



INTERVENING CONSUMER BEHAVIOR ON THE IMPORTANCE OF INFLUENCE DIGITAL MARKETING-PRODUCT UPGRADING AND VIRALITY TOWARDS SUSTAINABILITY OF MSMEs IN THE SOCIETY 5.0 ERA

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ABSTRACT

This study examines how digital marketing, product enhancement, and virality affect the sustainability of MSMEs, with consumer behavior as an intervening factor. The research employed statistical methods on a sample of 160 MSMEs from the East Java MSME population. Data analysis was conducted using path analysis techniques, preceded by classical assumption tests. The findings indicate a significant direct impact of digital marketing, product enhancement, and virality on consumer behavior and MSMEs' sustainability. Additionally, consumer behavior was found to have a significant direct influence on the sustainability of MSMEs. Furthermore, the research reveals a significant indirect effect of digital marketing, product enhancement, and virality on the sustainability of MSMEs through the mediation of consumer behavior. The conclusion obtained means that digital marketing, product upgrading and virality have an influence on consumer behavior. These four things influence the sustainability of MSMEs.

Keywords: Digital Marketing, Product Upgrading, Virality, Consumer Behavior, Sustainability of MSMEs

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ABSTRAK

Penelitian ini menganalisa pengaruh digital marketing, upgrading produk dan viralitas terhadap sustainability UMKM melalui perilaku konsumen sebagai intervening. Metode penelitian ini dilakukan dengan metode statistik terhadap sample sebanyak 160 UMKM dari populasi UMKM di Jawa Timur. Analisis data dilakukan dengan teknik path analysis yang didahului dengan uji asumsi klasik. Hasil penelitian menunjukkan pengaruh langsung signifikan digital marketing, upgrading produk dan viralitas terhadap perilaku konsumen dan sustainability UMKM. Serta pengaruh langsung signifikan perilaku konsumen terhadap sustainability UMKM. Selain itu penelitian ini juga menunjukkan pengaruh signifikan secara tidak langsung variable digital marketing, upgrading produk, dan viralitas terhadap sustainability UMKM melalui intervening perilaku konsumen. Kesimpulan yang diperoleh artinya bahwa digital marketing, upgrading produk dan viralitas memiliki



pengaruh terhadap perilaku konsumen yang menjadi keempat hal tersebut berpengaruh terhadap keberlangsungan UMKM.

Kata Kunci: Digital Marketing, Upgrading Produk, Viralitas, Behaviour Konsumen, Sustainability UMKM

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Introduction

Changes and updates in the Society 5.0 Era make business people face challenges, but they also have extraordinary positive impacts. Business people are greatly helped by advances in technology and information systems to run their businesses. Business actors, especially micro, small and medium businesses, must take advantage of civilization's progress to realize the sustainability of their businesses. Apart from demands to follow advances in technology and digitalization, MSME players are required to follow increasingly modern market or consumer demands.

Market demand is influenced by changes in consumer behavior following the progress of civilization or era. Several points that are requests for consumer behavior are regarding businesses that have implemented digital marketing mechanisms, upgrading the latest products, and virality of branding of a business product. These three things greatly influence how a consumer responds to a product. Of course, this affects how the existence of the business or venture continues.

Mehralian (2022) said that the sustainability of a business in the current era of digitalization requires following the flow of technological progress. Business people should apply technological advances in their business processes and activities. Apart from technological advances that must be followed by implementation, market demands for consumer behavior must also be studied and followed by business people. These two things really influence the sales of their products as they affect the profitability and sustainability of their business.

Yunus et al. (2022) argue, in line with Mehralian's research, that digital marketing and product upgrading significantly influence consumer purchasing decisions. Their study highlights viral marketing as a key component of digital marketing, capable of generating consumer interest in products. Additionally, consumers are particularly drawn to product upgrades that involve innovations in packaging and taste, as indicated in their research.

Awawdeh et al. (2022) reinforce this statement with similar findings. They note that consumers today are heavily influenced by the virality of product branding. Their research suggests that consumers are more likely to trust products that demonstrate high virality on social media. This phenomenon indicates that product brand virality can greatly impact consumer purchasing decisions, leading to a substantial increase in product sales.

In contrast, Habib et al. (2022) disagree with the aforementioned research. Their findings indicate that keeping up with contemporary trends may not be essential in the business world. This conclusion is supported by qualitative evidence gathered from MSMEs in North Sumatra. Habib argues that the most critical factor for business development is the ability of entrepreneurs to foster creativity and innovation in their products, ensuring they resonate with the wider community. They also highlight that in developing countries, such as Indonesia, there may not be a pressing need for modern digital marketing and product upgrading strategies, given the current socio-economic context, which varies significantly across regions like Java and Sumatra.

Hasan & Elviana (2023) supports Habib et al.'s perspective, asserting that pressuring business actors, especially MSMEs, to conform to contemporary trends may lead to confusion and challenges in developing countries. He emphasizes that not all communities have equal access to human resources and economic opportunities. Consequently, Golan argues that

digital marketing and product branding may not hold significant relevance for these business actors, particularly as many regions are still transitioning away from an all-digital approach to technology and modernization.

The identified diverse research gaps motivate further exploration of the impact of digital marketing, product upgrading, and virality on MSMEs, particularly considering the varying consumer behaviors in East Java. This investigation will involve analyzing statistical databases to formulate new arguments based on robust field data. Furthermore, researchers will review relevant literature and prior studies to enrich the discussion and findings of this research.

Literature Review

Previous Research

The research conducted by [Dewi et al. \(2022\)](#) aims to analyze the impact of digital marketing and customer relationship marketing on brand image development at a hotel in Bali. Additionally, this study explores how brand image influences tourists' decisions in choosing a hotel and the impact of digital marketing on these decisions, with brand image acting as a mediating variable. The findings indicate that digital marketing significantly contributes to brand image but does not directly enhance tourists' decisions. Conversely, brand image has a positive and significant impact on tourists' choices. Furthermore, customer relationship marketing plays a role in shaping brand image, which ultimately influences tourists' decisions. However, digital marketing does not directly affect tourists' decisions through brand image, suggesting that brand image does not fully mediate the relationship between digital marketing and tourists' decision-making.

The study by [susanti et al. \(2022\)](#) focuses on how entrepreneurship and digital marketing impact customer loyalty, with customer satisfaction serving as a mediating variable. This study was conducted on a single embroidery MSME in Bukittinggi City, limiting the generalizability of its conclusions. It highlights the correlation between digital and entrepreneurial marketing strategies and customer loyalty, emphasizing the role of customer satisfaction as a mediating factor.

Meanwhile, research by [Mohammad Mehralian \(2022\)](#) investigates the influence of the Internet of Things (IoT) on marketing performance by considering the mediating role of entrepreneurial orientation. The findings show that IoT significantly contributes to improving both marketing performance and entrepreneurial orientation. This study provides deeper insights for business management and strategy professionals into the relationship between IoT and marketing performance.

Similarly, a study by [Mehralian & Khazaee \(2022\)](#) examines the effect of IoT on marketing performance, considering entrepreneurial orientation as a mediator. The results confirm that IoT not only enhances entrepreneurial orientation but also significantly impacts marketing performance. This study offers a broader perspective for professionals on how IoT implementation can enhance marketing strategy effectiveness.

Additionally, research by [Amlana et al. \(2022\)](#) focuses on how promotions and digital marketing influence consumer purchasing decisions on Shopee e-commerce, with purchase interest as a mediating variable. The findings indicate that digital marketing and promotions have a significant positive influence on consumer purchase intention. However, the digital marketing variable does not directly affect purchase decisions, whereas promotions have a positive impact on purchasing decisions.

A study by [Yunus et al. \(2022\)](#) demonstrates a strong positive correlation between Customer Relationship Management (CRM), digital marketing, and online trust. Furthermore, a significant relationship exists between online purchase intention and CRM and digital

marketing. However, online trust does not strongly influence customer purchase intention. The study also found that in Banda Aceh, Indonesia, CRM serves as a mediator in the relationship between digital marketing and online trust concerning e-commerce consumers' purchase intentions. These findings highlight the crucial role of CRM in determining consumer purchasing decisions in the e-commerce landscape.

Rosandy, K. H. R., & Fahmi, S. (2022) explored the relationship between competitive advantage, marketing performance, and digital marketing among 50 SMEs. The results revealed that digital marketing and competitive advantage significantly impact marketing effectiveness. Competitive advantage plays a crucial role in enhancing marketing performance, where the combined influence of all three variables exceeds their direct effects.

Consumer Behavior in the Society 5.0 Era and Behavioral Economics

In the context of Society 5.0, where smart technology and big data are integrated into everyday life, consumer behavior has undergone significant changes. Consumers today are increasingly influenced by personalized digital experiences, AI-driven recommendations, and real-time access to information. Technologies such as IoT, artificial intelligence (AI), and data analytics enable businesses to understand consumer preferences more accurately, creating more effective marketing strategies.

From a behavioral economics perspective, consumer decision-making is no longer entirely rational, as assumed in classical economic theories. Emotional, cognitive, and social factors significantly influence purchasing behavior. For instance, cognitive biases such as the anchoring effect (reliance on initial information in decision-making) or loss aversion (a tendency to fear losses more than to seek gains) impact how consumers respond to digital marketing strategies.

Research in behavioral economics also suggests that psychological factors such as social proof (decision-making based on reviews or recommendations from others), heuristics (quick decision-making based on experience), and nudging (subtle influences in purchasing decisions) are becoming increasingly relevant in digital marketing. In the Society 5.0 era, utilizing these concepts in marketing can enhance brand engagement and customer loyalty.

In relation to MSME sustainability, consumer behavior serves as a crucial intervening factor in understanding the impact of digital marketing, product upgrading, and virality on business continuity. Digital marketing is not only a promotional tool but also a means to build long-term relationships with customers. The success of MSMEs in Society 5.0 largely depends on how effectively they leverage customer data, personalize services, and utilize digital technology to enhance engagement and customer retention. Product improvements and the right marketing strategies can strengthen MSMEs' competitiveness in an increasingly complex business ecosystem. By incorporating these intervening factors, MSMEs can achieve greater sustainability in the digital era.

Business Sustainability

The notion of sustainability pertains to how businesses conduct their operations while considering the long-term viability of their resource base. Elkington (1997) established the triple bottom line concept, which is included in sustainability. Profit, People, and Planet are the three Ps that are the center of this notion. According to this idea, businesses must actively contribute to protecting the environment (planet) to ensure the sustainability of resources, in addition to their primary priority, profit. They also need to consider the welfare of the local community (people). In order to ensure the long-term viability of the business and generate sustainable earnings, the corporation must maintain a sustainable environment and resources.

A sustainable firm must, in general, be able to run its operations using the three components known as the 3Ps, which are as follows: Every business institution must have

profit as its primary objective or the potential to generate profits and sustainability from the business. People (Society): A business has ties to the local community in addition to pursuing profit. It is crucial to keep in mind that a sustainable business benefits society as a whole in addition to its owners and employees. It is impossible to separate the planet (environment), society, and the environment since they are all crucial to the continuity of commercial operations. Running a business is one of the continuing human activities that is connected to the environment. (Consumer behavior), the behaviors of people, groups, or organizations concerning the acquisition, utilization, and disposal of goods and services are referred to as consumer behavior. This includes how their emotions, attitudes, and preferences can influence purchase behavior. In order to identify their target market and learn how to provide customers and consumers with more appealing product and service offers, firms typically look into consumer behavior research.

Studying consumer behavior is very important for businesses because it can help marketing and business teams understand what things can influence consumer purchasing decisions. By understanding how consumers behave when deciding on a product, businesses can fill market gaps and identify what products consumers need. Apart from that, studying consumer behavior can also help marketers decide how to present their products so that they can produce maximum impact on consumers. In short, consumer behavior studies are very important for businesses because they are the secret key to reaching and engaging consumers and turning them into loyal buyers.

Studies on consumer behavior include:

1. How customers feel and think about alternatives (brands, products, services, and retailers) is one area of study on consumer behavior.
2. How consumers weigh the pros and downsides of different alternative items.
3. How customers behave when they shop and conduct research.
4. How customer behavior is influenced by their environment (friends, society, media).
5. How to tweak and enhance marketing tactics to better influence customers.

This consideration is influenced by three factors, including:

1. Individual factors: A person's beliefs and passions. Demographic variables, including age, gender, culture, occupation, background, and so on have an impact on this.
2. Psychological factors: People would react differently to a given marketing effort based on their views and perceptions. A person's comprehension of information, sense of needs, and attitudes are all significant factors.
3. Social factors: Age groupings, social media impact, family and friends, etc. These variables also consist of education level, income, and social class.

Types of Consumer Behavior:

1. Intricate purchasing patterns. This type of behavior is typically found when consumers acquire things that are pricey and rarely purchased. They are deeply engaged in the buying process, and before making a large-value purchase, customers will conduct research. Purchasing a home or vehicle is one instance of complex purchasing behavior.
2. Purchases that lessen cognitive dissonance. Although they are actively participating in the shopping process, consumers find it challenging to distinguish different brands. "Dissonance" might happen when customers fear they will second-guess their decision. Suppose you purchase a smartphone or other technological device. Based on the features and pricing of each product, you will select one, but once you have bought it, you will want proof that you made the proper decision.
3. Purchase patterns This sort of purchase is defined by the consumer having little influence in picking the product category or brand. Suppose you are out grocery shopping. You visit the store and purchase your preferred brand of bread. You demonstrate a pattern of purchase patterns, not merely strong brand devotion.

4. Actions to promote diversity In this instance, buyers purchase a different product in search of a different product variety rather than because they were unhappy with the last product. It is comparable to trying a new aroma of body soap.

Triple Bottom Line

TBL was first presented by Elkington in 1994. [Elkington \(1998\)](#) defined TBL as social fairness, environmental quality, and economic prosperity in his book *Cannibals with Forks*. Sustainability is “the entire set of values, issues, and processes that companies must address to minimize any harm resulting from their activities and to create economic, social, and environmental value,” as seen in a quotation from [Mitchell et al. \(2008\)](#). A more specific definition might be a system for evaluating and disclosing business success in relation to social, environmental, and economic factors.

TBL can be defined as three pillars of performance measurement, namely from an economic or financial, social, and environmental perspective, based on the definitions given above. The TBL concept, as a performance indicator, is frequently split into two main categories: financial and social. Three categories are typically used by businesses to assess their financial performance: profitability in absolute terms, return on equity or return on assets, and a variety of accounting metrics with a score ranging from 0 to 10. Corporate Social Responsibility (CSR) is the term used to describe performance measurement that takes into account social and environmental factors.

Digital Marketing Strategy

Strategy for Digital Marketing The Greek term for “strategy” ([Tjiptono, 2006](#)) indicates “the art or science of becoming a general.” A plan for the deployment and application of military power in specific regions to accomplish particular objectives can also be understood as a form of strategy. Although the term “strategy” was originally employed in reference to war and the armed forces, it has now expanded to include usage in the corporate and business spheres. [Fred R. David \(2011\)](#) asserts that strategy is a tool with long-term objectives for the business. Business strategies include regional expansion, diversification, acquisition, product development, market penetration, divestment, liquidation and joint ventures.

Based on the understanding of these experts, it can be concluded that digital marketing is a marketing activity that utilizes the internet and information technology to reach target consumers, expand markets and increase sales. Through digital marketing, consumers can more easily obtain product information by surfing in cyberspace ([Krisnawati et al., 2019](#)). Digital marketing is known to have a positive impact on sales volume ([Febriyantor & Arisandi., 2018](#)).

According to ([Andi Gunawan Ratu Chakti, 2019](#)) digital marketing consists of several types or tools, such as:

- a. Search Engine Optimization (SEO)
- b. Search Engine Marketing (SEM)
- c. Social Media Marketing (SMM)
- d. Content Marketing
- e. Email Marketing
- f. Online Advertising
- g. Landing Page Marketing
- h. Smartphone Audience Marketing
- i. Mobile Marketing
- j. Affiliate Marketing
- k. Viral Marketing

Product Upgrading

Upgrading is an essential activity aimed at improving quality, knowledge, and socio-economic understanding. Essentially, to upgrade means to enhance or elevate something to a higher standard. The goal is to add value or update existing features, resulting in an overall improvement. Change is necessary for progress, and this applies not only to individuals but also to products. Upgrading products is closely linked to quality.

According to [Tjiptono and Chandra \(2017\)](#) and [Khusuma and Utomo \(2021\)](#), product quality consists of several dimensions:

1. Performance: The fundamental characteristics of a product, such as delivery speed and cleanliness.
2. Reliability: The likelihood of a product failing is minimal.
3. Conformity: The extent to which a product meets established standards, including on-time delivery.
4. Durability: The product's capability to maintain quality during regular use.
5. Aesthetics: The visual appeal of the product, which can be subjectively evaluated.
6. Perceived Quality: The quality is assessed based on the seller's reputation.

Business professionals must actively engage in evaluating the products and services they offer to consumers. This is vital for ensuring their offerings remain competitive in a constantly evolving market. As time progresses, new competitors will continually emerge, often bringing more modern products that appeal to contemporary consumers. Consequently, regular evaluation and upgrading of products, whether goods or services, are necessary to keep up with these changes.

Virality

Virality is a phrase, generally known as “going viral”, that refers to a new video, tool, application, material, product, software program, game, or other online-based items that generate up to hundreds or millions of views from individuals utilizing it. The item or service. Whether intentional or not, a brand's social media virality can raise brand exposure. Social media users can communicate with one another and express their thoughts, and depending on each user's point of view, this might result in a positive or negative brand image. As a result, it's critical to consider how this information is packaged to ensure that users of social media can easily understand the message.

Apart from that, the maximum virality of a brand can simultaneously apply promotional techniques through soft selling, where social media users will be curious and then find out more about the brand and ultimately be moved to buy it. So you can reduce promotional costs which usually cost the most. This can be an opportunity for brands to create a continuation strategy for the virality that occurs and lead to increased sales.

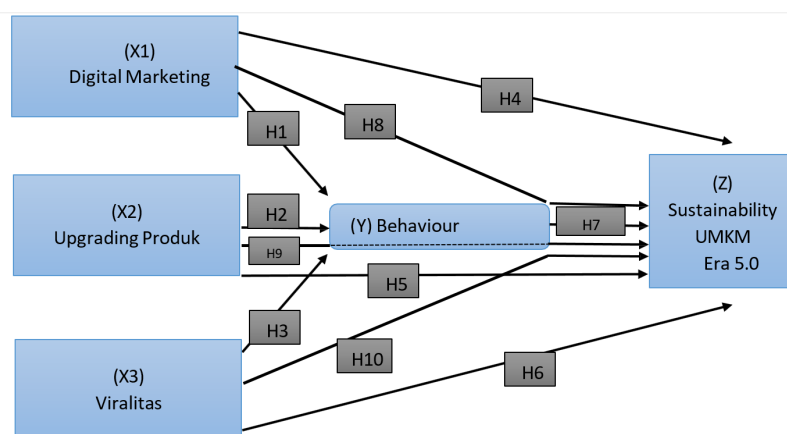


Figure 1: Conceptual Framework

- Hypothesis 1 : Digital marketing is expected to have a significant and positive impact on consumer behavior.
- Hypothesis 2 : Product upgrades are anticipated to positively and substantially influence consumer behavior.
- Hypothesis 3 : Virality is presumed to have a meaningful and positive effect on consumer behavior.
- Hypothesis 4 : Digital marketing is projected to contribute positively and significantly to the sustainability of MSMEs.
- Hypothesis 5 : Product upgrading is expected to play a favorable and substantial role in enhancing MSME sustainability.
- Hypothesis 6 : Virality is believed to positively and significantly influence the sustainability of MSMEs.
- Hypothesis 7 : Consumer behavior is expected to be a key factor that significantly affects the sustainability of MSMEs.
- Hypothesis 8 : Digital marketing is hypothesized to impact MSME sustainability through the mediating role of consumer behavior.
- Hypothesis 9 : Product upgrading is proposed to influence MSME sustainability, with consumer behavior serving as a mediating factor.
- Hypothesis 10 : Virality is anticipated to enhance MSME sustainability through its effect on consumer behavior.

Method

This research is part of a study that tests hypotheses. It employs a quantitative approach using a survey method with a questionnaire that has predefined scoring criteria. The target population consists of MSMEs in East Java. The sampling technique used is accidental sampling. According to [Ferdinand \(2014\)](#), the sample size for inferential tests should be adequate, specifically greater than 30 and fewer than 500 respondents; thus, this study involved 160 respondents. Overall, it can be stated that all 160 questionnaires were fully completed and met the necessary requirements. The respondents were MSMEs located in East Java. A selection of cities was made, focusing on those with higher economic turnover compared to other cities or districts in East Java. These cities include Surabaya, Sidoarjo, Gresik, Pasuruan, Mojokerto, Malang, and Batu, representing various generations as follows:

Tabel 1: Profil Pelaku UMKM Jawa Timur

Generation	Amount
Baby Boomers (1946-1964)	35
Generation X (1965-1976)	45
Generation Y / Milenial (1977- 1994)	50
Generation Z (1995-2010)	30
Generation Alpha (2011-2025)	0

The type of data used in this study is primary data, which was collected directly from respondents and has never been processed by another entity before. Primary sources that come from the first party are used by data sources as data sources. Collecting study data begins with producing a research instrument in the form of a questionnaire, which contains statements connected to digital marketing variables, product upgrading variables, consumer behavior variables, and MSME sustainability variables. Following the distribution of the instrument to the respondents MSMEs in East Java path analytic approaches were applied, first accompanied by a traditional assumption test.

Table 2: Research Indicator Variables and Question Items

No.	Operational Variables	Dimensions/Indicators	Question Items
1.	Digital Marketing X1	<ol style="list-style-type: none"> 1. Social media 2. Website 3. Digital advertising 4. Search engine 5. Email marketing 6. Mobile Marketing 7. Amount of Product Sell 8. Use Digital Marketing 	<ol style="list-style-type: none"> 1. Interested in becoming a follower? 2. Interesting website content. 3. Interesting digital marketing content. 4. Easy to find via search engines (Google, Bing, etc.) 5. Interested in subscribing to the newsletter? 6. It is easy to interact using a mobile phone 7. Number of Buyers After Using DM 8. Number of e-commerce and other marketplace users
2.	Upgrading Product X2	<ol style="list-style-type: none"> 1. Product Quality 2. New Product Variant 3. Latest Product Packaging 4. Resilience Product 5. Brand Product Innovation 	<ol style="list-style-type: none"> 1. Improved product quality 2. What are the latest innovations? 3. What is the latest packaging? 4. What variants are provided 5. What kind of improvement in product branding?
3.	Virality X3	<ol style="list-style-type: none"> 1. Content 2. Creativity 3. Influencer 4. Optimize Social Media 5. E-Commerce Activity 	<ol style="list-style-type: none"> 1. What is the creativity of the content created? 2. Do you use influencer services? 3. What social media is used for the business carried out 4. How many marketplaces have been developed and updated according to the latest marketplace system
4.	Consument Behaviour Y	<ol style="list-style-type: none"> 1. Satisfaction 2. Consument 3. Easy of Service 4. Purchase Interest Statistic 5. Attraction Consument 6. New Consument 7. Loyalty 8. Consument 	<ol style="list-style-type: none"> 1. How is consumer satisfaction 2. What is the service and business system provided? 3. How has consumer purchasing interest changed after DM, UP, and VR 4. What changes provide more appeal to consumers 5. What is the increase in new customers after DM, UP, VR 6. What is the consumer's attitude, loyal or not
5.	Sustainability MSME's Z	<ol style="list-style-type: none"> 1. Profitability 2. Environmental Sustainability 3. Acceptence of the surrounding community 4. Stabilisher Profitability Grafic 	<ol style="list-style-type: none"> 1. How will productivity increase after DM, UP, VR 2. What is the influence of DM, UP on environmental sustainability? 3. What are the views and responses of the community around the place of business? 4. Are there any changes to the stability of the profits generated?

Results and Discussion

A traditional assumption test was conducted prior to the data analysis using path analysis. The residuals were determined to be normally distributed (Asymp Sig. 2-tailed > 0.05) according to the normality test performed. The results of the multicollinearity test also met the criteria, indicating no issues with tolerance values exceeding 0.10 and VIF below 10. Additionally, the Glejser test suggested no occurrence of heteroscedasticity, as indicated by a p-value greater than 0.05. Table 3 presents the findings from the traditional assumption testing.

Table 3: Classic Assumption Test Results

Ind	Dep	Normality Sig. 2 Tailed	Multikolinieritas		Heteroskedastisitas
			Tol	VIF	(Glejser / Sig.)
DM	SU	0.873	0.500	2.000	0.080
UP			0.585	1.709	0.457
VR			0.517	1.932	0.616
BK			0.525	1.875	0.528

Table 4: Direct Influence and Indirect Influence

Hioptesis	Koefisien	t	t-tabel	Sig.	Decision	Conclusion
DM → BK	0.483	5.318	1.985	0.000	H1 accepted	Significant
UP → BK	0.288	3.170	1.985	0.002	H2 accepted	Significant
VR → BK	0.238	2.688	1.985	0.008	H3 accepted	Significant
DM → SU	0.189	2.308	1.985	0.023	H4 accepted	Significant
UP → SU	0.475	5.447	1.985	0.000	H5 accepted	Significant
VR → SU	0.229	3.094	1.985	0.001	H6 accepted	Significant
BK → SU	0.136	2.333	1.985	0.019	H7 accepted	Significant
DM → BK → SU	0.324	4.115	1.985	0.003	H8 accepted	Significant
UP → BK → SU	0.288	3.356	1.985	0.009	H9 accepted	Significant
VR → BK → SU	0.215	3.024	1.985	0.018	H10 accepted	Significant

Hypothesis test

Discussion of hypothesis testing. Direct Influence Based on Table 4, the results of path analysis on direct influence can be made into the following equation:

$$Y = 0,483X1 + 0,288X2 + 0,238X3 + e1 \quad (1)$$

$$Z = 0,189X1 + 0,475X2 + 0,229X3 + 0,136Y + e2 \quad (2)$$

The direct influence in this research shows:

Digital marketing has a positive influence on customer behavior, with a coefficient value of 0.483. The t-test results indicated a computed t-value of 5.318, with a t-significance of 0.000. Hypothesis H1 is approved since the t-count (5.318) is greater than the t-table value (1.985) and the t-significance is less than 5% ($0.000 < 0.05$). These findings suggest that consumer behavior among MSMEs is directly and significantly affected by digital marketing in a favorable manner.

Product upgrading also significantly impacts consumer behavior positively, as evidenced by a coefficient value of 0.288. The t-test produced a computed t-value of 3.170, with a t-significance of 0.002. Hypothesis H2 is approved since the t-count (3.170) exceeds the t-table value (1.985), and the t-significance is less than 5% ($0.002 < 0.05$). This indicates that the consumer behavior variable for MSMEs is positively and significantly influenced by product upgrading.

With a coefficient value of 0.238, virality significantly affects customer behavior positively. The t-test for the virality variable yielded a computed t-value of 2.688 and a t-significance of 0.008. Hypothesis H3 is approved as the t-count (2.688) is greater than the t-table value (1.985) and the t-significance is less than 5% ($0.008 < 0.05$). Consequently, this shows that virality significantly and positively impacts MSME consumer behavior.

Digital marketing is also beneficial to the sustainability of MSMEs, with a coefficient value of 0.189. The t-test results showed a computed t-value of 2.308 and a t-significance of 0.023. Hypothesis H4 is approved since the t-count (2.308) exceeds the t-table value (1.985) and the t-significance is below 5% ($0.023 < 0.05$). Thus, digital marketing directly and positively influences the sustainability of MSMEs.

Product upgrading, with a coefficient value of 0.475, plays a significant role in improving MSME sustainability. The t-test results returned a t-value of 5.447 and a t-significance of 0.000. Hypothesis H5 is approved, as the t-count (5.447) is greater than the t-table value (1.985) and the t-significance is less than 5% ($0.000 < 0.05$). This indicates that product upgrading significantly and positively impacts the sustainability of MSMEs.

Virality also contributes positively to MSME sustainability, with a coefficient value of 0.229. The t-test results showed a computed t-value of 3.094 and a t-significance of 0.001. Hypothesis H5 is approved since the t-count (3.094) is greater than the t-table value (1.985) and the t-significance is below 5% ($0.001 < 0.05$). These findings indicate that virality significantly and positively affects the sustainability of MSMEs.

Lastly, consumer behavior has a notable positive influence on MSME sustainability, with a coefficient value of 0.136. The t-test results yielded a computed t-value of 2.333 and a t-significance of 0.019. Hypothesis H5 is approved since the t-count (2.333) exceeds the t-table value (1.985) and the t-significance is less than 5% ($0.019 < 0.05$). Thus, this shows that consumer behavior directly and significantly positively influences the sustainability of MSMEs.

Indirect Influence

There is an indirect influence of digital marketing on the sustainability of micro, small, and medium enterprises (MSMEs), which is mediated by customer behavior, with a coefficient value of 0.324 ($p < 0.000$). Therefore, hypothesis H7 is accepted. Additionally, the research reveals that the indirect impact of product upgrades on the sustainability of MSMEs, mediated by consumer behavior, has a coefficient value of 0.288 ($p < 0.000$), leading to the acceptance of hypothesis H8. Furthermore, the indirect influence of virality on the sustainability of MSMEs, also mediated by customer behavior, has a coefficient value of 0.215 ($p < 0.000$), resulting in the acceptance of hypothesis H10.

Discussion

It is established that digital marketing positively influences consumer behavior in a significant and meaningful way, as indicated by data analysis results. This suggests that when digital marketing is executed effectively, consumer behaviors, such as purchase decisions, enjoyment, and appeal, are more favorably received. Conversely, poor digital marketing strategies can lead to a decline in consumer acceptance and engagement. Numerous studies have demonstrated the positive relationship between digital marketing and consumer behavior ([Susanti et al., 2022](#)).

Consumers are increasingly interested in the methods and sales promotion strategies employed by MSMEs (Micro, Small, and Medium Enterprises) on digital platforms like websites, YouTube, and social media. This interest has been shown to impact consumer behavior significantly. Furthermore, customers can more easily access information about embroidered goods, which contributes to an increase in customer satisfaction—a key aspect of consumer behavior ([Tolstoy et al., 2022](#)).

The findings of the study also indicate that enhancing a product has a favorable and substantial impact on the interests of MSME customers in the era of Society 5.0. This means that as product quality improves, both purchase attractiveness and customer satisfaction increase. On the other hand, consumer behavior also demonstrates that products that have been poorly upgraded result in lower levels of attraction and satisfaction. These findings align with previous research by [Mehralian & Khazaei \(2022\)](#), which highlighted a strong correlation

between product innovation and consumer happiness. By implementing innovative products and effective branding strategies, businesses can enhance consumer satisfaction and pave the way for sustainable corporate growth.

The phenomenon of changing consumer behavior, which is becoming more modern and contemporary, is evident during the era of Society 5.0. Various platforms, including social media, newspapers, and other media outlets, illustrate this shift, showing that consumers are increasingly attracted to products or services with viral branding. This suggests that these products have established branding, are well-known to the public, and have the potential for international expansion. Given the rapid reach of digital marketing over extensive geographic areas, this aligns with the findings of [Rosandy & Fahmi \(2022\)](#), who indicate that the virality of a product significantly impacts consumer behavior.

Furthermore, the study's findings highlight that digital marketing plays a crucial and positive role in the ability of micro, small, and medium enterprises (MSMEs) to thrive. This means that MSMEs are more likely to sustain themselves with improved digital marketing efforts, and vice versa. These conclusions align with previous research conducted by [Mehralian \(2022\)](#), which suggests that digital marketing can enhance customer awareness through targeted marketing efforts ([Tolstoy et al., 2022](#)).

In addition to digital marketing, product upgrades also significantly contribute to the sustainability of MSMEs. The findings imply that as MSMEs improve their products, their sustainability will increase. This is due to customer sensitivity to change and a desire for new experiences, indicating the necessity for continuous and sustainable innovation and creativity.

Virality also plays a critical role in business continuity. Current research supports the idea that today's consumers are particularly interested in viral trends. As [Purwanto \(2022\)](#) notes, people worldwide, especially in Indonesia, gravitate towards what is popular, familiar, or viral; this also applies to brands and products.

The study shows that consumer behavior has a positive and significant impact on the sustainability of micro, small, and medium enterprises (MSMEs). As customer satisfaction and attractiveness—measured by indicators of consumer behavior—increase, the sustainability of these businesses also improves. This finding aligns with earlier research by [Amalana & Nugroho \(2022\)](#) and [Purwanto \(2022\)](#), which concluded that consumer behavior positively influences both customer satisfaction and loyalty. As a result, MSMEs can achieve greater and more consistent sustainability when their customers demonstrate loyalty to their products.

Additionally, this study reveals that consumer behavior partially mediates the indirect relationship between digital marketing, product innovation, and virality with the sustainability of MSMEs. The research clarifies the significant impact digital marketing, product innovation, and virality have on customer demand—a crucial aspect of consumer behavior. It follows that the sustainability of a company, particularly MSMEs, will be considerably stronger and more consistent when customer demand is met.

Therefore, MSME stakeholders should reassess consumer behavior in today's society by focusing on three key areas that are popular with consumers. These include:

1. Implementing innovative digital marketing strategies for their products.
2. Continuously creating new innovations and enhancements to keep their products contemporary and aligned with current consumer demands.
3. Developing business strategies that synergize digital marketing and product upgrades to enhance product branding and achieve virality.

Furthermore, the involvement of various parties, including government agencies, is essential in providing outreach and training to improve the quality and quantity of MSMEs in East Java. It is hoped that this support will enable East Java's MSMEs to sustain themselves and positively impact the local economy.

Conclusion

This research advances our knowledge of how customer behavior mediates the effects of virality, digital marketing, and product upgrades on the long-term viability of micro, small, and medium enterprises. This study demonstrates how consumer behavior mediates the impact of virality, digital marketing, and product upgrades on client loyalty. This study has ramifications for business players in terms of how to produce more engaging digital marketing content that can go viral and facilitate customers' finding and recommendation of the products. In order to satisfy clients, MSMEs upgrade their products to make them more modern and diverse.

Limitations

Among its shortcomings is the fact that the research was limited to one MSME area—East Java—making it unable to apply the findings to a larger population. Only 160 MSMEs were able to respond, which is obviously insufficient to accurately depict the actual situation.

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