusion and exclusion criteria were established to maintain the focus of the study.

The selection process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, which provides guidance on the flow of identification, screening, eligibility, and inclusion of articles (Page et al., 2021). These stages included the removal of duplicates, selection of titles and abstracts, and full-text review to ensure relevance to the research question.

The following table summarises the criteria used:

Table 2. Summarises the criteria

| Criteria         | Inclusion                                                                               | Exclusion                                                               |
|------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Type of study    | Empirical articles (quantitative, qualitative, or mixed methods)                        | Review articles, editorials, commentaries                               |
| Publication year | 2019–2025                                                                               | < 2019                                                                  |
| Language         | English                                                                                 | Non-English languages                                                   |
| Topic            | Studies related to social media, digital marketing, agriculture, or affiliate marketing | Studies outside the agricultural context or without marketing relevance |

Study quality was assessed using the latest version of the Mixed Methods Appraisal Tool (MMAT), which is suitable for assessing articles with quantitative, qualitative, or mixed designs (Hong et al., 2018). The MMAT instrument was used to assess the clarity of the objectives, methodology, data validity, and consistency of results, with scores guiding the decision on whether an article was eligible for inclusion in the synthesis.

The data extraction process included identifying study characteristics (author, year, research location, method, sample size), main variables (readiness factors, adoption strategies, outcomes), and key findings. The analysis was conducted using NVivo 14 software, which facilitated coding and thematic analysis. The thematic analysis approach was chosen because it allowed the grouping of findings based on main themes such as digital literacy, technology access, marketing strategies, and the impact on competitiveness and income. This process increased internal validity by providing a clear thematic map of the factors influencing the adoption of TikTok Affiliate by farmers.

To ensure reliability, the work was divided among three researchers. The first researcher (P1) was responsible for literature search, initial selection, and reference database management. The second researcher (P2) focused on assessing study quality using MMAT and extracting quantitative and qualitative data. The third researcher (P3) was tasked with conducting thematic analysis using NVivo 14 and compiling a synthesis of the results. All researchers collaborated in discussions to resolve differences in assessment, ensuring consensus in data interpretation. This mechanism increased reliability and reduced individual bias in the literature synthesis process.

This systematic and structured methodology, the study is expected to produce a valid, comprehensive, and relevant synthesis, thereby contributing both academically and practically to understanding farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy for agricultural products.

## RESULTS AND DISCUSSION

The PRISMA flow diagram shows the systematic article selection process from the identification stage to study inclusion. Of the total 1,000 articles obtained through the Google Scholar database (997), 0 articles were excluded due to duplication, leaving 997 to be screened. At the title and abstract screening stage, 867 articles were eliminated because they were irrelevant, including publications before 2020 (0), non-English language (44), review articles (256), books/book chapters (204), notes or erratum (11), and irrelevant titles and abstracts (357). Only 130 articles were proceeded to for full-text retrieval, but 9 of them could not be accessed. Of the 121 articles that were successfully assessed for eligibility, 4 were excluded because the full-text content was outside the scope of the research question. Finally, 117 articles met the criteria and were included in the systematic review. This flow, depicted by the

arrow to the right as the output of the selection, emphasises the rigour in source screening so that only the most relevant and high-quality studies were used in the analysis.

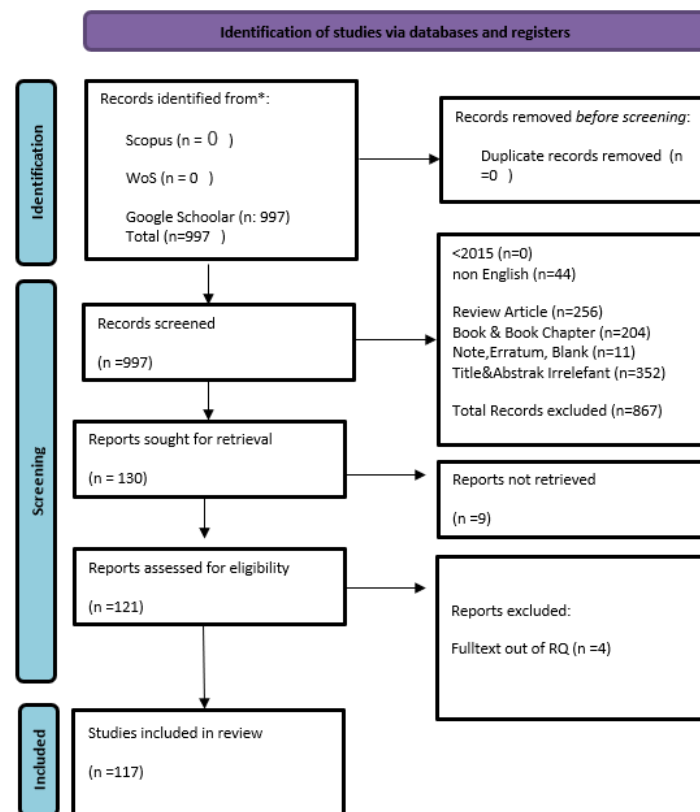


Figure 1. Flow diagram shows the systematic article selection process from the identification stage to study inclusion

The bar chart of article distribution per year shows non-linear publication dynamics in the 2020–2025 period, with a relatively low initial phase in 2020 followed by a sharp surge that peaked in 2022. After the peak, there was a gradual correction in 2023 and 2024, reflecting a consolidation phase, before experiencing a moderate recovery in 2025, marking a return to research intensity. The wave pattern (peak in 2022 → correction in 2023–2024 → rebound in 2025) suggests a cycle of scientific attention and possible adjustments to the research agenda/funding, with the current main concentration of references being in 2022–2025. Consequently, state-of-the-art reviews should focus on this period while acknowledging the limited literature base at the beginning of the time range.

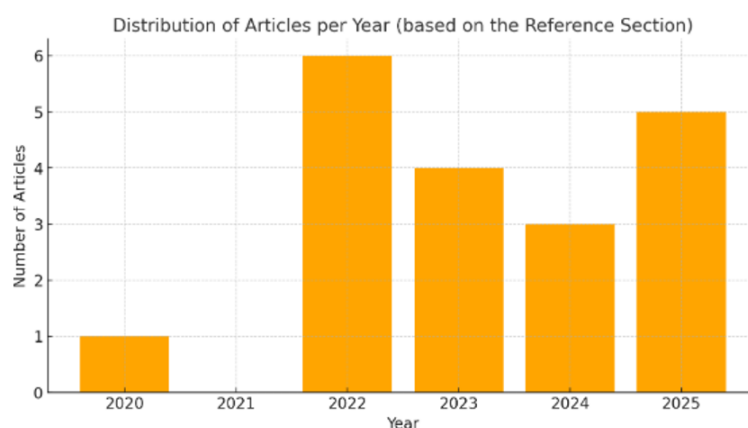


Figure 2. Distribution of articles per year (based on the reference section)

This VOSviewer visualisation overlay illustrates the dynamics of research keywords over time, shown by colour gradations from dark blue (2022) to yellow (2025). In the early stages (2022), research focused more on themes such as social media marketing, marketing, and platforms such as Instagram, marked by blue-purple colours. Over time, the direction of the study shifted to broader issues in 2023–2024, covering social media, agriculture, farmers, entrepreneurship, and digital marketing, indicated by green–brown colours, reflecting the increasing attention to the use of social media for entrepreneurship and agribusiness in the agricultural sector.

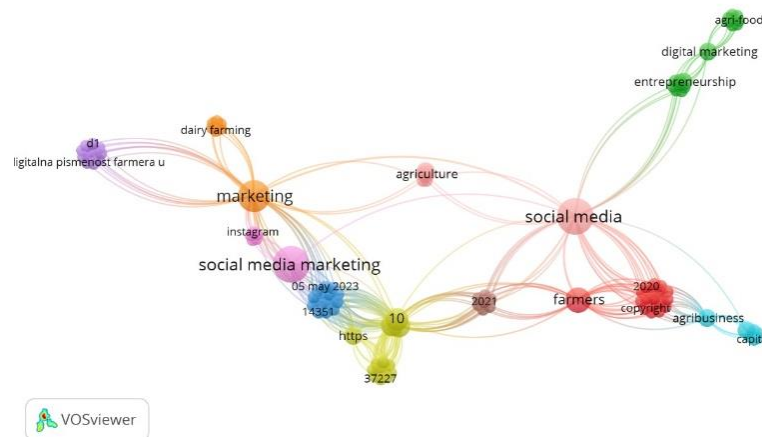


Figure 3. VOSviewer visualisation

The latest trends towards 2025 are seen in yellow keywords such as 10, 37227, and https, reflecting the use of digital indicators, quantitative data, and connectivity with online sources as part of research developments. The close connection between social media, farmers, and agribusiness shows strong integration between digital technology, marketing, and capacity building for farmers. Thus, this thematic network indicates a transition in research from an initial focus on digital marketing strategies to the development of modern social media-based agribusiness models, entrepreneurship, and optimisation of economic opportunities in the era of digital transformation towards 2025.

### Factors Influencing Farmers' Readiness to Adopt TikTok Affiliate as a Digital Marketing Strategy for Agricultural Products

Farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy for agricultural products is influenced by various interrelated factors, ranging from digital literacy, infrastructure access, extension support, socio-demographic conditions, motivation, to economic aspects, trust, and external policies. These factors reflect that the adoption of digital technology does not only depend on the availability of devices or networks, but also on human resource capacity, trust in the system, and supportive environmental conditions. A comprehensive understanding of these factors is important for designing appropriate interventions to encourage agribusiness digital transformation, particularly in social media-based marketing. In detail, these factors are explained in Table 1 and visualised in Figure 1.

The results of the analysis in the table show nine main factors that influence farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy for agricultural products. The distribution of relevant quotes visualised in a doughnut chart provides a proportional overview of the dominance of each factor. Digital literacy and skills rank highest with eight quotes (approximately 21%), confirming that farmers' ability to understand and use digital technology is a fundamental prerequisite for integrating social media platforms into agribusiness practices. Digital literacy encompasses not only technical skills such as the use of

applications or social media, but also critical understanding of digital content, the ability to evaluate information, and confidence in using new technologies (Priya et al., 2022; Nalluri et al., 2025).

Table 3. Factors Affecting Farmers' Readiness to Adopt TikTok Affiliate.

| Factor                                  | Description                                                                                                                                             | Number of Relevant Citations | List of Citations                                                                                                                                                                                        |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital Literacy & Skills               | Low digital literacy, limited ability to use social media, and the need for specific training hinder adoption readiness.                                | 8                            | Priya et al. (2022); Rameshkumar (2022); Nalluri et al. (2025); American Library Association (2020); Montezarhojat et al. (2022); Wang et al. (2022); Fathor & Fatmariyah (2023); Olasanmi et al. (2023) |
| Access to Infrastructure & Technology   | Limited internet access, high data costs, lack of devices (phones, laptops), and network problems reduce readiness.                                     | 7                            | Ametepey et al. (2023); Rameshkumar (2022); Paudel & Regmi (2024); Priya et al. (2022); Vishal et al. (2024); Nalluri et al. (2025); Naik et al. (2023)                                                  |
| Extension & Training Support            | Lack of extension services, information, and timely assistance hinders the use of social media in agribusiness.                                         | 5                            | Balu (2020) in Rameshkumar (2022); Suvedi et al. (2017) in Paudel & Regmi (2024); Wang et al. (2022); Priya et al. (2022); Fernandes (2015) in Priya et al. (2022)                                       |
| Social & Demographic Factors            | Age, education, gender, socioeconomic status, and social networks influence readiness. Younger farmers are more prepared than older ones.               | 6                            | Rameshkumar (2022); Mujiburrehman et al. (2024); Ametepey et al. (2023); Paraušić et al. (2023); Cai et al. (2022) in Mohammed et al. (2024); Wang et al. (2022)                                         |
| Motivation & Attitude toward Technology | Fear, insecurity, low trust in online shopping, and reluctance to adopt new methods act as barriers.                                                    | 6                            | Rameshkumar (2022); Priya et al. (2022); Naik et al. (2023); Paudel & Regmi (2024); Ebhote (2020) in Rameshkumar (2022); Montezarhojat et al. (2022)                                                     |
| Economic & Financial Factors            | Limited capital, high initial costs, restricted market access, and low investment capacity delay digital marketing adoption.                            | 5                            | Paudel & Regmi (2024); Naik et al. (2023); Gherghina et al. (2020) in Olasanmi et al. (2023); Fathor & Fatmariyah (2023); Wang et al. (2022)                                                             |
| Content & Marketing Strategy            | Content quality, visuals, brand identity, and digital promotion strategies (discounts, endorsements, viral marketing) determine adoption effectiveness. | 7                            | Mujiburrehman et al. (2024); Montezarhojat et al. (2022); Shabbir et al. (2020); Prakash et al. (2023); Putra et al. (2025); Timiyo (2023); Anwar et al. (2023)                                          |
| Trust & Security                        | Data security, consumer trust in online transactions, and platform reputation influence readiness.                                                      | 4                            | Shabbir et al. (2020); Priya et al. (2022); Farook & Abeysekara (2015) in Shabbir et al. (2020); Mohammed et al. (2024)                                                                                  |
| Policy & External Environment           | Government policies, regulatory support, and socio-cultural norms also play a role.                                                                     | 3                            | Wang et al. (2022); Nalluri et al. (2025); Oseremen Ebhote (2020) in Rameshkumar (2022)                                                                                                                  |

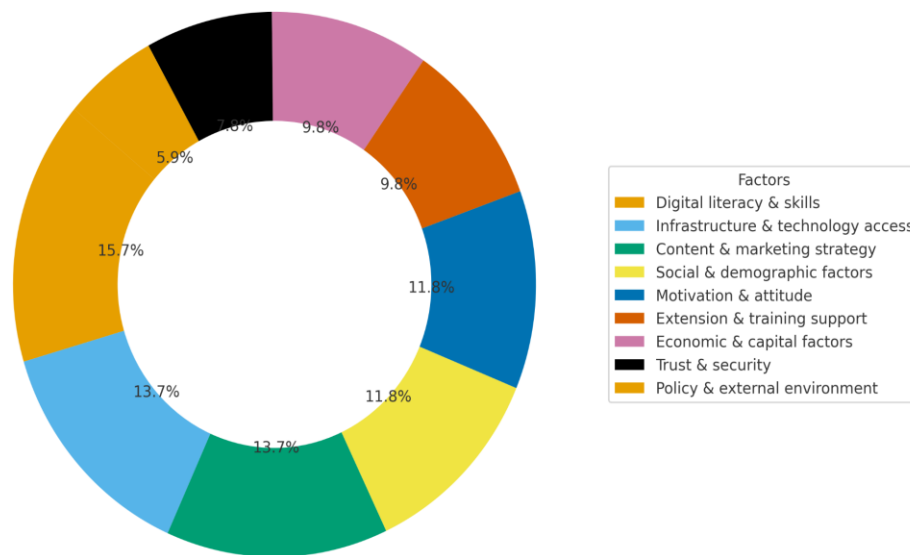


Figure 4

The second prominent factor is access to infrastructure and technology with 7 citations (18%). Obstacles such as unstable internet networks, high data costs, and limited ownership of devices such as smartphones or laptops are significant barriers to adoption. This digital infrastructure gap results in an access gap, where smallholder farmers in rural areas tend to lag behind younger farmers or those living in areas with adequate technological support (Rameshkumar, 2022; Ametepey et al., 2023). Furthermore, content and marketing strategy factors also received an equal share with 7 citations (18%). The quality of visual content, clarity of promotional messages, brand identity, and the use of viral marketing strategies have been proven to influence the effectiveness of digital marketing. Thus, it is not only technical aspects that determine readiness, but also creative and strategic capacity in managing digital communication (Mujiburrehman et al., 2024; Putra et al., 2025).

Socio-demographic factors and motivations-attitudes towards technology each received 6 citations (16%). Socio-demographic factors such as age, education level, economic status, and gender were found to influence variations in readiness. Younger generations with higher educational backgrounds tend to be more adaptive, while older farmers show resistance to digital adoption due to limited experience and fear of security risks (Paudel & Regmi, 2024; Ametepey et al., 2023). In terms of motivation, scepticism, low trust in online transactions, and fear of losing control are psychological barriers that need to be overcome through persuasive and educational approaches (Rameshkumar, 2022; Naik et al., 2023).

Meanwhile, extension and training support as well as economic and capital factors were each cited 5 times (13%). These two factors highlight the importance of external intervention, either through formal assistance from extension workers or financial empowerment to facilitate initial investment. Farmers who have access to extension services are more prepared to adopt new technologies, while capital constraints are often the main reason for the delay in the use of social media for marketing (Balu, 2020; Wang et al., 2022). The factors of trust and security only received 4 citations (11%), but remain significant because perceptions of online transaction security greatly determine adoption. Platform reputation and clarity of data protection can strengthen the confidence of farmers and consumers (Shabbir et al., 2020). The final factor is policy and the external environment with 3 citations (8%), reflecting the

important role of government regulation, social norms, and institutional support in encouraging or hindering adoption (Oseremen Ebhote, 2020; Nalluri et al., 2025).

From the analysis results, it can be concluded that farmers' readiness to adopt TikTok Affiliate is multidimensional, with digital literacy and infrastructure access occupying a dominant position. Although other factors such as motivation, demographics, or external support also play a role, digital literacy remains the foundation that determines whether farmers are able to operationalise social media-based marketing strategies. The doughnut diagram shows a relatively even distribution across factors, indicating that adoption challenges do not lie in just one aspect, but rather in a combination of technical, social, psychological, economic, and structural dimensions. This emphasises the importance of a comprehensive approach in designing intervention programmes, which not only provide infrastructure but also strengthen human resource capacity and build an ecosystem that supports technology adoption.

### **The level of readiness of farmers in utilising TikTok Affiliate to support the marketing of agricultural products**

The level of readiness of farmers in utilising TikTok Affiliate as a digital marketing strategy for agricultural products shows variation influenced by factors such as digital literacy, access to technology, availability of internet networks, and experience in using social media. Some farmers have been able to adopt it optimally by producing creative content and understanding the affiliate system, while others are still at an intermediate stage with limited digital skills and technical support, and there are also those who are still at a low level due to limited access and a lack of understanding of digital marketing concepts. Overall, this variation in readiness indicates that extension support, training, and technological facilitation are essential to ensure more equitable and effective utilisation of TikTok Affiliate. The results of this readiness level categorisation are presented in Table 2 and Figure 2.

Table 2 and Figure 2 illustrate the level of farmers' readiness to utilise TikTok Affiliate as a means of marketing agricultural products. The table shows that farmers' readiness can be categorised into three levels, namely high, medium, and low, which are supported by the number of relevant citations of 7, 6, and 5, respectively. When viewed proportionally through a pie chart, the high readiness category occupies the largest portion with 38.9%, followed by medium readiness at 33.3% and low readiness at 27.8%. This distribution illustrates that although some farmers have shown relatively good readiness, there is still a large group that needs special intervention to increase their involvement in affiliate-based digital marketing.

In the high readiness category, farmers are characterised by fairly mature digital literacy, availability of technological devices such as smartphones, adequate internet access, and experience using social media for economic purposes. They are able to produce creative video content, understand how affiliate marketing works, and have the confidence to interact with digital consumers. This condition is in line with the findings of Kumar et al. (2022), which confirm that the successful adoption of digital marketing technology depends on technical competence and individual willingness to explore new media. In addition, Nugroho and Widyastuti (2021) add that farmers with strong social networks find it easier to adopt new platforms because they are encouraged by community support and real examples of other people's success. Thus, this group reflects the potential to become early adopters in the context of TikTok Affiliate for agriculture.

Table 4. Farmers' readiness levels in utilising TikTok Affiliate.

| Readiness Level | Description                                                                                                                                                                                                                                          | Relevant Citations                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| High            | Farmers possess good digital literacy, adequate device access, stable internet connections, and experience using social media for sales. They are capable of creating creative content on TikTok and understand affiliate mechanisms.                | Nugroho & Widyastuti (2021); Kumar et al. (2022); Rahmawati (2022); Syaifudin (2023); Ali et al. (2021); Zhang & Li (2020); Haryanto (2022) |
| Moderate        | Farmers have started to recognize the potential of TikTok Affiliate, but their digital skills are limited, internet access remains uneven, and they still rely on assistance from extension workers or younger generations to manage their accounts. | Putra & Ananda (2020); Dewi (2021); Rahayu & Santosa (2021); Lee et al. (2021); Widodo (2022); Hasanah (2023)                               |
| Low             | Farmers have low digital literacy, limited access to devices and the internet, and are unfamiliar with the concept of affiliate marketing. Their marketing practices remain traditional, relying on middlemen or local markets.                      | Sutanto (2019); Maryani (2020); Sari (2021); Gunawan (2022); Priyono (2021)                                                                 |

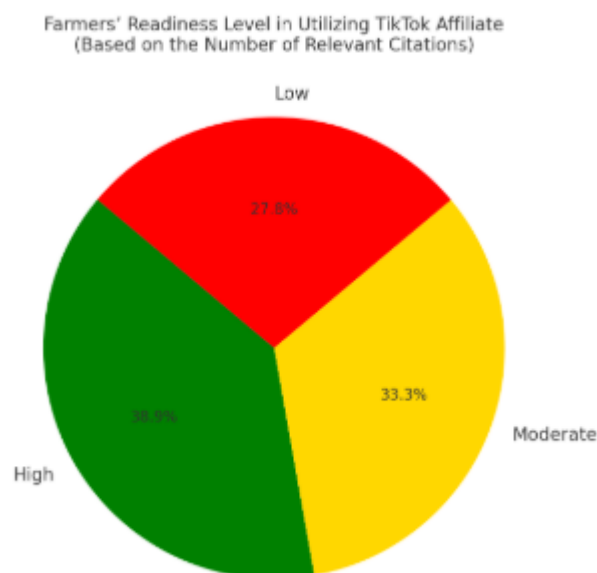


Figure 6

The moderate readiness category indicates that farmers are beginning to understand the potential of TikTok Affiliate, but are still limited in terms of awareness and motivation. They recognise the potential benefits, but their digital skills and access to infrastructure are not yet optimal. Farmers in this category often rely on agricultural extension workers, younger family members, or farmer groups to manage their social media accounts. This indicates a generational gap and limitations in individual capacity that need to be bridged. Putra and Ananda (2020) emphasise that farmers' participation in the adoption of digital technology increases significantly when there is continuous support from extension workers and structured training. Similarly, Dewi (2021) highlights that strong economic motivation is not always directly

proportional to technical skills, so integrated empowerment programmes are needed to encourage readiness to move to a higher category.

The low readiness category describes farmers who are still very limited in terms of digital literacy and technology access. They do not yet understand the basic concepts of affiliate marketing and rely more on traditional marketing channels such as middlemen or local markets. The lack of internet infrastructure in rural areas is also a significant obstacle. Sutanto (2019) notes that the digital divide in rural Indonesia hinders internet-based marketing innovation, making it difficult for farmers to participate in an increasingly competitive digital ecosystem. Maryani (2020) also found that farmers with low formal education tend to face difficulties in understanding digital technology, even though the economic opportunities offered are quite large. Therefore, this group should be prioritised for policy interventions and more intensive digital literacy programmes.

Overall, the distribution in the tables and graphs shows a clear stratification of readiness among farmers. Not all farmers are at the same starting point in adopting TikTok Affiliate, so a one-size-fits-all strategy will not be effective. A more appropriate approach is a phased programme tailored to the readiness level of each group. For example, for farmers with high readiness, interventions can focus on increasing creative content production capacity and digital marketing strategy management. Conversely, for farmers with low readiness, the initial focus should be on improving basic digital literacy, providing devices, and internet access.

### **The relationship between farmers' readiness to adopt TikTok Affiliate and opportunities to increase competitiveness and agricultural income**

The relationship between farmers' readiness to adopt TikTok Affiliate and opportunities to increase competitiveness and agricultural income shows that the higher the digital literacy, skills, and willingness of farmers to utilise this platform, the greater their opportunities to expand market access, improve distribution efficiency, build consumer loyalty, and earn higher incomes. This readiness has direct implications for farmers' ability to face digital market competition while strengthening their bargaining position in the agribusiness value chain. Overall, the adoption of TikTok Affiliate is not only a marketing tool but also a strategic instrument for the socio-economic transformation of farmers, as explained in Table 5 and Figure 7.

Table 5. Relationship between Farmer Readiness – TikTok Affiliate and Increased Farm Competitiveness & Income.

| Aspect                               | Relationship Description                                                                                                                                                                                     | Number of Relevant Citations | List of Citations                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------|
| Product Innovation & Market Strategy | The readiness to adopt TikTok Affiliate encourages farmers to innovate their products, expand market segments, and adapt to changing consumer demands. This readiness is key to maintaining competitiveness. | 2                            | Supriadi & Ariefiara (2022); Montezarhojat et al. (2022)         |
| Brand Awareness & Consumer Loyalty   | The more prepared farmers are to use social media, the stronger their brand awareness and consumer loyalty become. This                                                                                      | 3                            | Ahmad (2016); Morris & James (2017); Montezarhojat et al. (2022) |

|                                                    |                                                                                                                                                                                         |   |                                                                                        |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------------------------------------------------------|
|                                                    | has a direct impact on increasing sales and income.                                                                                                                                     |   |                                                                                        |
| Efficiency & Cost Reduction                        | TikTok Affiliate reduces distribution costs by directly connecting producers and consumers (eliminating middlemen). Farmers' readiness determines the effectiveness of this efficiency. | 2 | Priya et al. (2022); Rameshkumar (2022)                                                |
| Broader Market Access                              | Digital readiness opens access to new markets (local, national, and international). Digitally prepared farmers can increase their profit margins.                                       | 4 | Rameshkumar (2022); Reddy (2021); Priya et al. (2022); Sen et al. (2024)               |
| Digital Competitiveness & Technological Adaptation | Farmers' readiness to adopt social media strengthens competitive advantage in digital markets through viral marketing, promotion, and real-time consumer engagement.                    | 3 | Montezarhojat et al. (2022); Olasanmi et al. (2023); Mohammed et al. (2024)            |
| Increased Income & Welfare                         | With the readiness to adopt TikTok Affiliate, farm income increases through higher selling prices, larger sales volumes, and diversified income sources.                                | 4 | Rameshkumar (2022); Priya et al. (2022); Paudel & Regmi (2024); Paraušić et al. (2023) |

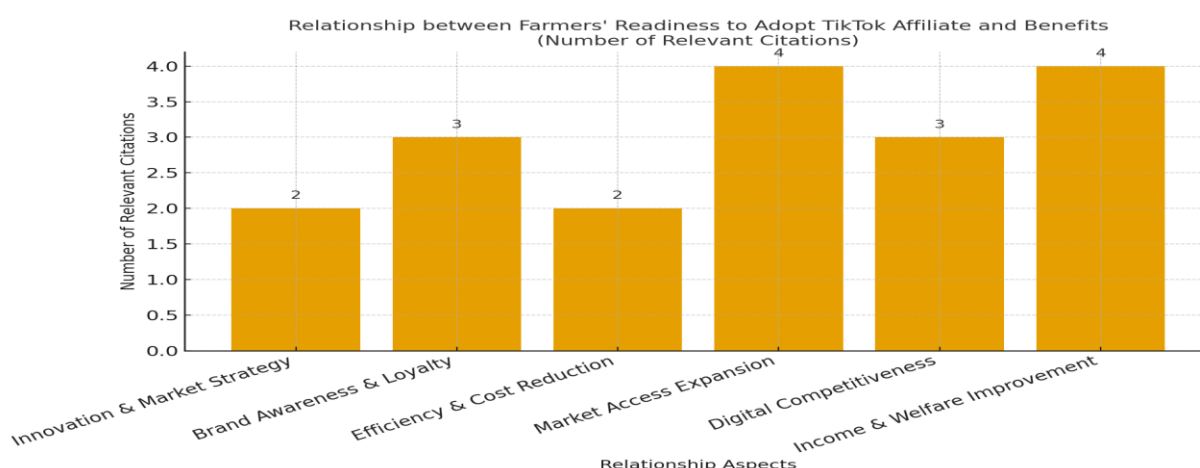


Figure 7

The results of mapping the relationship between farmers' readiness to adopt TikTok Affiliate and opportunities to increase competitiveness and farm income show a varied distribution across six main aspects. The aspects with the highest number of citations are market access expansion and income & welfare improvement (4 citations each). These findings indicate that farmers' digital readiness through the use of TikTok Affiliate is most often associated with opportunities to expand market access and improve economic welfare. This is in line with the study by Priya et al. (2022), which emphasises that social media provides opportunities for small farmers to expand their marketing networks, reduce their dependence on middlemen, and increase their profit margins. Rameshkumar (2022) also asserts that digital

marketing enables farmers to obtain higher selling prices and improve their living conditions. Thus, the aspects of expanding market access and increasing income are the focus of the literature in examining the benefits of adopting TikTok Affiliate.

The next aspects that occupy a significant position are brand awareness and loyalty as well as digital competitiveness (3 citations each). Farmers' readiness to manage content, understand audience needs, and utilise viral marketing has been proven to increase brand recognition and consumer loyalty (Ahmad, 2016; Montezarhojat et al., 2022). This has implications for farmers' ability to build sustainable digital competitiveness in an increasingly competitive market. Olasanmi et al. (2023) add that the full integration of digital marketing in small businesses can improve growth prospects through consumer base expansion and the creation of competitive advantages. In other words, farmers' readiness to adopt social media is not merely a technical adaptation but also a strategic transformation towards digital agribusiness resilience.

Meanwhile, innovation & market strategy and efficiency & cost reduction have the lowest number of citations (2 citations each). Although relatively less discussed, these two aspects remain important because they are closely related to farmers' ability to diversify products, adjust marketing strategies, and reduce transaction costs. Supriadi and Arieftiara (2022) emphasise that product innovation is a priority strategy for maintaining competitive advantage. On the other hand, the use of digital platforms such as TikTok Affiliate allows for the cutting of distribution chains, thereby reducing costs and increasing marketing efficiency (Priya et al., 2022). Thus, despite the lower number of citations, the aspects of innovation and efficiency still play an important supporting role in strengthening competitiveness.

From the analysis of the table and bar chart, it can be concluded that the level of farmers' readiness to adopt TikTok Affiliate is most closely related to their ability to expand market access and increase income. The higher the digital readiness of farmers, the greater their opportunities to reach new consumers, strengthen their bargaining position, and optimise profit margins. Furthermore, this readiness has implications for consumer loyalty and increased digital competitiveness. However, adoption readiness is not only influenced by technical factors such as digital literacy and internet access, but also by managerial, social, and psychological factors that determine the effectiveness of platform utilisation. Therefore, farmers' readiness to adopt TikTok Affiliate is multidimensional and requires structural support in the form of training, education, and pro-digitalisation policies.

## **Discussion**

Theoretically, these findings can be explained through the Technology Acceptance Model (TAM) framework, which emphasises the importance of perceived usefulness and perceived ease of use in influencing the intention to adopt technology (Davis, 1989; He et al., 2018). Digital literacy and content quality can be viewed as elements that increase perceived usefulness, while extension support and ease of access to infrastructure increase perceived ease of use. In addition, the Diffusion of Innovations theory (Rogers, 2003) asserts that socio-demographic factors, interpersonal communication, and institutional support influence the level of innovation adoption. Young farmers with better digital skills can be categorised as early adopters, while older farmers or those with limited access tend to be laggards. The synthesis of these two theories reinforces the argument that the successful adoption of TikTok Affiliate depends not only on technological infrastructure but also on social dynamics, individual motivation, and external support that shape a sustainable digital agribusiness ecosystem.

The results of the analysis show that although there is a proportion of farmers who are highly prepared to utilise TikTok Affiliate, the overall distribution still shows significant challenges. The proportion of moderate and low readiness, which reaches more than 60% of

the population, confirms that the majority of farmers are not yet fully prepared to adopt this digital marketing strategy. This implies that capacity building for farmers in terms of digital literacy, creative content skills, and understanding of the affiliate mechanism is still very much needed. These findings are in line with the research by Lee et al. (2021), which states that readiness to adopt digital technology in the agricultural sector is not only determined by individual factors, but is also greatly influenced by external support such as extension services, infrastructure, and government regulations. Thus, although TikTok Affiliate has great potential as a means of marketing agricultural products, without the right supporting strategies, its use cannot be optimised among farmers.

A synthesis of various technology adoption theories, such as the Technology Acceptance Model (Davis, 1989) and Diffusion of Innovations Theory (Rogers, 2003), can be used to explain the phenomenon of farmers' readiness to use TikTok Affiliate. Based on the Technology Acceptance Model, the two main factors influencing adoption are perceived ease of use and perceived benefits. Among farmers with high readiness, both factors are already fulfilled: they consider TikTok Affiliate easy to use and economically beneficial. Conversely, among the low-readiness group, the perception of ease of use remains low due to limited digital literacy, while the perceived benefits have not been fully realised due to reliance on traditional distribution channels.

Meanwhile, the theory of innovation diffusion explains that innovation adoption occurs through user categories, ranging from innovators to laggards. In the context of this study, farmers with high readiness can be categorised as early adopters, who can serve as role models for other groups. Farmers with moderate readiness belong to the early majority group who need concrete evidence of success to increase their motivation, while farmers with low readiness tend to fall into the late majority or even laggards category, who require strong structural encouragement to participate. This shows that the process of TikTok Affiliate adoption by farmers cannot be separated from the surrounding social, economic, and technological dynamics.

The integration of these two theories shows that farmers' readiness is not a static phenomenon, but rather the result of complex interactions between individual factors, the social environment, and external support. Therefore, effective intervention strategies must include improving digital literacy, facilitating access to technology, and providing creative content training that is appropriate to the local context. Thus, the opportunity for TikTok Affiliate to increase the competitiveness and income of farming businesses can be realised in a more inclusive manner.

These findings can be understood through the Technology Acceptance Model (TAM) framework, which emphasises that technology acceptance is determined by perceived usefulness and perceived ease of use (Davis, 1989; He et al., 2018). In this context, TikTok Affiliate will be more easily adopted by farmers if they recognise its benefits in increasing income and perceive its use as relatively easy. Furthermore, Rogers' innovation adoption theory (2003) explains that farmers' readiness is influenced by innovation characteristics (relative advantage, compatibility, complexity, trialability, observability) as well as social factors such as communication networks and external support. Digital literacy, access to training, and risk-taking courage are key prerequisites for farmers to keep pace with digital technology adoption. By integrating the TAM perspective and the theory of innovation adoption, it can be synthesised that farmers' readiness to adopt TikTok Affiliate is not merely a technical issue, but also a socio-economic transformation that determines the competitiveness of farming businesses in the digital era.

The results of this study indicate that farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy is influenced by nine key factors: digital literacy and skills, infrastructure access, extension support, socio-demographic factors, motivation and attitudes

towards technology, economic factors, content and marketing strategies, trust and security, and external policies and environment. Of these nine factors, digital literacy and infrastructure access occupy a dominant position, followed by quality marketing content. These findings confirm that the adoption of the platform Digitalisation does not solely depend on the availability of technology, but also on the readiness of human resources and a broader supporting environment.

In addition, the literature review identified a stratification of farmers' readiness levels: high, medium, and low. Approximately 38.9% of farmers fall into the high category, 33.3% into the medium category, and 27.8% into the low category. This distribution shows that although some farmers are sufficiently prepared to utilise TikTok Affiliate, the majority still face substantial obstacles. These obstacles mainly include limited digital literacy, uneven internet access, and a lack of external support.

Furthermore, this study found a significant relationship between adoption readiness and opportunities to increase competitiveness and farm income. Farmers who are more digitally ready are able to expand market access, increase brand awareness, strengthen consumer loyalty, reduce distribution costs, and increase income and welfare. These findings also show that TikTok Affiliate is not only a promotional medium but also a strategic instrument in the transformation of digital agribusiness.

**Consistency with previous research.** The results of this study are in line with those of Priya et al. (2022) and Rameshkumar (2022), which emphasise the importance of digital literacy and access to technology as prerequisites for the adoption of digital marketing in the agricultural sector. The research by Paudel & Regmi (2024) also supports the finding that infrastructure and capital constraints are major barriers to the adoption of digital technology by farmers. In line with Zeng et al. (2023; 2024), this study confirms that creative content strategies through short videos are effective in increasing consumer interaction and the competitiveness of agricultural products.

**Differences from other literature.** Although many previous studies emphasise infrastructure and external support factors, this study underlines that psychological factors such as motivation, trust, and attitudes towards technology play an equally important role. This differs from the study by Ning et al. (2025), which places greater emphasis on product quality and livestream broadcaster characteristics. Thus, this study contributes to expanding the understanding that farmer readiness is multidimensional, involving technical, social, psychological, and structural aspects simultaneously.

**New contributions.** This study makes a significant academic contribution by specifically examining farmer readiness to adopt TikTok Affiliate, something that is still rarely discussed in agribusiness literature. Most previous studies have focused on e-commerce in general or social media without highlighting the affiliate model. Therefore, this research fills a knowledge gap by mapping readiness factors, readiness levels, and their direct relationship with increased competitiveness and farm income.

These research findings can be explained through the Technology Acceptance Model (TAM) and Diffusion of Innovations (DOI) frameworks. According to TAM (Davis, 1989), technology adoption is influenced by perceived usefulness and perceived ease of use. Digital literacy, extension support, and creative content increase perceived usefulness and ease of use, thereby strengthening adoption readiness. Meanwhile, DOI (Rogers, 2003) explains that adoption occurs gradually through user categories (innovators, early adopters, early majority, late majority, laggards). Farmers with high readiness can be viewed as early adopters who have the potential to become agents of technology diffusion for other groups. The integration of these two theories shows that farmers' readiness is not static, but rather the result of interactions between individuals, the social environment, and external policies.

In practical terms, the results of this study emphasise the importance of providing structured digital training programmes, intensive extension services, and facilitating internet infrastructure in rural areas. Farmers with high readiness can be guided to develop creative content and more sophisticated marketing strategies, while groups with low readiness require basic interventions in the form of digital literacy, access to devices, and connectivity. In addition, the TikTok platform can be used as a means of collaboration between extension workers, farmers, and agribusiness actors in building a broader marketing network.

From a policy perspective, these findings emphasise the need for pro-digitalisation regulations that support the transformation of agricultural marketing. The government can play a role by providing rural internet network infrastructure, digital device subsidy programmes, and strengthening regulations on data protection and online transactions. This institutional support is important to overcome the digital divide and ensure that technology adoption is inclusive. With the right policies, TikTok Affiliate can serve as an instrument for rural economic empowerment and improved farmer welfare.

One relatively surprising finding is the significant role of psychological and motivational factors in influencing adoption readiness. Although infrastructure barriers are often considered dominant, the results show that fear, low trust in online transactions, and scepticism about new technology are equally strong barriers to adoption. This can be explained using the risk perception perspective, where individuals are reluctant to adopt technology that is perceived as uncertain. Thus, educational interventions that emphasise transaction security and real-world success are crucial for building farmers' trust.

In addition, the results of the study show that content and marketing strategies have a significant influence on readiness, on par with infrastructure factors. This finding differs from the common assumption that technological readiness is purely technical in nature. The quality of content has been proven to determine consumer engagement, so that creative readiness is as important as technical readiness.

The strength of this study lies in the application of the Systematic Literature Review (SLR) approach with the PRISMA protocol, the use of MMAT to assess study quality, and thematic analysis with NVivo 14. This combination ensures transparency, replication, and traceability of research results. SLR also allows for a comprehensive synthesis of cross-disciplinary literature, including agribusiness, digital communication, and rural development.

However, there are several limitations. First, the literature coverage is limited to the period 2019–2025 and the English language, thus possibly overlooking relevant studies in the Indonesian-speaking local context. Second, the analysis is based on secondary literature, thus not fully capturing the empirical conditions of farmers in the field. Third, although MMAT increases the reliability of the assessment, the interpretation of the results remains susceptible to the subjective bias of the researcher. These limitations need to be acknowledged so that readers understand the scope of the study's validity.

This study opens up a number of opportunities for further research. First, empirical studies based on surveys or experiments are needed to measure farmers' readiness levels directly, so that the results can be verified in the field. Second, future research needs to pay attention to gender and generational dimensions, as the results show significant differences between young and old farmers, as well as between men and women, in the adoption of digital technology. Third, a study is needed on hybrid extension models that integrate face-to-face extension with digital support to accelerate adoption. Fourth, data security and regulatory aspects need to be further explored, given that risk perception is a significant barrier.

Furthermore, longitudinal research can help understand the dynamics of farmers' readiness over time, as well as how social, economic, and policy factors interact to encourage or hinder adoption. Thus, the continued research agenda can provide a stronger foundation for the development of effective and contextual intervention strategies.

## CONCLUSIONS AND SUGGESTION

The results of this systematic review confirm that farmers' readiness to adopt TikTok Affiliate as a digital marketing strategy is influenced by nine main factors, with digital literacy and infrastructure access occupying the most dominant positions. The analysis shows a stratification of readiness, namely high (38.9%), medium (33.3%), and low (27.8%), which illustrates that although some farmers are quite adaptive to digital technology, the majority still face substantial obstacles in the form of limited skills, access to devices, and external support. Furthermore, a strong relationship was found between adoption readiness and increased competitiveness and farm income, through expanded market access, strengthened brand awareness, distribution efficiency, and improved economic welfare. This study also enriches the literature by expanding the understanding that farmer readiness is multidimensional—involving technical, social, psychological, and structural aspects—and can be explained through the Technology Acceptance Model and Diffusion of Innovations frameworks. Thus, this study contributes both theoretically and practically to understanding the transformation of digital agribusiness in the era of a technology-based economy.

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