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Intention to Adopt Meta Collaborative Performance Advertising Tool Known as Collaborative Ads by SMEs in Indonesia

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Abstract
The research aims to examine the behavioral intention of SMEs in Indonesia to adopt a meta-collaborative performance advertising solution called Collaborative Ads. Currently, the issues and concerns faced by SMEs include a lack of awareness and concern for cost and support. There is a dearth of studies that examined the antecedents that can influence the adoption of Collaborative Ads. The study was based on the Technology Acceptance Model (TAM). The predictors of intention to adopt collaborative ads were IT Infrastructure, Relative Advantage, Return on Investment (ROI), and Top Management Support. In this quantitative study, a survey strategy using self-administered was used. By using convenience sampling, 133 responses from SMEs in Indonesia. The analysis done using SPSS showed good reliability. The multiple regression analysis revealed that IT infrastructure had the highest impact on the intention to adopt Collaborative Ads. The other three predictors were not supported. This study highlights the importance of IT Infrastructure and SMEs should invest in IT Infrastructure to reap the benefits of Collaborative Ads. To the knowledge of the researcher, this study is the first of its kind done among SMEs in Indonesia. The study highlighted the critical role of IT Infrastructure.

Keywords: *IT Infrastructure, Relative Advantage, Return on Investment, ROI, Top Management Support, Intention to Adopt, Collaborative Ads.*

1. Introduction

The Internet and web technologies have been one of the most influential technologies for driving economic, cultural, and social changes, serving as a foundation for business activities and strategic online thinking (Plantin & Punathambekar, 2019). In Indonesia, SMEs account for 99.99% of all businesses, contributing 60.51% to the GDP, and employ 96.92% of the workforce (Andika et al., 2021; Kementerian Koperasi dan UKM, 2019). These enterprises are crucial to the economy,

providing employment and supporting local economic growth. According to Berto Mulia Wibawa et al. (2022), small enterprises have net worth capital of IDR 50 to 500 million (USD 3,300 to 33,000) and annual sales of IDR 300 million to 2.5 billion (USD 20,000 to 166,000). Medium enterprises have a net worth capital of IDR 500 million to 10 billion (USD 33,000 to 666,000) and annual sales of IDR 2.5 billion to 50 billion (USD 166,000 to 3,333,000).

Indonesia was once a stronghold for traditional advertising methods. From billboards adorning urban streets to television commercials dominating prime-time slots, these platforms were the backbone of marketing strategies (Statista, 2024). In 2024, digital advertising made up nearly 70 percent of the advertising market in Indonesia. Meanwhile. The digital advertising market share was expected to increase and reach approximately 80 percent by 2029. However, the rapid rise of digital technology and shifting consumer habits have drastically reduced the influence of these conventional channels. However, the adoption rate of digital marketing strategies among SMEs is still low. Only 17% of SMEs are aware of using information technology for marketing, indicating that a small proportion actively engages in online business transactions (Redjeki & Affandi, 2021). This low adoption rate also implies limited use of data analytical tools to analyze e-commerce performance, which could greatly benefit smaller businesses by optimizing ad campaigns and providing valuable insights.

Meta Collaborative Performance Ads, a new performance-based advertising tool by Facebook, have the potential to help companies achieve e-commerce goals such as higher revenue, conversion rates, and product exposure. These ads allow companies to run targeted campaigns on Facebook and Instagram, focusing on direct sales and improved conversions. Brands can create and run ad campaigns using their product catalogs connected to their websites or popular e-commerce sites like Shopee and Lazada. These ads target customers who have shown interest in similar products or engaged with the brand on social media (Facebook, n.d.). One key feature is directing users to the product page for direct purchase upon clicking the ad. The pricing model is performance-based, typically using a cost-per-acquisition (CPA) structure, where companies pay only for successful conversions, minimizing waste and spending and incentivizing effective campaigns. Alternatively, a cost-per-click (CPC) model can be used for awareness campaigns.

Other performance-based advertising tools include Google Performance Max, Microsoft Smart Bidding, and Amazon Sponsored Ads. Collaborative ads are unique in their collaboration with retailers, leveraging large customer bases for targeted advertising and tracking conversion rates directly on retailer websites. This streamlines the purchasing process for users. Cost comparisons show that collaborative ads have an average cost per click of $0.83, with some sources claiming $0.26-$0.30 per click (Marino, 2024; WebFX, 2024). Costs vary based on industry, ad objectives, and budget.

Meta Collaborative Performance Ads enable quantifying conversion rates of digital ads on e-commerce platforms. Meta describes this tool as effective for driving traffic to e-commerce stores or partner stores, increasing purchase opportunities, and helping brands measure and optimize ad effectiveness (Meta, 2019). With high e-commerce adoption rates, 90% of Indonesian internet users aged 16 to 64 have purchased products or services online. By 2025, Indonesia's e-commerce market is expected to grow to $83 billion from $30 billion in GMV in 2020 (International Trade Administration U.S. Department of Commerce, 2022). This growth incentivizes businesses to

collect real-time user data, including metrics like view-to-cart, traffic sources, and conversion rates (Saleem et al., 2019). Despite the benefits, challenges remain for SMEs entering the digital ecosystem. Many lack awareness of business digitization and the use of IT for marketing. Technological readiness is another issue, with limited infrastructure in some areas (Hetami & Aransyah, 2021). Additionally, Indonesia's poor digital and financial literacy results in a less experienced workforce (Purbasari et al., 2021). Other obstacles include constraints in production capacity for goods.

Indonesia has seen significant growth in the e-commerce market, which prompted many SMEs to join popular e-commerce platforms like Tokopedia and Shopee (Wijanarka Tunjung & Sari, 2022). Despite the increase in online presence, SMEs face stiff competition and often lack the knowledge to effectively advertise their products and analyze the effectiveness of their campaigns. According to Berto Mulia Wibawa et al. (2022), the continuous development of technology and innovation has pushed Indonesian SMEs to adopt social media for business purposes. However, many SMEs struggle with advertising and data analysis due to limited technical knowledge (Berto Mulia Wibawa et al., 2022). Andika et al. (2021) also note that while there is an increase in the adoption of basic ICT tools for digital marketing, more advanced tools and data analysis methods are often neglected, indicating a low adoption rate for these technologies.

Literature shows that many companies, particularly larger ones, fail to capture value from their investments in data analytics (Popovič et al., 2018). SMEs, with their limited resources, need affordable and ready-made tools to ensure cost-effectiveness (Andika et al., 2021). Tools like Google Ads and Analytics, Shopee Ads, and Facebook Business Manager vary in scope, platform, and functionality. For example, Google Ads and Analytics are most relevant for Google platforms like YouTube and LinkedIn, while Facebook Business Manager is used for managing ads on Instagram. Khoa (2023) found that firm size impacts the adoption of online advertising services (OAS), with smaller businesses showing lower adoption rates for more complex tools.

Several studies have examined the adoption of various digital marketing tools and OAS (Andika et al., 2021; Berto Mulia Wibawa et al., 2022; Khoa, 2023). These studies typically focus on tools like Google Ads and Facebook Ads, which are limited to their respective platforms. However, there is a gap in research regarding the adoption of Facebook Collaborative Ads, which involve brand-retailer collaboration. Additionally, there has been little attention paid to the intention to adopt performance-based advertising tools in general. No previous study has examined the relationship between the intention to adopt collaborative ads in the context of SMEs. This study examined the link between company IT infrastructure capabilities, ROI, relative advantage, and top management support towards the adoption of Collaborative Ads. Through exploring these factors, the study aims to enrich the understanding of key predictors in adopting new tools by SMEs in Indonesia.

2. Literature Review

2.1 Concept of Behavioral Intention to Adoption

Behavior Intention to adopt (BI) is a key concept in technological adoption, reflecting the willingness to accept and use new technologies. In this context, BI refers to the degree of acceptance and planned usage of a new technology or innovation within a firm by its employees, highlighting their commitment to utilizing new technology. Various models have been proposed

to understand BI. Ajzen's (1991) Theory of Planned Behavior suggests that BI is directly influenced by attitude, subjective norms, and perceived behavioral control. Venkatesh et al. (2003) in the Unified Theory of Acceptance and Use of Technology (UTAUT) identify factors such as perceived usefulness, perceived ease of use, social influence, facilitating conditions, and anxiety as key influencers of BI. Davis's Technology Acceptance Model (TAM) (Davies et al., 1989) provides a foundational framework, focusing on perceived usefulness (PU) and perceived ease of use (PEOU) as primary determinants of BI. PU is the belief that using a particular system will enhance job performance, while PEOU is the belief that using the system will be free of effort. These models collectively underscore the importance of psychological and contextual factors in shaping the intention to adopt new technologies, providing a comprehensive understanding of the factors that drive technological adoption within organizations.

2.2 Concept of IT Infrastructure

With the ongoing digitization of companies aiming to leverage technologies for marketing and management, IT infrastructure has become a crucial topic for firms seeking to gain a competitive edge. IT infrastructure refers to the technological components and systems a firm possesses. Researchers have defined IT infrastructure from various perspectives. Barney (1991) views IT infrastructure as a strategic resource that contributes to a firm's competitive advantage by enhancing operational efficiency and fostering innovation. Bourdeau et al. (2021) describe IT infrastructure as the technological resources that enable a firm to perform IT-enabled tasks and achieve strategic goals. This includes servers, workstations, data storage capacity, and network bandwidth.

The organizational resource dependency theory provides a framework for understanding IT infrastructure. According to Loasby et al. (1979), a firm's IT infrastructure is essential for accessing critical resources and capabilities, which in turn influences its competitiveness. Therefore, both the quantity and capability of technological infrastructure are vital factors for firms aiming to outperform their competitors.

2.3 Concept of Relative Advantage

Relative advantage is viewed by researchers as the potential benefit or competitiveness a firm can achieve in a specific context, providing the lowest opportunity cost and maximum benefit aligned with the company's goals (Setiawan & Alamsyah, 2022). It emphasizes the firm's superiority relative to others. According to the Diffusion of Innovations theory (Rogers, 1995), a relative advantage is the degree to which an innovation is perceived as better than existing alternatives, influencing the adoption rate of new technologies. Barney (1991) defines relative advantage as a firm's unique set of resources and capabilities that enable it to outperform competitors, which can be measured through technological advantages or intangible assets like brand value. Additionally, some research measures relative advantage using financial metrics such as profit margins or cost leadership.

2.4 Concept of Return on Investment (ROI)

A straightforward way to understand ROI (Return on Investment) is as a metric used to evaluate the cost-effectiveness of an investment or project. It assesses whether the benefits generated justify the financial resources allocated. Ehrhardt & Brigham (2010) describe ROI traditionally, calculating it as the net profit divided by the initial cost, expressed as a percentage. This method

is simple but does not account for the time value of money, such as depreciation or the benefits of intangible assets. Conversely, Copeland et al. (2004) approach ROI similarly but include adjustments for factors like inflation, depreciation, and project lifespan. Although more complex, this method provides a more comprehensive picture. Both methods primarily focus on the financial aspects of ROI.

2.5 Concept of Top Management Support (TMS)
Top Management Support (TMS) generally refers to the level of support provided by senior managers for an initiative, emphasizing their involvement, resource allocation, and strategic alignment with the company (Akthar, 2022). Researchers have explored TMS from various perspectives. One study defines TMS as the extent to which senior executives understand the importance of an initiative and are actively involved in it (Akthar, 2022). Another study characterizes TMS by the degree to which executives view the initiative as a strategic resource and recognize the opportunities it offers (Al-Husseini & Dosa, 2017). Overall, many studies highlight that top management support is crucial for the success of projects and initiatives within an organization.

2.6 Relationship between IT Infrastructure Intention to Adopt
The relationship between IT infrastructure and Behavioral Intention (BI) is complex. Generally, a robust IT infrastructure positively influences a company's operations. Studies have shown a positive relationship between IT infrastructure and BI. For instance, the availability of IT infrastructure and its support systems can lead to significant cost savings for companies (Buba et al., 2022). In the context of online learning, IT infrastructure support enhances ease of use, thereby promoting the adoption of e-learning practices (Othman et al., 2022). Similarly, in the banking sector, providing IT infrastructure positively affects the adoption of AI chatbots, as these require IT infrastructure to function effectively and can improve customer satisfaction by promptly handling requests (Saxena et al., 2023). A study by Othman et al. (2022) found that IT infrastructure positively impacts the ease of adopting e-learning practices. The positive relationship was further supported by Qiu et al. (2023), who found that technological factors significantly correlate with perceived usefulness in the adoption of digital technologies

However, the impact of IT infrastructure on adoption can vary significantly across industries. More research is needed to identify industry-specific strategies to optimize infrastructure and facilitate technological acceptance. Additionally, there is minimal research on the specific IT infrastructure requirements for a particular software, such as Collaborative Ads.
H1: There is a relationship between IT Infrastructure and behavioral intention to the adoption of collaborative ads in SMEs in Indonesia

2.7 Relationship between Relative Advantage and Behavioral Intention to Adoption
Relative advantage refers to the potential benefit or competitiveness a firm can achieve in a specific context, offering the lowest opportunity cost and maximum benefit. Generally, there is a positive relationship between relative advantage and behavioral intention to adopt. For instance, one study found that relative advantage significantly affects the intention to use mobile payments due to the ease of making payments anywhere (Susanti & Alamsyah, 2022). Another study on the intention to purchase green products found a positive correlation, highlighting cost savings, and health, and environmental benefits as drivers for adopting green products (Dirgantara & Hartono, 2022).

However, some studies suggest a negative correlation between relative advantage and behavioral intention to adopt. For example, despite the benefits of mobile-based assessment (MBA) for students, negative perceptions and concerns, such as mobile anxiety, present barriers to MBA adoption (Nikou & Economides, 2017). While there is extensive research on the correlation between relative advantage and BI, there is a gap in understanding how contextual factors like risk tolerance, existing innovation practices, and openness to change affect BI.

H2: There is a relationship between Relative Advantage and behavioral intention to adoption of collaborative ads in SMEs in Indonesia

2.8 Relationship between Return on Investment (ROI) and Intention to Adopt

There is generally a positive relationship between return on investment (ROI) and the intention to adopt new technologies. Various studies support this positive correlation. For instance, one study found that Generations Y and Z are more inclined to adopt and use digital investment applications because they provide easy facilitating conditions and require low effort to use, resulting in a positive relationship between ROI and behavioral intention (Prasarry et al., 2023). Another case study on a design and construction firm assessed the adoption of dual monitors for employees and found a positive correlation with behavioral adoption, as it enhanced qualitative aspects such as performance and enthusiasm, leading to quantitative benefits (Grudin, 2004).

However, some studies indicate a negative correlation. For example, a study comparing 247 companies adopting ERP systems found that the initial investment in ERP implementation negatively affected adoption. However, further investigation into the long-term aspects revealed a positive effect on the firm's total ROI (Galy & Sauceda, 2014). This highlights the need for research to examine ROI over a longer period (Galy & Sauceda, 2014).

H3: There is a relationship between Return on Investment (ROI) and behavioral intention to adoption of collaborative ads in SMEs in Indonesia

2.9 Relationship between Top Management Support and Behavioral Intention to Adopt

There is generally a positive correlation between top management support (TMS) and behavioral intention (BI) to adopt new technologies. Numerous studies highlight the crucial role of TMS in influencing adoption. For example, one study suggests that TMS positively impacts the relationship between openness to technology adoption and service innovation, facilitating smoother transitions (Hsu et al., 2019). Another study focusing on SMEs examined the intention to adopt big data analytics (BDA) and found a positive correlation between TMS and BDA adoption intention. It noted that TMS helps moderate the association between regulatory environments and adoption, thereby overcoming challenges and barriers (Iranmanesh et al., 2023).

Despite these findings, there is still a gap in research specifically addressing the perspective of SMEs, as most studies focus on larger companies. This highlights the need for more research on how TMS influences technology adoption in SMEs, considering their unique challenges and resource constraints. Understanding the role of TMS in SMEs could provide valuable insights into how these enterprises can better leverage managerial support to enhance their technological adoption and overall competitiveness.

H4: There is a relationship between Top Management Support and behavioral intention to the adoption of collaborative ads in SMEs in Indonesia

Figure 1: Research Framework

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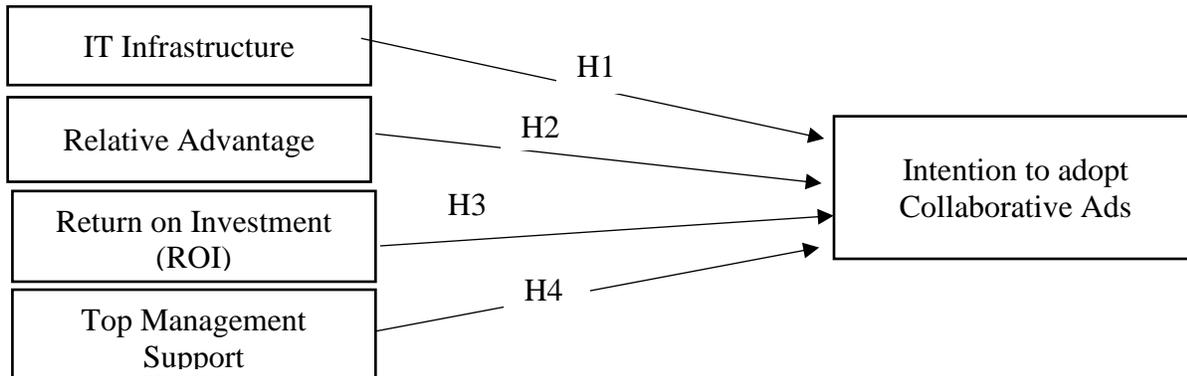
3. Methodology and Research Design

3.1 Research Design

The research design follows the framework of the research onion by Saunders et al. (2023), encompassing research philosophy, approach to theory development, methodological choice, strategy choices, time horizon, data collection, and data analysis. This study is grounded in positivism, where theories and hypotheses are developed using a deductive approach. The research is quantitative, with data collected and analyzed in numerical format. A survey method is employed to gather data and test hypotheses, making this a cross-sectional study that collects primary data through self-administered questionnaires distributed electronically. The aim is to explain the relationship between independent and dependent variables. This research adopts a positivist approach, using existing theories to develop hypotheses, which are then tested and refined. The research is classified as explanatory, aiming to clarify relationships between variables. The deductive approach, commonly used in positivist research, guides the hypothesis development and testing through quantitative data collection. The research strategy, based on research questions, objectives, existing knowledge, time, and philosophical understanding, employs a survey method, which is effective for gathering large amounts of data from diverse respondents. Quantitative methods are chosen for their suitability in studying relationships between variables. The time horizon is cross-sectional, examining phenomena at a specific point in time to understand how factors are related. This comprehensive approach ensures a structured and objective analysis of the data, providing insights into the relationships between the variables under study (Saunders et al., 2023).

3.2 Sampling and Data Collection

According to Saunders et al. (2023), it is impractical to collect data from the entire population, necessitating the use of sampling. In this study, convenience sampling was employed, a non-probability sampling method that involves selecting participants who are easily accessible to the researcher. This approach was chosen for its practicality and efficiency. The target population consisted of SMEs in Indonesia. Data collection involved distributing questionnaires both by hand and electronically, ensuring a broad reach and higher response rate.

The sample size was determined using G*Power software, based on the statistical test of linear multiple regression with four predictors, an error probability of 5%, and a confidence level of 95% was 129 respondents. According to the formula by Green (1991), the minimum required sample size was calculated to be 107 participants. This method ensures that the sample size is adequate to achieve reliable and valid results. The minimum sample size for this study was 100 respondents. By focusing on SMEs in Indonesia, the study aims to provide insights into the intention to adopt Meta Collaborative Performance Advertising Solutions, reflecting the specific needs and contexts of these enterprises.

3.3 Instrumentation

This research utilized a self-administered questionnaire because it is inexpensive, convenient, and has greater anonymity (Saunders et al., 2023). According to Saunders et al. (2023), utilizing a questionnaire aims to generalize from a sample of a population to create implications about the characteristics of the population. The questionnaire used the 5-point Likert scale. The questions or indicators were largely adapted from past studies. The questions on Behavioral Intention to Adopt was adopted from the study by Mukherjee et al. (2023). The questions for the predictors namely IT Infrastructure, Relative Advantage, Return on Investment, and Top Management were adapted from a study by Mohammed et al. (2016). The reliability and validity of the questions were established in past studies.

3.4 Data Preparation and Analysis

The data processing and analysis for this study involved several key steps to ensure accuracy and reliability. Initially, the collected data was prepared in Excel and subsequently uploaded to SPSS for detailed analysis. Descriptive statistics were generated to summarize the demographic characteristics of the respondents, providing an overview of the sample. Data cleansing was performed to check for and address any missing data and outliers, ensuring the dataset's integrity. Normality testing was conducted to verify that the data followed a normal distribution, which is a prerequisite for many statistical tests. Reliability testing, using Cronbach's Alpha, was also performed to assess the consistency of the measurement scales. Following these preliminary steps, multiple regression analysis was employed to test the hypotheses. This involved examining the relationships between the independent variables (IT infrastructure, Relative Advantage, Return on Investment, and Top Management Support) and the dependent variable (Behavioral Intention to adopt). The results of the multiple regression analysis provided insights into which factors significantly influenced the adoption intentions among SMEs in Indonesia, thereby addressing the research objectives and contributing to the understanding of digital marketing adoption in this context.

4.0 Results

4.1 Respondents' Demographics

The Units of Analysis were SMEs in Indonesia. The information was provided by owners or management of the SMEs. The study surveyed 133 respondents, with 66.2% being male and 33.8% female. Given that the study focuses on SMEs in Indonesia familiar with Collaborative Ads, it is not surprising that the majority of respondents were from an older demographic, specifically 30 years or older. Regarding knowledge of Collaborative Performance Advertising Solutions (CPAS),

the data showed that 59.4% of respondents had over 5 years of experience, making this the most common category. This was followed by those with 3-5 years of experience at 21.8%, and the least experienced group, with less than 1 year, at 6.8%. This distribution indicates that most respondents not only belong to an older age group but also possess substantial experience with CPAS, reflecting a knowledgeable and experienced sample population for the study.

4.2 Reliability Testing
Reliability testing was conducted using SPSS to ensure the consistency and dependability of the measurement scales used in the study. The Cronbach's Alpha values for all variables exceeded the acceptable threshold of 0.7, indicating high reliability (Pallant 2010). Specifically, the Cronbach's Alpha for the dependent variable, Behavioral Intention, was 0.787, while the values for the independent variables were as follows: IT Infrastructure (0.839), Relative Advantage (0.837), Return on Investment (0.852), and Top Management Support (0.836). These results confirm that the data collected is reliable and suitable for further analysis. The high reliability of the scales ensures that the findings are consistent and dependable, providing a solid foundation for examining the relationships between the variables. This rigorous approach to data reliability enhances the credibility of the study's conclusions and supports the validity of the research hypotheses. By ensuring that the measurement scales are reliable, the study can confidently proceed with further statistical analyses, such as multiple regression, to explore the relationships between IT Infrastructure, Relative Advantage, Return on Investment, Top Management Support, and Intention to adopt Collaborative Performance Advertising Solutions among SMEs in Indonesia. This thorough reliability testing process underscores the robustness of the research methodology and the trustworthiness of the results.

4.3 Multiple Regression Testing
The relationship between the independent variables (IV) and the dependent variable (DV) in this study was examined using multiple linear regression analysis. The Model Fit summary is given in Table 1. According to Pallant (2010), the R square value is used to explain the proportion of variance in the model, indicating how well the independent variables explain the variability of the dependent variable. In this study, the R square value is 0.826, meaning that 82.6% of the variance in the dependent variable (Behavioural Intention for Adoption) is explained by the independent variables (IT Infrastructure, Relative Advantage, ROI, and Top Management Support). The significance of the regression relationship was also examined using ANOVA. The ANOVA table summary shows a significance level (P value) of <0.001, which is less than the threshold of 0.05. This indicates that the model significantly affects the dependent variable, Behavioural Intention for Adoption.

Table 1: Model Fit Summary

Multiple R	0.909
Coefficient of Determination (R Square)	0.826
F Value	401.553
Adjusted R Square	0.821
Sig	.001

In this study, the Beta (B) value represents the standardized coefficient, with all beta values being positive. The p-value indicates the significance level, with a p-value of less than 0.05 suggesting

that each independent variable significantly and positively affects the dependent variable (Pallant, 2010). Interpreting these results in Table 2 when IT Infrastructure increases by 1-point, Behavioral Intention for Adoption increases by 0.847 points. When ROI increases by 1 point, Behavioral Intention for Adoption increases by 0.020 points. When Top Management Support increases by 1 point, Behavioral Intention for Adoption increases by 0.114 points. However, when Relative Advantage increases by 1 point, Behavioral Intention for Adoption decreases by 0.068 points. For hypothesis testing, significant values were examined. The significant value for IT Infrastructure is <0.001, which is lower than 0.05, indicating that the null hypothesis for hypothesis 1 is accepted. For Relative Advantage, the significant value is 0.5, which is higher than 0.05, leading to the rejection of the null hypothesis for hypothesis 2. For ROI, the significant value is 0.689, also higher than 0.05, resulting in the rejection of the null hypothesis for hypothesis 3. Lastly, for Top Management Support, the significant value is 0.262, higher than 0.05, leading to the rejection of the null hypothesis for hypothesis 4.

Table 2: Multiple Regression

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.298	0.93		3.209	.002
IT Infrastructure	.847	.040	.898	20.938	.001
Relative Advantage	-.068	.100	-.071	-.677	.500
ROI	.020	.050	.023	.401	.689
Top management Support	.114	.101	.125	1.128	.262

5. Discussion, Implications, Limitations and Recommendations

5.1 Discussions
The first hypothesis in this research is that "There is a relationship between IT Infrastructure and intention to adopt Collaborative Ads in SMEs in Indonesia." The results indicate that IT infrastructure significantly influences behavioral intention to adopt, with a p-value of <0.001 and a standardized coefficient beta of 0.898. The positive beta value demonstrates a positive relationship between IT infrastructure and behavioral intention to adopt. This finding aligns with previous studies, such as Saxena et al. (2023), which highlighted the crucial role of IT infrastructure in the adoption of AI technology in the banking sector. Similarly, Othman et al. (2022) found that IT infrastructure positively impacts the ease of adopting e-learning practices. The multiple regression analysis in this study also shows that IT infrastructure has the highest standardized coefficient beta (0.898). The significance of this relationship is further supported by Qiu et al. (2023), who found that technological factors significantly correlate with perceived usefulness in the adoption of digital technologies. This suggests that when participants perceive digital tools as useful due to enhanced technological capabilities, they are more likely to adopt them. Additionally, a supportive IT infrastructure environment facilitates the effective adoption and use of digital technologies. Therefore, having a robust IT infrastructure not only enhances perceived usefulness but also creates a conducive environment that leads to ease of use, ultimately

resulting in a positive and significant relationship between IT infrastructure and the intention to adopt digital technology in this context.

The second hypothesis in this research is that "There is a relationship between Relative Advantage and intention to adopt collaborative ads in SMEs in Indonesia." The results reject this hypothesis, with a significance value of 0.500 and a standardized coefficient beta of -0.071. The negative beta indicates an inverse relationship between Relative Advantage and intention to adopt. One possible explanation is that Relative Advantage does not directly influence intention, or the product category lacks a large consumer pool. A similar study by Yunior et al. (2024) on cloud-based e-learning adoption found that Relative Advantage does not directly impact behavioral intention. Users recognize the benefits but may not have a strong intention to adopt. Social influence and user satisfaction play more direct roles in adoption, highlighting the complexities of adopting new technologies. This parallels the current study, suggesting that while Relative Advantage has a positive correlation with behavioral intention toward Collaborative Ads, it is not a significant factor in adoption. The technical aspects of Collaborative Ads require expertise to fully grasp and implement the advantages.

The next hypothesis in this research is that "There is a relationship between ROI and intention to adopt Collaborative Ads in SMEs in Indonesia." The results reject this hypothesis, with a significance value of 0.689 and a standardized coefficient beta of 0.023. The positive beta indicates a positive relationship between ROI and behavioral intention to adopt. One possible explanation is that ROI may not directly correlate with behavioral intention to adopt; instead, it is influenced by other, more significant factors that vary across industries and technologies. A study by Buba et al. (2022) on green IT adoption in Nigerian manufacturing companies found that cost savings were the primary factor influencing adoption intentions, rather than ROI directly. Cost savings can lead to ROI, but ROI itself does not directly impact the intention to adopt. Another study by Sivaretinamohan & Sujatha (2022) on the adoption of digital automation in auditing firms using Robotic Process Automation (RPA) indicated that the intention to adopt RPA is more influenced by factors related to process automation and operational efficiency rather than ROI. The decision to adopt robotic accounting is driven by a combination of operational benefits and strategic advantages, not solely financial gains, suggesting that ROI does not directly influence behavioral intention to adopt.

The last hypothesis in this research is that "There is a relationship between Top Management Support and behavioral intention to adopt collaborative ads in SMEs in Indonesia." The results reject this hypothesis, with a significance value of 0.262 and a standardized coefficient beta of 0.125. The positive beta indicates a positive relationship between Top Management Support and behavioral intention to adopt but the impact is insignificant. One possible explanation is that while top management support is crucial for creating a conducive environment for adoption, its impact on behavioral intention may be indirect, influenced by factors such as performance expectancy and individual personality traits. A study by Indipenrian et al. (2015) on the adoption of the activity-based costing (ABC) system found no direct relationship between top management support and the intention to adopt the ABC system. The study suggests that this could be due to the complexity of factors influencing individual acceptance and use of new technology within an organization, including social dynamics and the perceived quality of information. This implies that top

management support may not significantly influence behavioral intention to adopt within the organization.

5.2 Implications
The practical implications of this study highlight the critical role of IT infrastructure in the adoption of collaborative ads by SMEs in Indonesia. The findings indicate that IT infrastructure had the highest impact on the intention to adopt collaborative ads, while relative advantage, ROI, and top management support had an insignificant impact. Firstly, the significant influence of IT infrastructure underscores the necessity for SMEs to invest in robust and scalable IT systems. This investment is crucial for supporting the technical requirements of collaborative ads, which often involve complex data analytics and real-time processing. SMEs should prioritize upgrading their IT infrastructure to ensure they can effectively implement and benefit from collaborative advertising strategies. Secondly, the insignificant impact of relative advantage suggests that SMEs may not perceive the unique benefits of collaborative ads as a compelling reason to adopt them. This could be due to a lack of awareness or understanding of how these ads can provide a competitive edge. Therefore, service providers and marketers need to educate SMEs on the specific advantages of collaborative ads, such as improved targeting and cost efficiency, to enhance their perceived value. Thirdly, the finding that ROI does not significantly influence adoption intentions indicates that financial returns alone are not a primary motivator for SMEs. This could be because SMEs are more focused on immediate operational benefits rather than long-term financial gains. To address this, it is important to highlight the short-term benefits and quick wins that collaborative ads can offer, such as increased customer engagement and immediate sales boosts. Lastly, the minimal impact of top management support suggests that while leadership endorsement is important, it may not be sufficient to drive adoption. This could be due to the complexity of the technology and the need for specialized knowledge to implement it effectively. Therefore, it is crucial to provide comprehensive training and support to employees at all levels to ensure they are equipped to use collaborative ads effectively. Additionally, fostering a culture of innovation and openness to new technologies within the organization can help mitigate resistance to change and encourage adoption.

The theoretical implications of this study highlight the critical role of IT infrastructure in the adoption of collaborative ads by SMEs in Indonesia, emphasizing the need for technological readiness. The insignificant impact of relative advantage challenges the Diffusion of Innovations (DOI) theory, suggesting that other factors may overshadow perceived benefits in this context. The finding that ROI does not significantly influence adoption decisions contributes to the debate on financial metrics in technology adoption, indicating that SMEs may prioritize immediate operational benefits. Additionally, the minimal impact of top management support suggests that leadership endorsement alone is insufficient, highlighting the need for comprehensive employee training and a supportive organizational culture. This study underscores the complexity of adoption factors, advocating for a multifaceted approach that considers TAM and other frameworks.

5.3 Conclusion
In conclusion, this study underscores the pivotal role of IT infrastructure in the adoption of collaborative ads by SMEs in Indonesia, highlighting the necessity for robust technological readiness. The findings challenge traditional theories, such as the Diffusion of Innovations (DOI) theory, by showing that relative advantage and ROI do not significantly influence adoption

intentions. Instead, SMEs appear to prioritize immediate operational benefits over long-term financial returns. Additionally, the minimal impact of top management support suggests that leadership endorsement alone is insufficient to drive adoption, emphasizing the need for comprehensive employee training and a supportive organizational culture. These insights reveal the complexity of factors influencing technology adoption in SMEs, advocating for a multifaceted approach that considers technological, organizational, and environmental elements. By addressing these areas, SMEs can better leverage collaborative ads to achieve their marketing objectives and drive business growth. This study contributes to the theoretical understanding of technology adoption, offering valuable implications for future research and practical strategies for SMEs aiming to adopt new advertising technologies.

5.4 Limitations and Suggestions for Future Research

This study has several limitations, including its focus on IT infrastructure, relative advantage, ROI, and data analytical literacy as key variables influencing the adoption of Meta Collaborative Ads, while excluding other potential factors such as complexity, compatibility, and fit. It also does not differentiate SMEs by sector, industry, or urban versus rural locations, and relies on self-report measures, which depend on participants' honesty and accuracy. For future research, it is recommended to include moderators such as sector and location. In addition to include additional variables like technical literacy. Expanding the research to specific industries and multi-national corporations could provide more detailed insights. Further studies should also consider conducting comparative research in other countries and increasing the sample size to enhance accuracy.

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