

The Influence of Social Media Algorithms on Small Business Reach: Examining the Mediating Role of User Engagement and the Moderating Role of Content Quality

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ABSTRACT

This study examines the influence of social media algorithms on small business reach, considering user engagement as a mediator and content quality as a moderator. The complete model was statistically significant, $F(30,69) = 6.222$, $p < 0.001$, explaining 73.0% of the variance in small business reach ($R^2=0.7300$). Social media algorithms ($\beta = 0.780$, $t = 6.685$, $p < 0.001$) and user engagement ($\beta = 0.514$, $t=5.013$, $p<0.001$) significantly improved business reach. The indirect effect through user engagement was positive ($\alpha_1\beta_2 = 0.159$), but its bootstrap confidence interval included zero (95% CI $[-0.019, 0.385]$). Content quality did not significantly moderate the relationship ($\beta = -0.143$, $t = -0.707$, $p = 0.482$), indicating that social media algorithms and user engagement are the primary predictors of small business reach.

INTRODUCTION

It is straightforward for a small business to make a social media account, but getting your audience to see your content is the real challenge. Social media has made advertising accessible to small businesses on a budget. Facebook, Instagram, TikTok, LinkedIn, and X all give small businesses opportunities to sell their products, interact with their consumers, and tap into areas that once were inaccessible. In comparison to traditional marketing, social media advertising offers the potential to create a relationship with your customers, receive instant feedback, and have your customers review your product for you with organic posts. Prior research has determined that social media marketing has extensively benefited small businesses with customer relationships, brand image, resources to expand to different markets, and improvements to their bottom line. (Ainin et al., 2015; Chatterjee & Kar, 2020; Qalati et al., 2022).

Just because a business has a social media profile doesn't mean that it will be visible to its potential audience. Social media platforms used to show posts in the order they occurred, but most social media company's technology has changed. Now social media companies base the order of posts on their own algorithms that analyze previous user behavior and predicted interests, the structure of the content, and the probability of user interaction. These algorithms push some posts to the forefront, while other posts "expire" and disappear. These algorithms also recommend posts to people who do not follow the business.

Social media platforms use algorithms to establish what a business's audience sees. Algorithms are a social media company's "backdoor" to choosing what their users will see.

This algorithmic environment has changed the meaning of social media reach. In the present study, small business reach refers to the extent to which a business's social media content is shown to existing and potential customers, particularly through unpaid or organic distribution. A post may be carefully prepared and published at an appropriate time, yet still reach only a small proportion of the intended audience if the platform does not consider it sufficiently relevant. Conversely, a post that receives favorable algorithmic treatment may spread well beyond the business's existing followers. Algorithms do not determine user behavior completely, but they shape the conditions under which visibility and interaction occur (Bucher, 2017; Cotter, 2019).

This issue is particularly important for small businesses. Large organizations can often respond to declining organic reach by increasing their advertising expenditure, employing specialist digital marketing teams, or producing content continuously across several platforms. Small businesses usually have fewer financial, technical, and human resources. Many depend heavily on organic exposure and may manage their social media activities without dedicated marketing staff. As a result, an algorithmic change that reduces content visibility can have an immediate effect on customer enquiries, website visits, sales opportunities, and brand awareness. Although social media is commonly described as a cost-effective marketing channel, its value to a small business increasingly depends on how effectively that business operates within an algorithmically managed environment.

User engagement may help explain how social media algorithms influence business reach. Engagement represents the attention, interest, and behavioural response that users show toward social media content. It may include likes, comments, shares, saves, clicks, mentions, viewing time, or participation in an online discussion. From a broader perspective, engagement also involves cognitive, emotional, and behavioural involvement with a brand (Hollebeek et al., 2014). These interactions are important because they indicate that users find the content relevant or valuable. They also create opportunities for the content to circulate through personal networks and reach individuals who may not be directly connected to the business.

The relationship between algorithms, engagement, and reach is therefore likely to be interconnected. Algorithmic systems determine the initial visibility of a post, while users decide whether to ignore it or interact with it. When users respond positively, their behaviour may increase the post's popularity and provide signals associated with further distribution. Research on brand pages has shown that post characteristics influence likes, comments, and other forms of audience response (de Vries et al., 2012). Similarly, content format, platform type, and content context have been found to produce different patterns of active and passive engagement (Shahbaznezhad et al., 2021). This suggests that algorithms may not influence small business reach only through direct content distribution. Part of their influence may occur indirectly by encouraging or limiting user engagement. User engagement is therefore examined in this study as a mediating variable connecting social media algorithms with small business reach.

Nevertheless, algorithmic exposure alone is unlikely to produce meaningful engagement. Users are surrounded by competing messages and can quickly ignore content that appears unclear, repetitive, unreliable, or unrelated to their interests. This makes content quality an important condition in the relationship. In this study, content quality refers to the perceived relevance, usefulness, credibility, clarity, originality, and visual or emotional appeal of the material shared by a small business. High-quality content is more likely to answer customers' questions, reflect their needs, communicate a clear message, or provide a reason to interact. Poor-quality content may receive temporary exposure without generating a meaningful response.

Content quality may consequently strengthen or weaken the benefits that a business receives from algorithmic distribution. When the content is informative, authentic, visually attractive, and appropriate for the target audience, algorithmic visibility may be more readily converted into engagement and wider reach. When content quality is low, favourable exposure may produce little response and disappear quickly from users' feeds. Previous research confirms that the success of social media content depends not simply on how often a business posts, but also on its message strategy, context, format, and relevance to the audience (Shahbaznezhad et al., 2021; Tafesse & Wien, 2018). Content quality is therefore examined as a moderating variable that may alter the strength of the relationship between algorithmic influence, user engagement, and small business reach.

LITERATURE REVIEW

Social media has become an important marketing channel for small businesses because it enables them to communicate with customers, promote products, strengthen brand awareness, and reach new markets at a comparatively low cost. Unlike large organizations, small businesses often operate with limited financial, technological, and human resources. Social media platforms therefore provide them with an accessible alternative to expensive traditional advertising. Previous studies have found that effective social media use can strengthen customer relationships, support value creation, and improve organizational performance (Ainin

et al., 2015; Chatterjee & Kar, 2020). More recent evidence also indicates that social media usage contributes positively to brand awareness and customer engagement among small and medium-sized enterprises (Al-Qudah et al., 2024). However, simply publishing content does not guarantee that it will reach the intended audience because content visibility is increasingly controlled by platform algorithms.

Social media algorithms are automated systems that select, rank, and recommend content according to its predicted relevance to individual users. These systems consider signals such as previous user behaviour, relationships, interests, posting time, content format, and early engagement. Consequently, users do not see all available posts in chronological order; instead, platforms determine which content is most likely to attract their attention. Algorithmic selection can help users manage the large volume of online information by prioritizing personally relevant material (Eg et al., 2023). From a business perspective, however, these algorithms act as gatekeepers of visibility. A favorable algorithmic ranking may expose a small business to audiences beyond its existing followers, whereas an unfavorable ranking can substantially restrict organic reach.

Small business reach refers to the number and diversity of users who are exposed to a business's social media content. Reach is particularly important for small businesses because it can generate awareness, website visits, enquiries, and potential sales without requiring a large advertising budget. Nevertheless, algorithmic changes may make organic reach unpredictable and increase small businesses' dependence on paid promotion. This dependency can place smaller firms at a disadvantage because they may lack the financial resources, analytical capabilities, and specialized marketing staff available to larger companies. Research on organic and paid social media strategies suggests that engagement indicators, including likes, comments, and shares, are closely associated with the reach achieved by business content (Chawla & Chodak, 2021). Therefore, the influence of social media algorithms on reach should not be understood only as a direct technological effect; it may also operate through the responses generated among users.

User engagement represents the cognitive, emotional, and behavioural involvement of users with social media content. In observable terms, it commonly includes liking, commenting, sharing, saving, clicking, viewing, and creating user-generated responses. Engagement is important because it reflects audience interest and simultaneously provides algorithms with evidence that a post is valuable or relevant. When users actively interact with business content, the platform may distribute that content to a broader audience, creating a reinforcing process in which visibility generates engagement and engagement produces further visibility.

Experimental evidence demonstrates that algorithmic content selection can increase behavioural engagement, although the effect may differ according to the nature of the content (Dujeancourt & Garz, 2023). Engagement is therefore likely to mediate the relationship between social media algorithms and small business reach. In other words, algorithms may initially expose content to selected users, but the reactions of those users determine whether the content receives wider distribution.

The mediating role of user engagement is consistent with the Stimulus Organism Response perspective. Under this framework, algorithmically selected exposure functions as the stimulus, user engagement represents the audience's internal and behavioral response to that stimulus, and expanded business reach becomes the resulting outcome. Social media content that attracts immediate and meaningful interaction sends favorable performance signals to the platform. Conversely, content that receives little attention may rapidly lose visibility, even when the business has a substantial number of followers. This mechanism explains why follower count alone is no longer a sufficient indicator of communication effectiveness. Small businesses must encourage genuine interaction and develop ongoing relationships with their audiences if they wish to improve their organic visibility.

Content quality may further moderate the relationship between social media algorithms and small business reach. Content quality refers to the relevance, usefulness, originality, accuracy, clarity, credibility, and visual attractiveness of a post. High-quality content is more likely to capture attention, satisfy users' information or entertainment needs, and stimulate meaningful interaction.

Research shows that textual and visual characteristics of branded posts influence customer engagement and brand awareness (Gkikas et al., 2022). Quality content may therefore strengthen the positive effect of algorithmic distribution because users are more likely to respond favorably after being exposed to material that is informative, authentic, timely, or emotionally engaging. In contrast, repetitive, misleading, irrelevant, or poorly presented content may fail to benefit from algorithmic exposure and can weaken audience trust.

Although previous research has separately examined social media use, customer engagement, content characteristics, and business performance, limited attention has been given to their combined influence on the organic reach of small businesses. Existing studies often concentrate on large brands or treat social media usage as a general organizational capability without directly examining the role of algorithmic visibility. The proposed study addresses this gap by investigating whether social media algorithms influence small business reach directly and indirectly through user engagement, while also determining whether content quality strengthens or weakens this relationship. This integrated model offers a more complete explanation of why some small businesses achieve broad online visibility while others struggle despite maintaining an active social media presence. It also provides practical value by showing that businesses should not focus only on adapting to algorithms; they must simultaneously encourage meaningful user engagement and produce consistently valuable content.

Gap of the Study

Existing research has provided valuable evidence regarding the adoption of social media by small businesses and its effects on organizational performance. Another stream of research has examined algorithmic visibility, consumer engagement, and the characteristics of successful brand content. These areas, however, have often been studied separately.

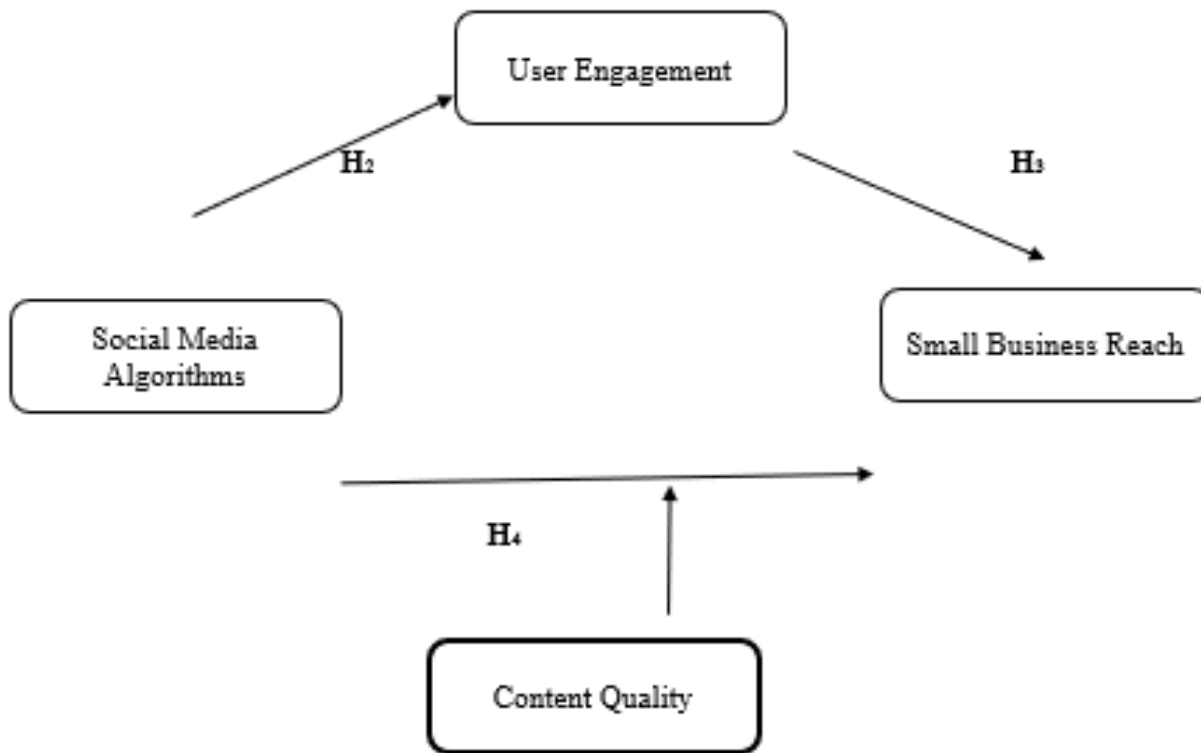
Studies of small businesses commonly focus on why firms adopt social media or whether its use improves performance, while studies of algorithms frequently examine influencers, platform users, or large brands. Consequently, the process through which algorithms affect the organic reach of small businesses remains insufficiently integrated with the roles of engagement and content quality.

The present study addresses this gap by examining the influence of social media algorithms on small business reach, with user engagement as a mediating variable and content quality as a moderating variable. More specifically, it investigates whether algorithmic influence is associated with changes in small business reach, whether user engagement explains part of this relationship, and whether the strength of the relationship depends on the quality of the content shared. By bringing these variables together, the study offers a clearer explanation of why some small businesses achieve strong visibility on social media while others struggle, even when they use the same platforms.

The study contributes to the literature by moving beyond the general question of whether small businesses should use social media. It focuses instead on how reach is created within algorithmically controlled platforms and under what conditions that reach can be improved. The findings may also provide practical guidance for small business owners and marketing managers seeking to use limited resources more effectively.

Understanding the combined influence of algorithms, engagement, and content quality can help businesses develop content strategies that are responsive to platform systems while remaining useful, credible, and meaningful to their customers.

Figure 1. Proposed Conceptual Research Framework



Proposed Hypotheses

H₁: Social media algorithms have a significant influence on small business reach.

H₂: Social media algorithms have a significant influence on user engagement.

H₃: User engagement has a significant influence on small business reach.

H₄: User engagement mediates the relationship between social media algorithms and small business reach.

RESEARCH METHODOLOGY

Research Approach and Design

This study will employ a quantitative research approach to examine the influence of social media algorithms on small business reach. A quantitative approach is appropriate because the study seeks to test specific relationships among social media algorithms, user engagement, content quality, and small business reach. It also allows the proposed hypotheses to be examined statistically using data collected from a relatively large number of respondents.

The study will use a cross-sectional and explanatory research design. Data will be collected from respondents at one point in time. The explanatory design will help determine whether social media algorithms directly influence small business reach, whether user engagement mediates this relationship, and whether content quality moderates the relationship between social media algorithms and small business reach.

Target Population

The target population will consist of owners, managers, marketing employees, and social media administrators working in small businesses that actively use social media platforms for marketing and customer

communication. The participating businesses should use at least one major social media platform, such as Facebook, Instagram, Tok-tok, YouTube, LinkedIn, or X.

Respondents will be selected because they are directly involved in creating, publishing, monitoring, or evaluating business content on social media. They are therefore expected to possess sufficient knowledge about algorithmic visibility, audience engagement, content quality, and the online reach of their businesses.

Sampling Technique

A purposive sampling technique will initially be used to identify respondents who meet the study's eligibility requirements. To participate, a respondent should:

- Be an owner, manager, marketing employee, or social media administrator of a small business.
- Be directly involved in the business's social media activities.
- Have used social media for business purposes for at least six months.
- Use at least one social media platform regularly to communicate with customers or promote products and services.

Where a complete list of small businesses is available, stratified or simple random sampling may be used to improve the representativeness of the sample. The businesses may be classified according to industry, business size, geographical location, or primary social media platform.

A minimum sample of approximately 200 usable responses is recommended for testing the proposed model. However, collecting between 250 and 400 valid responses would provide stronger statistical power and allow for incomplete or unusable questionnaires. The final sample size should also be confirmed through an appropriate power analysis.

Research Instrument

Data will be collected through a structured questionnaire. The questionnaire will be developed using measurement items adapted from previously validated studies on social media marketing, algorithmic content selection, customer engagement, content quality, and organizational reach. The wording of the items will be modified where necessary to suit the context of small businesses.

The questionnaire will contain the following sections:

Respondent and business profile

This section will collect information about the respondent's position, business sector, number of employees, age of the business, social media experience, platforms used, posting frequency, and estimated number of followers.

Social media algorithms

This section will measure respondents' perceptions of how platform algorithms prioritize, recommend, rank, and distribute their business content.

User engagement

This section will measure audience interaction through likes, comments, shares, saves, clicks, views, and other relevant responses.

Content quality

This section will measure the relevance, accuracy, originality, usefulness, credibility, clarity, and visual attractiveness of the business's social media content.

Small business reach

This section will measure the extent to which the business's content reaches existing followers, new users, target customers, and wider online audiences.

The main constructs will be measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. A consistent response scale will make the questionnaire easier to understand and facilitate statistical analysis.

Pilot Study, Validity, and Reliability

Before the main data collection, the questionnaire will be reviewed by academic researchers and digital marketing professionals to assess its clarity, relevance, and content validity. Their recommendations will be incorporated into the final version of the instrument. A pilot study will then be conducted with approximately 30 to 50 respondents who possess characteristics similar to those of the target population. The pilot test will help identify unclear wording, repeated questions, technical problems, and the approximate time required to complete the questionnaire. The internal consistency of the constructs will initially be assessed using Cronbach's alpha. A value of 0.70 or above will generally be considered acceptable. In the main analysis, composite reliability, indicator loadings, average variance extracted, and discriminant validity will also be evaluated.

Statistical Model

Based on the research title, the proposed model is a mediated relationship with content quality moderating the effect of social media algorithms on small business reach.

- XX = Social Media Algorithms
- MM = User Engagement
- YY = Small Business Reach
- WW = Content Quality
- CiC_i = Control variables
- ϵ = Error term

Effect of Social Media Algorithms on User Engagement

$$M_i = \alpha_0 + \alpha_1 X_i + \sum_{k=1}^K \alpha_k C_{ki} + \epsilon_{Mi}$$

Mediation Equation

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 M_i + \sum_{k=1}^K \beta_k C_{ki} + \epsilon_{Yi}$$

The indirect effect of social media algorithms on small business reach through user engagement is:

$$\text{Indirect Effect} = \alpha_1\beta_2$$

Moderation Equation

$$Y_i = \gamma_0 + \gamma_1 X_i + \gamma_2 M_i + \gamma_3 W_i + \gamma_4 (X_i \times W_i) + \sum_{k=1}^K \gamma_k C_{ki} + \varepsilon_{Yi}$$

Here, $X_i \times W_i$ is the interaction between social media algorithms and content quality. A significant γ_4 confirms moderation.

Complete Statistical Model

$$Y_i = \gamma_0 + \gamma_1 X_i + \gamma_2 M_i + \gamma_3 W_i + \gamma_4 (X_i \times W_i) + \sum_{k=1}^K \gamma_k C_{ki} + \varepsilon_i$$

Data Collection Procedure

The data collection process will begin after obtaining approval from the relevant university research or ethics committee. The researcher will identify eligible small businesses through business directories, chambers of commerce, professional associations, entrepreneurship centers, social media business groups, and personal or professional networks.

The following procedure will be followed:

Identification of participants: small business owners, managers, marketing employees, and social media administrators who meet the study criteria will be identified.

Initial contact: Potential respondents will be contacted through email, telephone, LinkedIn, WhatsApp, or an official business social media account. They will receive a brief explanation of the study's purpose and participation requirements.

Informed consent: The introductory page of the questionnaire will explain that participation is voluntary, responses will remain confidential, and participants may withdraw before submitting the survey. Respondents will be required to indicate their consent before proceeding.

Questionnaire distribution: The questionnaire will primarily be distributed electronically using a secure online survey platform. A paper-based questionnaire may also be used where online participation is not convenient.

Screening: Screening questions will confirm that respondents represent a small business, are involved in its social media activities, and possess sufficient experience to answer the questions.

Response monitoring: Data collection will remain open for approximately four to eight weeks. Reminder messages may be sent at reasonable intervals to improve the response rate without pressuring participants.

Data screening: After collection, the responses will be reviewed for missing information, duplicate submissions, straight-line answers, unrealistically short completion times, and other indications of poor-quality responses.

Data preparation: Valid responses will be coded and entered into statistical software. Negatively worded items, if any, will be reverse-coded before conducting the analysis.

No personally identifiable information will be disclosed in the research report. The collected data will be stored securely and used only for academic purposes.

Data Analysis

The data will initially be analyzed using SPSS or equivalent statistical software. Descriptive statistics, including frequencies, percentages, means, and standard deviations, will be used to summarize respondent characteristics and the main study variables.

The measurement and structural models may subsequently be examined using Partial Least Squares Structural Equation Modelling through Smart-PLS. This technique is appropriate because the framework contains direct, mediating, and moderating relationships. The analysis will include:

- Assessment of missing data, outliers, and common method bias.
- Evaluation of indicator loadings and multicollinearity.
- Examination of Cronbach's alpha and composite reliability.
- Assessment of convergent validity using average variance extracted.
- Assessment of discriminant validity using the HTMT criterion.
- Evaluation of path coefficients, effect sizes, and explanatory power.
- Bootstrapping to test the significance of direct and indirect effects.
- Mediation analysis to determine the indirect effect through user engagement.
- Moderation analysis using an interaction term between social media algorithms and content quality.

The hypotheses will generally be supported when the relevant path coefficients are statistically significant at the selected significance level, normally $p < 0.05$.

Key adjusted result: Social Media Algorithms have a significant positive effect on User Engagement:

- $B=0.576$
- $SE=0.208$
- $t=2.767$
- $p=0.007$
- $R^2=57.4\%$
- 95% CI: [0.161, 0.991]

Therefore, the hypothesis is supported in the adjusted model. Seven valid demographic and business controls were included. The workbook contains the original data, composite scores, detailed regression results, and interpretation.

Key findings:

- Social Media Algorithms → User Engagement: $B=0.454$, $p = 0.034$
- User Engagement → Small Business Reach: $B=0.351$, $p < 0.001$
- Direct effect of Algorithms → Business Reach: $B=0.828$, $p < 0.001$
- Total effect: $B = 0.987$, $p < 0.001$
- Indirect effect: $B = 0.159$
- Model $R^2 = 71.3\%$

The outcome equation is supported. However, mediation evidence is inconclusive because the bootstrap confidence interval includes zero, despite the significant Sobel test.

$$\text{Indirect Effect} = \alpha_1 \beta_2 = 0.454 \times 0.351 = 0.159$$

Results:

- Indirect effect: 0.1590.159
- Sobel test: $z = 2.014$, $p = 0.044$
- Bootstrap 95% CI: $[-0.019, 0.385]$
- Bootstrap $p=0.076$

Although the Sobel test is significant, the bootstrap confidence interval includes zero. Therefore, the indirect effect is positive but not statistically significant according to the more reliable bootstrap test. The mediation hypothesis is not conclusively supported.

Key interaction result:

$$\gamma_4 = -0.143, SE = 0.202, t = -0.707, p = 0.482$$

- 95% CI: $[-0.546, 0.260]$
- Additional variance explained: $\Delta R^2=0.002$ or 0.2%
- Complete observations: 100

Because the interaction coefficient is not statistically significant, Content Quality does not significantly moderate the relationship between Social Media Algorithms and Small Business Reach. Therefore, the moderation hypothesis is not supported.

The estimated model is:

$$Y_i = 1.251 + 0.780X_i + 0.514M_i + 0.187W_i + 0.143(X_i \times W_i) + \sum_{k=1}^K \gamma_k C_{ki} + \varepsilon_i$$

Predictor	Coefficient	t-value	p-value	Decision
Social Media Algorithms (XX)	0.780	6.685	<0.001	Significant
User Engagement (MM)	0.514	5.013	<0.001	Significant
Content Quality (WW)	-0.187	-1.950	0.055	Not significant
X×W interaction	-0.143	-0.707	0.482	Not significant

Model performance:

$$R^2=0.730, \text{ Adjusted } R^2=0.613$$

$$F(30,69) = 6.222, p < 0.001$$

The complete model is statistically significant and explains approximately 73.0% of the variance in Small Business Reach. Social Media Algorithms and User Engagement are significant positive predictors. However, the interaction between Social Media Algorithms and Content Quality is not significant. Therefore, Content Quality does not significantly moderate the relationship, and the moderation hypothesis is not supported.

The complete statistical model was significant, $F(30,69) = 6.222, p < 0.001$, explaining 73.0% of the variance in small business reach ($R^2 = 0.730$). Social media algorithms had a significant positive effect on small business reach ($\beta = 0.780, t=6.685, p < 0.001$). User engagement also significantly improved small business reach ($\beta=0.514, t=5.013, p<0.001$). The indirect effect through user engagement was positive ($\alpha_1\beta_2=0.159$); however, its bootstrap confidence interval included zero (95% CI $[-0.019, 0.385]$). Content quality did not

significantly moderate the relationship between social media algorithms and business reach ($\beta = -0.143$, $t = -0.707$, $p = 0.482$).

Future Direction

Future scholars may extend this model by examining AI-driven social media personalization as the independent variable and small-business performance or customer acquisition as the dependent variable. Customer trust or electronic word-of-mouth may be introduced as a mediator to explain how algorithmic personalization influences business outcomes. Digital marketing capability, platform type, or perceived content authenticity may be examined as moderators that strengthen or weaken these relationships. Researchers should also collect larger and more diverse samples across industries, platforms, and geographical regions. Longitudinal studies are recommended to determine how algorithmic changes influence customer engagement and business performance over time.

CONCLUSION

This study concludes that social media algorithms play a significant role in improving the online reach of small businesses. The overall statistical model was significant and explained 73% of the variation in small business reach, demonstrating its strong explanatory power. Social media algorithms and user engagement both had significant positive effects on business reach. Although user engagement produced a positive indirect effect, its mediating role was not conclusively supported by the bootstrap results. Similarly, content quality did not significantly moderate the relationship between social media algorithms and small business reach. These findings indicate that algorithmic visibility and active audience engagement are the principal factors influencing the online exposure of small businesses. Therefore, small businesses should develop platform-responsive strategies, encourage meaningful customer interaction, and continuously monitor changes in social media algorithms. Overall, the study provides useful theoretical and practical insights into how small businesses can strengthen their digital presence and reach wider audiences.

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Participation is voluntary. Responses will be treated confidentially and used only for academic research.

Section A: Demographic and Business Profile

Question	Response (select from the dropdown list)
D1. Gender	
D2. Age group	
D3. Highest education level	
D4. Position in the business	
D5. Main business sector	
D6. Age of the business	
D7. Number of employees	
D8. Primary social media platform	
D9. Frequency of posting	

Section B: Likert-Scale Statements

Please select one response for every statement: 1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

Cod e	Questionnaire Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongl y Agree (5)	Selected Respons e
1. Social Media Algorithms (Independent Variable)							
SM A1	Social media algorithms help my business content reach customers who are interested in our products or services.						
SM A2	Social media platforms frequently recommend						

	my business content to relevant users.						
SM A3	Changes in social media algorithms affect the visibility of my business posts.						
SM A4	Content that receives early interactions is more likely to be promoted by social media algorithms.						
SM A5	Understanding how social media algorithms work helps my business improve the visibility of its content.						
2. Small Business Reach (Dependent Variable)							
SBR 1	Our social media activities help the business reach a larger number of potential customers.						
SBR 2	Our business content is regularly seen by people beyond our existing followers on social media.						
SBR 3	Social media has increased awareness of our business among our target customers.						
SBR 4	Our social media presence helps the business attract customers from new market segments or locations.						
SBR 5	The overall reach of our business has improved through its use of social media platforms.						
3. User Engagement (Mediating Variable)							
UE1	Customers frequently react to or like our						

	business posts on social media.						
UE2	Customers regularly comment on our business content posted on social media.						
UE3	Customers often share our business posts with other social media users.						
UE4	Customers frequently click on links or calls to action included in our social media content.						
UE5	Customers actively communicate with our business through social media messages or replies.						
4. Content Quality (Moderating Variable)							
CQ1	Our business publishes social media content that is relevant to the needs and interests of its target customers.						
CQ2	The information presented in our social media content is accurate and reliable.						
CQ3	Our social media content is clear, understandable, and easy for customers to follow.						
CQ4	Our business uses attractive images, videos, or designs to improve the quality of its social media content.						
CQ5	Our business regularly provides useful, original, and up-to-date content on social media.						