

## THE ROLE OF DIGITAL MARKETING IN COMMUNITY ENGAGEMENT MODERATED BY BRAND AWARENESS (A STUDY OF CONSUMERS OF BEEBOT AUTOMOTIVE PRODUCTS ON THE CAR COMMUNITY IN TIKTOK PLATFORM)

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### ABSTRACT

Digital marketing is crucial for companies seeking to enhance their relationships with consumers through communities as a means of increasing brand awareness. This study aims to investigate the influence of digital marketing on community engagement among users of Beebot Automotive products on TikTok. This study specifically examines brand awareness as a moderating variable in this research model. An online survey was conducted among active members of the car community who use the brand's products. Data were collected using a Likert-type questionnaire. Data were analyzed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS) to test the direct and moderating effects between variables. The research results show: there is an influence of digital marketing on brand awareness and community engagement, and brand awareness also positively and significantly affects community engagement. The study also provides evidence that digital marketing does affect community engagement directly and indirectly through improving brand awareness.

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### INTRODUCTIONS

The development of digital technology has dramatically changed the way companies interact with their markets, with consumers now engaging based on the values they seek on social media sites and online communities (Rachmad, 2024). Apps like TikTok and Instagram serve as dynamic platforms where products and consumer communities interact, enabling consumers not only to share messages but also to contribute to value creation through user-generated content creation and authentic community participation (Naeem, 2021). Digital marketing within a modern ecosystem is the technology enabled, optimizable strategy that allows the creation and exchange of value in new, digital ways across a Digital System. This approach underlines the use of customer-oriented strategies and the capacity to adjust rapidly in market on one hand for granting a competitive edge (Dwivedi et al., 2021). Digital

campaigns are shaped through inspirational and engaged creativity - empowered by how quickly a brand can adapt to trends, while responding to the community's needs (Kumar Gubbala, 2025).

This theory can be seen being implemented by Beebot Automotive, a local brand that provides car projector lights and one who has enjoyed tremendous growth in the Indonesian automotive community. TikTok's approach to the brand was one type of co-branding, a marketing strategy known as "co-marketing," in which brands encourage and enable users to create their own content. This is consistent with the previous empirical evidence, which emphasize the importance of social media in increasing emotional and behavioural consumer-brand relationships. "As our online presence continues to grow, we expect Beebot's strategy will build a more responsive audiences – bringing the customers closer into its culture than ever before.

Community engagement under the understanding of community engagement is complex and multi-faceted, and therefore dependent on time and context for the interaction between a community as well as a brand. It also covers cognitive (e.g., mental participation in it, integration of brand-knowledge), emotional (emotional connectivity with it, pride) and behavioral aspects (participation into and co-creation for such a community) which conform to the contemporary notion of consumer-brand engagement (Cooper et al., 2019). This commitment is reflected in different components such as brand awareness, brand pride, affection for the brands and getting involved in community activities (Rebelo, 2025). How engagement in automotive industry edges? In automotive, engagement manifests through shared experience, social media discussions and events occurring on automobile (Dong et al., 2025). It is the amount of participation in a community that influences brand engagement and the feeling of communal ownership (Santos et al., 2022).

The digital market on the other hand encourage engagement, and is commonly associated with brand awareness (Kamyabi et al., 2025). Brand Awareness is composed of 3 elements, namely brand recognition (identifying a brand due to visual or other stimuli), recall (the ability for consumers to remember the name when asked) and aided recall (remembering the name after being prompted). These factors vary in strength and accessibility across product categories, are mediated by repetitive exposure and marketing communication, and influence consumer attitudes and buying behavior (Ding et al., 2021). The higher the social media visibility of a brand, the more digital engagement can be expected. Brand awareness is one of the main moderating and mediating factors that have tangible impact on the consumer engagement and purchase intention (Tarabieh, 2022). Consequently, digital marketing effectiveness relevance to community engagement as moderated by brand awareness among Beebot Automotive users in Tik Tok and car communities is the area of focus in this research. It is anticipated that this study will contribute to the theory of digital marketing and provide strategic implications for companies engaged in the automotive aftermarket in Indonesia.

## LITERATURE REVIEW

### Digital Marketing

Digital marketing is considered as a multidimensional, strategic, technology-based and learning process (Jia, 2025; Kannan, 2017; Rizkita et al., 2025). It values the brand that is at work and whose power derives from six key dimensions: the ability to change marketing strategies proactively in line with changing market situation and changing customer needs (adaptive); utilization of digital platforms to ensure easy access to information, reflect on interaction with customers (technology enabled process); creating value together by businesses, customers and partners (collaborate to jointly create); communicate transparently, clearly and responsively for building trust between enterprises and customers which leads engagement (clear communication); consistently deliver the promised values in terms of products or services (deliver) continue delivering sustained value creation through long-term customer relationship (sustain value) (Kannan, 2017; Rizkita et al., 2025).

Further literature links these dimensions to such strategic advantages as cost-effectiveness, improved brand recognition and increased sales (Dwivedi et al., 2021; Jia, 2025). Nevertheless, there are also a few challenges such as dealing with negative electronic word-of-mouth (eWOM) and the overreliance on social media that becomes the major digital marketing channel (Appel et al., 2020; Chou et al., 2022). Successful digital marketing development

utilizes a variety of approaches. Organizations must agilely adopt a variety of digital tools to build customer trust and loyalty. Ultimately, the company's ongoing engagement ensures reliable value delivery (Santos et al., 2022). Ultimately, these interconnected aspects enable companies to foster and grow customer loyalty based on the ongoing adoption of digital developments.

## COMMUNITY ENGAGEMENT

Community engagement has evolved rapidly as a marketing strategy used by companies to increase customer loyalty over the past 10 years, evolving from a tool initially designed to help companies market their businesses to a transformative approach rooted in shared needs, mutual benefits, and information exchange. This demonstrates the recognition of the role of community engagement as a means of driving business success, but also supports the impact of implementing marketing strategies in shaping brand loyalty, customer advocacy, and sustainable community development (Hammond, 2025). Recent research in the year 2025 has exposed that its role extends to connecting social responsibility with concept of circular economy to refining the performance of higher education institutions, enhancing urban disaster preparedness through community participation and resource sharing, acting as a social control mechanism for mitigating corruption by advancing transparency and integrating these with constructing social capital (Al-Dmour et al., 2025; Ramli et al., 2025; Srirejeki & Khairurrizqo, 2025). From the emerging literature we observe that virtual brand communities influences consumer identification and forgiveness during crisis, also recognizing its contribution in gaining insight into consumer engagement with in socio-technical systems (Coromina et al., 2023; Nikhashemi et al., 2025).

Community participation is a multidimensional concept that has three basic dimensions: cognitive, affective, and behavioral (Rodrigues et al., 2018). Cognitive engagement is the consumers' thinking during brand and community interaction (Liu et al., 2019). Emotional engagement refers to positive emotions such as pride, joy and sense of identity generated by an affiliation with the local community. These affective reactions are one factor that can mediate behavioral engagement, as emotionally engaged individuals generally demonstrate significantly greater active participation, content sharing, and community involvement than those who are solely cognitively engaged (Huang et al., 2022). Consumer trust and loyalty, as explained in the previous section, are crucial factors in driving sustained engagement.

### Brand Awareness

The concept of brand awareness is predominantly perceived as the ability of a brand's presence in consumers' minds (Marshall, 2022), which generally being operationalized by indicators such as "top-of-mind," spontaneous, and aided awareness. Over the years, it has evolved focusing on how brand awareness plays a crucial role in constructing brand equity with the aid of important factors such as brand associations and perceived quality (Sheikh & Asemani, 2024). In the field of digital marketing, including social media marketing, positive effects on brand engagement and consumers' intention to purchase have been reported for brand awareness as well, a relationship being further reinforced through influencer's credibility and corporate social responsibility (AlFraihat et al., 2025; Alkhasoneh et al., 2025; Çataldaş & Yalçınkaya, 2025; Munir & Watts, 2025; Zeqiri et al., 2025). In addition, brand awareness is an important determinant of consumers' perceptions in many different fields such as higher education, tourism and ethical consumerism (Eum, 2025; Luan & Zhang, 2026). This reflects two key components of brand awareness, namely, brand recall and brand recognition (Marshall, 2022). Brand recall is the ability of the customers to recollect a brand from their memory when it is presented in front of consumers through product category, needs or any other trigger, while browsing at a store. Brand recognition is tremendously affected by how well your logo and specific call to action and value proposition play with the emotions and attitude of your customers. Research demonstrates brand familiarity is a robust predictor of both recognition ( $r = 0.33$ ) and recall ( $r = 0.53$ ), respecting the enduring legacy of Keller's conceptual model in today's digital age where visual brand identification and memory retrieval manifest at multiple touchpoints (Yee Chan, 2022).

These dimensions are key in order to unpack and comprehend how customers conceive of brands. The ability to quickly and correctly identify a brand will place it at the forefront, while enhancing its competitive edge.

## METHOD

To analyze the interrelationships between these factors and phenomena, the researchers employed a model-testing survey design to determine cause-effect associations between variables in a theory framework (Mugizi, 2019). Research design This study followed an explanatory research design and leveraged Structure Equation Modeling to estimate the established causal hypotheses about how the digital marketing activities affect consumers' cognitive, emotional, and at last behavioral involvement with regarded to different dimensions of brand awareness (brand recall and brand recognition) through community engagement. This explanatory research unlike the descriptive and exploratory that have an objective of sketching, or checking initial concept this approach examines hypothesized cause-and-effect pattern in multivariate through path analysis (Dhaniarti et al., 2018). This approach enables an in-depth analysis of complex causal relationships by considering confounding effects on the relationship between constructs so that these relationships are valid and established through empirical testing, based on hypotheses derived from multivariate statistics (Rafat & Srivastav, 2024). Therefore, to ascertain whether brand awareness mediates the relationship between digital marketing on community engagement, this study utilized explanatory research. The respondents were members of the Indonesian car community who actively use Beebot projector lamps and participate in social and community activities on platforms such as TikTok and Instagram.

The sampling method used was purposive sampling with the following respondent criteria: (1) the user knows and has used products, (2) active in the online or offline car community, (3) follows automotive content on social media, and is at least 17 years old. The data were gathered from 100 users of the product through online questionnaire (Google Form). The scale of the measurement used the Likert scale of 1-5 where the items for the statement had been taken from previous literatures and theoretically validated with cited journals.

The research instrument is comprised of three primary constructs: digital marketing which is measured by six dimensions namely adaptive, technology enabled process; collaborate to jointly create, communicate, deliver and sustain value. Second, community engagement encompasses the facets of cognitive, affective, and behavioral engagement. Third, Brand awareness is defined using the constructs brand recall and brand recognition. There are 3-4 indicators per dimension which have been adapted to this study. The ethics of the study were upheld to assure participants that participation was voluntarily, respondents' responses were anonymous and data would be used only for academic purposes. To reduce the common method bias, questions were randomized and grouped in multiple sections by variable. With regards to data collection, the stage lasted four weeks and included car fans as well as active social media users.

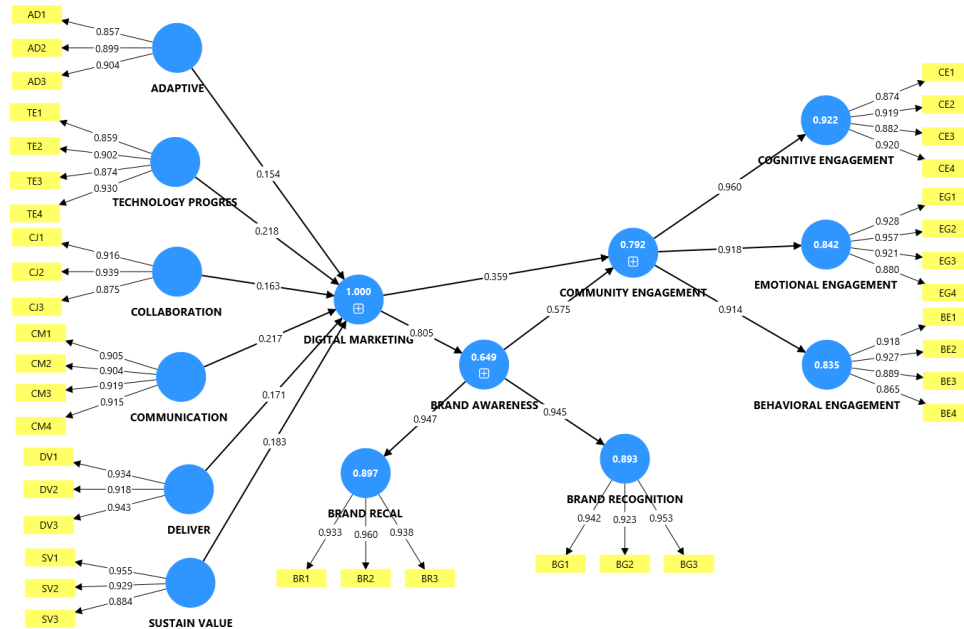
## RESULTS

### Evaluation of the Measurement Model (*Outer Model*)

In order to ensure that the measuring model has an acceptable level of validity, this research followed the methodology to evaluate the outer model for convergent and discriminant validity. In order to examine the structural model's validity and reliability with respect to the measurement model, the outer model (measurement model) must be evaluated first. This evaluation assesses indicator reliability, convergent validity, and internal consistency through metrics such as outer loadings, composite reliability, and average variance extracted (Cheung et al., 2024).

#### *Convergent Validity*

Convergent validity was evaluated by analyzing the loading factors of each indicator, ensuring that the loadings surpassed the recommended threshold of 0.70 (or 0.50 for exploratory models) and that the Average Variance Extracted (AVE) exceeded the minimum threshold of 0.50. This confirmed that the constructs accounted for more than half of the variance in their respective indicators (Homburg et al., 2022). Indicators fulfill validity criteria if the factor loading exceeds 0.70, although values between 0.50 and 0.70 may be acceptable depending on their impact on composite reliability and AVE. Indicators with loadings below 0.50 are typically removed from the analysis to improve model quality (Homburg et al., 2022).



**Figure 1.** Results of the initial smartPLS 4.1.1 algorithm

Based on the outer model test results, all research indicators are valid and reliable because they have a loading factor value above the minimum standard of 0.70. Of the 34 indicators tested, all show a loading factor ranging from 0.756 to 0.856, meaning that the validity level reaches 100%. Each construct showed good performance. Digital marketing constructs, such as adaptive, ranged from 0.814 to 0.842, technology process (0.756 - 0.821), and collaboration (0.807 - 0.845) had solid loading factors. This is followed by community engagement (0.821 - 0.847), brand value engagement (0.815 - 0.841), brand recognition (0.787 - 0.812), and brand awareness (0.776 - 0.804). In conclusion, the results indicate that the measurement model satisfies the validity and reliability criteria, making it suitable for further analysis in the subsequent stage.

**Table 1.** Analysis Indicators

Code	Measurement	Loading Factor
<b>DIGITAL MARKETING (X)</b>		
<b>Adaptive: a = 0,864, CR = 0,917, AVE = 0,787</b>		
AD1	Digital activities of this brand quickly adapt to trends in the automotive community.	0,857
AD2	Content of this brand changes based on community input.	0,899
AD3	Promotions/offers of this brand are tailored to the needs of community events.	0,904
<b>Technology Enabled Process: a = 0,914, CR = 0,939, AVE = 0,795</b>		
TE1	Product information of this brand is easily accessible through digital channels.	0,859
TE2	Online ordering runs smoothly.	0,902
TE3	Online communication runs smoothly.	0,874
TE4	Digital responses of this brand are fast.	0,93

<b>Collaboration: a = 0,897, CR = 0,936, AVE = 0,829</b>		
CJ1	This brand invites the community to create content together.	0,916
CJ2	Community input is used in product development.	0,939
CJ3	This brand displays user-generated content (UGC).	0,875
<b>Communication: a = 0,932, CR = 0,951, AVE = 0,830</b>		
CM1	This brand communication language is easy to understand.	0,905
CM2	This brand responds to messages quickly.	0,904
CM3	This brand provides transparent pricing information.	0,919
CM4	This brand provides transparent promotional pricing information.	0,915
<b>Delivery: a = 0,924, CR = 0,952, AVE = 0,868</b>		
DV1	Online orders arrive as promised.	0,934
DV2	Bonuses is fulfilled as advertised	0,918
DV3	Digital after-sales service is performed consistently	0,943
<b>Sustain Value: a = 0,913, CR = 0,945, AVE = 0,852</b>		
SV1	This brand maintains long-term relationships with the community.	0,955
SV2	The loyalty program was sustainably performed.	0,929
SV3	This brand consistently supports community events.	0,884
<b>COMMUNITY ENGAGEMENT (Y)</b>		
<b>Cognitive Engagement: a = 0,920, CR = 0,944, AVE = 0,808</b>		
CE1	I often look for the latest information about this brand's lighting products in the community.	0,874
CE2	I am interested in finding out about the advantages of this brand's lighting that are shared in the community.	0,919
CE3	I feel that the ideas discussed in this brand's community have broadened my knowledge of car lighting.	0,882
CE4	I am thinking about how to apply the advice of this brand's community members for using lights on the road.	0,92
<b>Emotional Engagement: a = 0,941, CR = 0,958, AVE = 0,850</b>		
EG1	I am proud to be part of this brand's lamp community.	0,928
EG2	I am happy when there are new activities in this brand's community.	0,957
EG3	I feel appreciated when other members listen to my experiences with this brand's lamps.	0,921
EG4	I feel a strong emotional bond with this brand's community.	0,88
<b>Behavioural Engagement: a = 0,922, CR = 0,917, AVE = 0,787</b>		
BE1	I regularly provide feedback based on my personal experience with this brand's lighting products in this community.	0,918
BE2	I often help other members by answering questions about this brand's lighting maintenance.	0,927
BE3	I participate in events held by this brand's community.	0,889
BE4	I recommend this brand's community to friends who are interested in lighting products.	0,865
<b>BRAND AWARENESS (Z)</b>		
<b>Brand Recall: a = 0,938, CR = 0,960, AVE = 0,890</b>		
BR1	I remember my experience using this brand in the community	0,933
BR2	Posts about this brand remind me of this lamp product	0,96

BR3	Posts about this brand in the community refresh my memory of this lamp product	0,938
<b>Brand Recognition: a = 0,933, CR = 0,958, AVE = 0,883</b>		
BG1	I recognize this brand logo when I see it	0,942
BG2	I can distinguish this brand promotions from other brands	0,923
BG3	I easily recognize this brand products when used in the cars of friends in the community	0,953

Sources: Processed by authors (using SMART PLS 4.1.1)

Since all indicators in the initial stage met the criteria for validity and reliability, the analysis proceeded to the next phase to evaluate the validity of the higher-order construct. In the two-stage PLS-SEM approach, once the lower-order constructs have been validated, the latent variable scores are used as indicators to form the higher-order construct, ensuring an accurate hierarchical representation of the model (Sarstedt et al., 2019). Accordingly, the evaluation process of the measurement model, which includes assessing convergent validity, discriminant validity, and reliability, must be repeated in the second stage to ensure that the higher-order construct satisfies the established measurement standards.

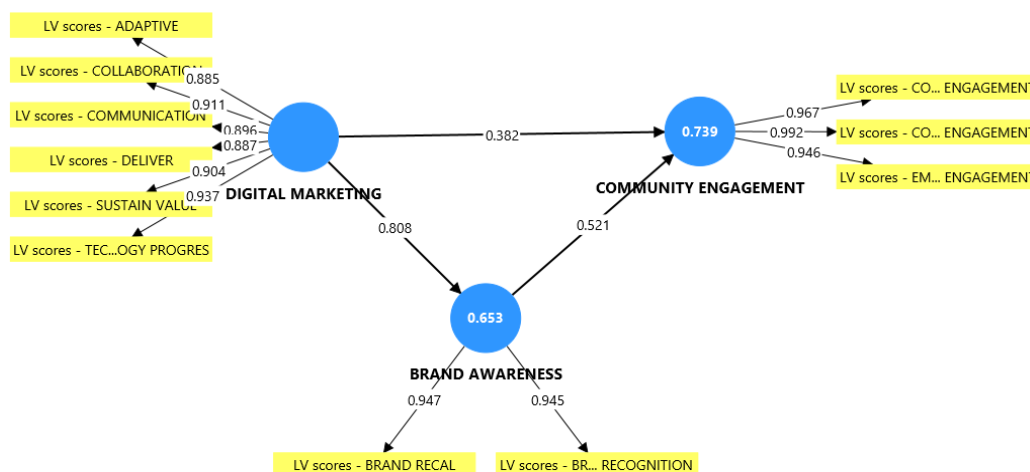


Figure 2. Results of the initial smartPLS 4.1.1 algorithm

Table 2. Results of the Second Order smartPLS 4.1.1 Algorithm

Second-order construct testing was conducted by analyzing the loading factor values of each dimension. The results show that all dimensions are valid because the loading factors are above the standard of 0.70. Digital marketing consists of five dimensions: adaptive (0.985), collaboration (0.911), communication (0.986), deliver (0.904), and sustain value (0.937). community engagement has three dimensions with high loadings: Cognitive Engagement, Community Engagement, and Emotional Engagement. Brand Awareness is formed by two dimensions, namely brand recall (0.947) and brand recognition (0.945). With a loading factor ranging from 0.904 to 0.992, all dimensions are proven to be valid and able to represent the construct well. The model also shows good predictive power with an R-square of 65.3% for brand awareness and 73.9% for community engagement.

Table 2. Convergent Validity Test Results

	Outer Loadings
LV Scores - Adaptive <- Digital Marketing	0,885
LV Scores - Brand Recall - Brand Awareness	0,947

LV Scores - Brand Recognition <- Brand Awareness	0,945
LV Scores - Cognitive Engagement <- Community Engagement	0,967
LV Scores - Collaboration <- Digital Marketing	0,911
LV Scores - Communication <- Digital Marketing	0,896
LV Scores Community Engagement <- Community Engagement	0,992
LV Scores - Deliver <- Digital Marketing	0,887
LV Scores Emotional Engagement <- Community Engagement	0,946
LV Scores - Sustain Value <- Digital Marketing	0,904
LV Scores - Technology Process <- Digital Marketing	0,937

Sources: Processed by authors (using SMART PLS 4.1.1)

The table above indicates that all indicators of this study variable are genuine, since the Outer Loadings value for each indicator exceeds 0.7. Consequently, the questionnaire items are applicable for subsequent analysis.

#### **Discriminant Validity**

Next, a discriminant validity test was conducted by comparing each correlation between variables against its AVE root. The model was deemed to achieve discriminant validity if the square root of the AVE for each variable exceeded its correlation with other variables. Table 4.3 illustrates the results of the Fornell-Larcker Criterion from SmartPLS 4.1.1

**Table 3. Discriminant Validity Test Results (Fornell-Larcker Criteria)**

	<b>Brand Awareness</b>	<b>Community Engagement</b>	<b>Digital Marketing</b>
Brand Awareness	0,946		
Community Engagement	0,83	0,968	
Digital Marketing	0,808	0,803	0,904

Sources: Processed by authors (using SMART PLS 4.1.1)

Table 3. shows that for each construct, the square root of the average variance extracted is larger than the correlation between the model's constructs. According to the above assertion, the calculated model's constructs satisfy the requirements for discriminant validity. Here are the outcomes of the Cross Loading test:

**Table 4. Cross Loading Results**

	<b>Brand Awareness</b>	<b>Community Engagement</b>	<b>Digital Marketing</b>
LV Scores -Adaptive	0,696	0,716	0,885
LV Scores - Brand Recall	0,947	0,792	0,776
LV Scores - Brand Recognition	0,945	0,778	0,753
LV Scores - Cognitive Engagement	0,816	0,967	0,779
LV Scores - Collaboration	0,685	0,692	0,911
LV Scores - Communication	0,700	0,693	0,896
LV Scores - Community Engagement	0,864	0,992	0,826
LV Scores - Deliver	0,727	0,722	0,887
LV Scores - Emotional Engagement	0,721	0,946	0,722
LV Scores - Sustain Value	0,821	0,805	0,904
LV Scores - Technology Process	0,737	0,711	0,937

Sources: Processed by authors (using SMART PLS 4.1.1)

#### **HTMT (Heterotrait-Monotrait Ratio)**



**Table 5.** HTMT results

	Heterotrait-Monotrait Ratio (HTMT)
Community Engagement <-> Brand Awareness	0,895
Digital Marketing <-> Brand Awareness	0,877
Digital Marketing <-> Community Engagement	0,831

*Sources: Processed by authors (using SMART PLS 4.1.1)*

Meanwhile, the Heterotrait-Monotrait Ratio (HTMT) value, which was below 0.90 as shown by, further supported the achievement of a satisfactory level of discriminant validity. Every single HTMT result was below 0.90.

#### Average Variance Extracted (AVE)

After taking the error level into account, the AVE value attempts to quantify the amount of variation in a build component's indications. Composite reliability testing is less important than AVE testing. We propose an AVE value of at least 0.50. In Table 4.6, you can see the AVE results that SmartPLS 4.1.1 produced.

**Table 6.** Results of the Extracted Variance Mean (AVE) Test

	Average Variance Extracted (AVE)
Brand Awareness	0,895
Community Engagement	0,938
Digital Marketing	0,816

*Sources: Processed by authors (using SMART PLS 4.1.1)*

The AVE value is more than 0.50, as shown in Table 4.6, hence all indicators have fulfilled the requirements and may be reliable enough to go on to the next round of testing.

#### Composite Reliability dan Cronbach's Alpha

The final stage of the outer model evaluation involves testing reliability using Composite Reliability and Cronbach's Alpha. The reliability criteria are met when both indicators for each latent variable reach a value of  $> 0.70$ , which indicates the consistency of the research instrument.

In order to determine how trustworthy research instruments are, two methods are used: Cronbach's Alpha and Composite Reliability. If the Composite Reliability and Cronbach's Alpha values of all latent variables are more than 0.70, it indicates that the concept has strong reliability or that the questionnaire employed in this study is consistent.

**Table 7.** Results of the Composite Reliability dan Cronbach's Alpha

	Cronbach's Alpha	Composite Reliability (rho-a)	Composite Reliability (rho-c)
Brand Awareness	0,883	0,883	0,945
Community Engagement	0,967	0,974	0,978
Digital Marketing	0,955	0,957	0,964

*Sources: Processed by authors (using SMART PLS 4.1.1)*

The results of the Composite Reliability and Cronbach's Alpha tests are excellent, as shown in Table 4.7. This means that all latent variables are trustworthy, since all of their values have Composite Reliability and Cronbach's Alpha values  $> 0.70$ . Therefore, it is safe to say that the study questionnaire was consistent and dependable.

#### Inner Model

When the outer model requirements are satisfied, testing can go on to the inner model, a theoretically-grounded structural model for examining the impact of exogenous variables on endogenous ones. The following procedures are followed to conduct the inner model testing:

#### Model Testing

**Table 8.** Model Results Goodness of Fit

	Saturated Model	Estimated Model
SRMR	0,047	0,047
d_ ULS	0,147	0,147
d_ G	0,421	0,421
Chi_square	213,482	213,482

*Sources: Processed by authors (using SMART PLS 4.1.1)*

The standardized root mean square residual (SRMR) is an absolute measure of model fit, with values less than 0.08 indicative of satisfactory fit and values below 0.05 indicating excellent fit (Pavlov et al., 2021). Accordingly, the SRMR index alone provides sufficient evidence that the research model satisfactorily fits the empirical data, as the discrepancy between the observed and anticipated correlation matrices is minimal.

### The R-square value (R<sup>2</sup>)

Looking at the R-square value, which is the *Goodness of Fit Model*

**Table 9.** Results of the R-Square Test (R<sup>2</sup>)

Variables	R-square
Brand Awareness	0,653
Community Engagement	0,739

*Sources: Processed by authors (using SMART PLS 4.1.1)*

Brand awareness has an R-squared value of 0.653. This indicates that the model's predictor variables account for 65.3% of the variance in brand awareness, with the remaining 34.7% being explained by characteristics that are not included in this study. The high explanatory power of the model and the substantial impact of the independent variables on brand awareness are demonstrated by this number.

The R-squared value for the community engagement variable is 0.739. This means that the model's predictor variables account for 73.9% of the variance in community engagement, with other factors accounting for the remaining 26.1%. This value indicates that the model offers a strong explanatory basis and demonstrates a good connection between the variables.

### f<sup>2</sup> Effect Size

One method to assess the impact of each predictor variable on the endogenous variable is by looking at the f<sup>2</sup> (effect size). This metric measures the degree to which removing a predictor decreases the R<sup>2</sup> value of the endogenous construct, thereby indicating its contribution to explaining the model (Samartha, 2020):

- If the f-square value is > 0.35, it can be interpreted that the latent predictor variable has a strong influence.
- If the f-square value is 0.15 < f < 0.35, it has a medium effect.
- If the f-square value is 0.02 < f < 0.15, it has a weak effect.

Below are the results showing the impact of each exogenous variable on the endogenous variables:

**Table 10.** Test Results f<sup>2</sup> Effect Size

	f-square
Brand Awareness -> Community Engagement	0,36
Digital Marketing -> Brand Awareness	1,886
Digital Marketing -> Community Engagement	0,139

*Sources: Processed by authors (using SMART PLS 4.1.1)*

The f-square value for the connection between brand awareness and community engagement is 0.360. According to Lorah criteria, a value > indicates a large effect (Lorah, 2018). Thus, this value indicates that brand awareness has a strong influence on the formation of community engagement.

Digital marketing -> brand awareness, with an f-squared value of 1.886 indicating a significant association between the two. Based on the criteria, this score is significantly higher than 0.35, indicating that digital marketing

has a very strong effect on brand awareness. This proves that raising Brand Awareness is a direct result of ramping up digital marketing efforts.

Digital marketing -> community engagement, the f-square value for the relationship between digital marketing and community engagement is 0.139. Based on Lorah criteria, a value of  $0.02 < f < 0.15$  indicates a small effect, but because the value is close to 0.15, the effect can be categorized as low to moderate (Lorah, 2018). This means that digital marketing has a fairly significant but not dominant influence on increasing community engagement.

#### Q-square (Goodness of Fit Model)

Using the predictive relevance value, we test the goodness-of-fit model structure on the inner model. The model's predictive usefulness is shown by a Q-square value larger than zero. This study's endogenous variables can have their R-squared values determined in the following way:

**Table 11.** Results of the Q-Square Test

	SSO	SSE	$Q^2$ (=1-SSE/SSO)
Brand Awareness	1.000	0,35	0,65
Community Engagement	1.000	0,366	0,634

*Sources: Processed by authors (using SMART PLS 4.1.1)*

This structural model can accurately forecast its endogenous variables, according to the predictive relevance (Q-Square) computation. Both the brand awareness and community engagement variables have Q-Square values of 0.650 and 0.634, respectively. The tested model is predictively relevant as both Q-Square values are bigger than zero. What this indicates is that the model's independent variables do a decent job of predicting the dependent variables.

#### Hypothesis Testing Results (Path Coefficient Estimates)

A statistically significant route effect estimate is required in the structural model. The bootstrapping process can be used to acquire this significance value. Using the bootstrapping report technique, one may find important hypotheses by examining the values of the parameter coefficients and the significant t-statistics. The study adopted the t-table at alpha 0.05 ( $5\% = 1.96$ ) in order to ascertain the significance or lack thereof of a result.

**Table 12.** Hypothesis Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistic (O/STDEV)
Brand Awareness -> Community Engagement	0,521	0,51	0,108	4,829
Digital Marketing -> Brand Awareness	0,808	0,808	0,058	14,019
Digital Marketing -> Community Engagement	0,382	0,392	0,107	3,569

*Sources: Processed by authors (using SMART PLS 4.1.1)*

The following are the results of hypothesis testing on the structural model:

Digital marketing significantly and positively affects brand awareness, according to the first hypothesis test. The fact that the T-statistic is 4.829 and the path coefficient is 0.521 (Original Sample) strongly suggests this. The null hypothesis is rejected since the p-value (0.000) is lower than the 0.05 significance threshold and the T-statistic (4.829) is higher than the T-table (1.96).

Thus, the perceived value of brand awareness by customers rises in direct proportion to the efficacy of digital marketing. The second hypothesis test found that there is a positive and statistically significant relationship between digital marketing and community engagement. A positive path coefficient of 0.808 and a T-statistic of 14.019 support this conclusion.

There is a p-value (less than 0.05) and the T-statistic is greater than 1.96. Therefore, the premise is correct, and the potential consumer of this brand will become fully aware of community engagement as a result of increased digital marketing.

The third hypothesis test found that this brand's product community engagement is positively and significantly impacted by brand awareness. As the path coefficient has the most significant positive impact (0.382) when compared to other hypotheses (T table value 1.96 and P value 0.000) < 0.05, we may accept this hypothesis. So, in the realm of community engagement, the most important things are the audience's positive experience and the perceived value of Brand Awareness.

The outcomes of testing the hypothesis that X indirectly influences Y through Z are as follows:

**Table 13.** Results of Testing the Hypothesis of Indirect X on Y through Z

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (O/STDEV)
Digital Marketing -> Brand Awareness -> Community Engagement	0,421	0,413	0,095	4,412

*Sources: Processed by authors (using SMART PLS 4.1.1)*

Findings indicate that digital marketing has a favorable and statistically significant indirect effect on community engagement via brand awareness. An indirect route coefficient value of 0.421 (original sample) indicates this. The bootstrapping approach yielded a T-statistic of 4.412 (higher than 1.96) and a P-value of 0.000 (less than 0.05) in the significance test findings. Therefore, we may infer that the brand awareness variable has been empirically demonstrated to have an effective mediating role in this association. This indicates that the impact of marketing utilization on community engagement, through brand awareness has a significant influence to community engagement.

## DISCUSSION

The results of the study indicate that all multiple construct indicators in this study are both valid and reliable with loading factor values above 0.70 and composite values higher than 0.90, respectively. The presentation of constructs in this study depends on the measurement model used, whether reflective or formative. These results are consistent with the concepts presented by Clark and Watson, emphasizing that the selection of a measurement model plays a crucial role in the operationalization and validity of constructs (Clark & Watson, 2019). who reported that the reliability of instruments is strong when they are stable and can adequately explain variable relationships.

From the structural results of the inner model, the study finds that in terms of brand awareness and community interaction, digital marketing has a positive significant effect on it, and so has brand awareness. Two indicators: 0.739 and 0.653 for brand awareness and community engagement respectively, which means the research model possesses of very nice predictive power according to the values of R-square for each indicator. The critical f-square (1.886 for brand awareness indicates that the contribution of the digital marketing strategies in determining brand awareness is dominant.

The results of this study reinforce Kannan and Li's argument that digital marketing is a dynamic process that facilitates businesses in developing, communicating, and maintaining shared value with customers (Kannan, 2017). Furthermore, social media users ultimately perceive digital marketing as helping them shape their product's brand image. These results are in agreement with those reported by Dwivedi et al. and Appel et al. thereby contradicting an opposing perspective towards digital platforms as solely enabling social relationships but not fostering community involvement (Appel et al., 2020; Dwivedi et al., 2021).

The effect of brand awareness on consumer community engagement is also statistically significant ( $t = 3.569$ ;  $p < 0.05$ ), indicating that the stronger brand recognition enhances the degree consumers perceive as being a member of a community. Brand awareness, for its part, affects how products are perceived and reinforces brand loyalty (Marshall, 2022). suggests that brand awareness enhances consumer's perceptions towards a product in terms of its worth and credibility, in order to evoke the feelings such as pride and emotional attachment. The conclusion obtained

from this study is that real customers are involved with the community and love sharing their stories, attending car meets, and growing up with the brand as part of a ever stronger family.

Also, the indirect effect was 0.421 with t-value of 4.412 ( $p > 0.05$ ) which identifies brand awareness as a mediator between digital marketing and community involvement. Therefore, it is logical that the stronger the influence of a brand's visibility, the lower the entry barriers faced in terms of community engagement. This finding corroborates the research of Alkhasoneh et al. and Alfraihat et al., which demonstrated that brand recognition serves as an emotional bridge between digital service usage and community participation (AlFraihat et al., 2025; Alkhasoneh et al., 2025).

Therefore, the success of digital marketing implementation depends not only on appropriate content but also on creating the right brand-building touch. There is a clear relationship between online promotion, brand recognition, and community engagement. This research complements the results of previous similar research on digital marketing in the Indonesian automotive community.

## CONCLUSION

Based on the results of the study, the following conclusions can be drawn. First, there is strong support for the influence of digital marketing on brand awareness, with a path coefficient of 0.808 and a T-statistic of 14.019. This implies that digital marketing, through adaptive content creation, community collaboration, and ongoing communication, can increase product brand awareness among consumers in the automotive community using the TikTok platform. This research also reinforces the importance of brand awareness as a mediator, strengthening the role of community engagement. These findings highlight the potential for digital marketing interventions to influence brand perception and increase community engagement among automotive product users. Furthermore, when digital marketing content entertains the audience, consumers become more familiar with the brand, resulting in improved recall and recognition.

Second, community engagement is also positively influenced by digital marketing (path coefficient = 0.382; T-statistic = 3.569). It further shows that interactive and technology-based marketing activities not only enhance the brand's presence but also increase consumers' cognitive, affective, and behavioral interaction in grassroots community. Digital campaigns including supporting user-generated content, transparent online communication and consistent after sales support encourage members of the driving community to participate and contribute actively. This underlines the vital role of online platforms for reinforcing community.

Third, brand awareness also positively and significantly affects community engagement (a path coefficient = 0.521, T=4.829), which is one of the strongest paths in this model. This means that persons with high brand awareness, as having good memory recall and capable of easy recognition of the brand symbol is more likely to feel pridefully and emotional loyalty, cocognitively invest efforts in talking about brands and actively participate in the community.

### 2.1 Hypothesis regarding brand identity

These findings suggest that strong brand identity leads to more connectedness and community participation in digital brand communities.

Furthermore, it is also confirmed that the brand awareness does mediate this path draw with an indirect path coefficient 0.421 of T-value statistically significant at 4.412 Figure (1) Model (13). This is evidence that digital marketing does affect community engagement directly and indirectly through improving on brand awareness. Meaning, they will now bond on a more emotional and reactive level with their favorite brands and service providers: your business if you so desire.

To conclude, the paper finds that digital marketing and brand awareness are key elements in promoting community engagement among Beebot Automotive users on TikTok. The brands that successfully deliver adaptive, collaborative and technology-based digital strategies effectively increase both awareness and engagement – transforming passive viewers into active brand advocates. With consistent value delivery and engaging content that reinforces brand identity, brands are able to better build emotional connections as well as gain loyalty within the online automotive community. That highlights the point I make about the value of bringing digital innovation, community focus (customer centricity) and brand continuity to today's marketing.

## CONFESSION

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