

## **PENETRATION INTO THE MANGO MARKET OF INDRAMAYU USING MARKETING 4.0 (CASE STUDY IN INDONESIA)**

### **ELLEN RUSLIATI\***

Faculty of Economic and Business, Universitas Pasundan, Bandung, Indonesia.  
\*Corresponding Author Email: ellen\_rusliati@unpas.ac.id

### **MULYANINGRUM**

Faculty of Economic and Business, Universitas Pasundan, Bandung, Indonesia.

### **ERNI RUSYANI**

Faculty of Economic and Business, Universitas Pasundan, Bandung, Indonesia.

### **FERRY MULYANTO**

Faculty of Technology, Universitas Pasundan, Bandung, Indonesia.

### **Abstract**

Agriculture was one of the sectors that has survived the COVID-19 pandemic. This study aimed to obtain a market penetration model for mango products in Indramayu Regency, Indonesia, with the hope that it could be used to explore marketing opportunities, build business capabilities, and increase income. The research method used was descriptive qualitative with Atlas.Ti software. The data is collected through surveys and interviews regarding mango farmers' opportunities, threats, strengths, weaknesses, and marketing strategies. The results showed that mango marketing process was carried out by intermediaries. Utilization of Marketing 4.0 which included co-creation, currency, communal activation, and conversation could be influence consumer behavior (aware, appeal, ask, act, and advocate) so that demand was higher and market share increases.

**Keywords:** Market penetration, mango, marketing 4.0, Indramayu

### **INTRODUCTION**

The COVID-19 pandemic has impacted MSME activities in Indonesia due to declining sales, capital difficulties, and limited distribution. The four mega shifts due to the COVID-19 pandemic include: (1) staying at home, (2) returning to the pyramid of basic needs, (3) virtual, and (4) social empathy (Sarma, 2020). Despite the limitations, the agricultural sector was able to survive the 2020 crisis ([Http://www.bps.go.id](http://www.bps.go.id), n.d.). At the same time, Indramayu Regency has an open unemployment rate of 8.30% of the workforce. Furthermore, mango produced by all sub-districts (31) decreased from 1,265,402 quintals in 2020 to 933,979 quintals in 2021 (Statistik, 2022). Mango grows in tropical areas (Muchiri et al., 2012) and is a seasonal fruit and is easily damaged during harvest, distribution, transportation, and storage (Hii et al., 2011) due to its high water content, which causes microbial, chemical and enzymatic reactions (Nadirah, 2009). A study on (Rasmikayati, 2018) that farmers in Indramayu who have more mango trees tend to run farming and marketing businesses more seriously and intensively.

Good quality mangoes are immediately sold, while off-grade, small, and abnormally shaped mangoes (Dewandari et al., 2009) are further processed into *dodol*, jam, syrup, juice, sauce, and fermented snack. (Novia et al., 2015) stated that off-grade mango production in Karanganyar Village, Probolinggo Regency reached 10%. Similarly, mango derivative products have been successfully produced by farmers and micro-entrepreneurs in Indramayu Regency with simple technology and marketing in the local area.

The promotional mix (branding, labeling, and packaging) of Indramayu's *gedong gincu* mango in shopping centers is rare. In terms of storage location, mangoes are usually placed on a shelf with other local fruits (Pratiwi, 2013). Additionally, mangoes and their derivatives are sold at souvenir outlets, tourist areas, and local kiosks in Indramayu along with other specialty products (Al Akbar, 2014).

The Information and Communication Technology Growth Index of West Java is 5.76 in 2021, which is an increase from 5.52 in 2019 and is above the average (Statistik, 2021). More entrepreneurs are creating websites, blogs, or accounts on Facebook, Instagram, and Twitter to market their products. According to [www.bi.go.id](http://www.bi.go.id), the mastery of technology and innovation of MSMEs in Indonesia is lower than the average ASEAN country. Small companies that have their own websites are only 4.2% while those who use email are only 9.2%.

Marketing 4.0 is a marketing approach that combines online and offline interactions, helping marketers move to the digital economy (Kotler et al., 2017). Digital marketing includes email marketing, search engine marketing, social media marketing, web banners, and mobile marketing (Pawar, 2014). It is effective for MSMEs in marketing products and will increase competitiveness (Mujiyana et al., 2013) and is the fastest way to get consumers' attention (Omoyza & Agwu, 2016). (Afifah et al., 2018) state that internet usage in Indonesia is between 3-4 hours per day. The use of the internet and entrepreneur education has a significant effect on digital marketing, which also has an impact on improving performance.

Indramayu Regency is the center of mango production in West Java. The problems faced are (1) the fluctuating price of mangoes, which is very cheap at harvest and soaring during the off-season, (2) the mango agroindustry is not yet maximized, (3) the mango quality assurance system has not been fully implemented, (4) the slashing system in marketing causes the quality of mangoes to be marketed is not uniform. The results of the study by (Purnama et al., 2014) showed that the Indonesian mango business is weak. Its main strength is acceptance by the main Indonesian mango market and its main weakness is the application of post-harvest technology. The main opportunity is a healthy lifestyle trend, while the main threat is better post-harvest technology and trade barriers in competing countries. The abundant production of *gedong gincu* mango when harvested can be sold without being processed. Mangoes that are below the standard size, shape, or damaged (off-grade) are further processed into syrup, chips, and *dodol* (Al Akbar, 2014).

Farmers in Indramayu Regency and Cirebon Regency are mostly (>50%) interested in selling mangoes to the modern market due to higher prices, access to better quality seeds/seedlings, and technical assistance and new skills, especially for cultivation and handling of produce. However, the farmers have difficulty meeting the modern market criteria, including small scale, low product quality, lack of ability, experience, and adequate information (Ashari et al., 2021). Labeling and packaging provide added value for mango products. Consumers are willing to pay 20% - 40% more after labeling because it guarantees quality. Consumers do not buy labeled mangoes for consumption, but they use packaging for superior-looking products for different purposes such as fruit bouquets (Deliana et al., 2017).

Based on a SWOT analysis on (Pratiwi, 2013), the marketing strategy of fresh *gedong gincu* mango to reach big city shopping centers includes the application of a product positioning strategy through the addition of brand attributes, labels, and packaging; expanding distribution area; and revitalizing promotion through sales promotion and direct marketing. The results of the community service by (Novia et al., 2015) in Karanganyar Village, Paiton District, Probolinggo Regency show that off-grade mangoes are easy to obtain and all partners can process them into jam and *dodol* through production training.

MSMEs are currently able to provide greater job opportunities, namely 97.0% of Indonesian workers (PPN/Bappenas, 2019). In that, the roles of MSMEs stated by Wiyono, et. al., 2006, as cited in (Yuwono & Retno, 2013) include (a) the population is massive and distributed everywhere, (b) runs in various sectors, (c) micro-enterprises as the main livelihood are run with high focus and determination, (d) can be trusted and have smooth business traffic, and (e) the relatively simple financing pattern results in a relatively high level of profit.

The strategic management process consists of three stages, namely formulation, implementation, and evaluation (David & David, 2019). According to (Pearce & Robinson, 2009) here are several external factors that affect the company's strategy. These factors can be divided into five categories stated by (David & David, 2019) namely (1) economic power, (2) social, culture, demography, and environment, (3) politics, government, and law, (4) technology, (5) competition. (Pearce & Robinson, 2009) suggested that the key internal factors consist of management, production and operations, research and development, finance, and marketing factors.

The strategic planning related to company marketing strategy includes market penetration, market development, product development, and diversification (Kotler & Armstrong, 2016). The market penetration strategy is to seek a larger market share for the current product in the existing market through better marketing efforts. This strategy is low risk. Approaches that can be taken include (1) maintaining/increasing market share, (2) dominating market growth, (3) eliminating competitors, and (4) increasing customer usage. (Wainaina & Oloko, 2016) suggested that penetration strategy affects company growth. The market development strategy is to introduce current products into new geographic areas. This strategy has moderate risk. The approach includes (1) new

geographic markets, (2) new product forms or packaging, (3) new distribution channels, and (4) new market segments at different prices.

The competitive strategy is to connect the company with its environment. A company's relative position in the industry will determine the company's profitability. There are two types of competitive advantage that companies can choose from, namely cost leadership and differentiation and focus (Porter, 1985, as cited in (David & David, 2019), which can be related to the scope of activity. Cost leadership and differentiation seek competitive advantage across various industry segments, whereas focus refers to a narrower segment.

Challenges for farmers/MSMEs in expanding their marketing reach can be handled if they innovate products or processes to provide higher value to potential customers (Khalil, 2017). The development of information technology has changed the needs and expectations of consumers in relation to digital marketing. (Ghazie & Dolah, 2019) found that the use of digital marketing has greatly increased, and awareness, utilization, convenience, application layout and design, and satisfaction levels have become better. In a connected world, the concept of the marketing mix has evolved to accommodate more customer participation. The 4P should be redefined into 4C, namely Co-creation, Currency, Communal activation, and Conversation (Kotler et al., 2017).

Co-creation is the involvement of customers in the creation of ideas so that the company can increase the success rate of new product development. Currency is the determination of the selling price that is dynamic in nature where the price is set according to market demand and the use of its capacity. Here, costs are different for each customer based on their purchase history, distance to location, and customer profile. Flexible pricing is proven to increase company profits. Communal activation is the concept of consumer access to the products offered. In other words, product information is obtained from the closest relatives of consumers. Conversation is a promotion concept development in 4P marketing. Current information technology, such as social media and news and entertainment portals, encourages promotions to be carried out in a two-way manner where consumers can respond to product messages. Digital marketing is not intended to replace traditional marketing, but to coexist with interchangeable roles along the customer path.

A good and well-planned marketing strategy will make marketing activities run more effectively, thus enabling them to grow rapidly. The rapid development of digital technology, apart from being a challenge, is also a huge opportunity and potential for economic and business improvement. Entrepreneurs must keep up with changing trends by utilizing information technology to encourage business activities while increasing competitiveness. Entrepreneurs must create new changes and innovations within companies that can create new opportunities and markets by utilizing information technology and the development of digital convergence in society.

Digital marketing by utilizing the internet is useful for expanding traditional marketing functions. The advantages of selling products online include (1) selling more products or services due to no time and place limits, which means wider coverage with cheaper promotional costs, (2) informing products throughout Indonesia and even the world, (3) online product catalogs that can be accessed by potential buyers and potential business partners from anywhere and anytime, (4) appearing on the first page of search engines (especially Google) when people are looking for certain products or services offered, (5) increasing business credibility because an online presence is equated with legitimacy and keeping up with the current times, and (6) being an alternative solution for business expansion, considering the cost of making an online store is relatively cheaper than making an offline (conventional) store.

Some of the problems/obstacles that are still being faced in making online stores for MSMEs are internet connections. When they want to get their business online, MSME owners need to consider the costs incurred to support their online activities. When entrepreneurs decide to have an online store, they must remember to manage the online store, which naturally costs money.

MSME marketing development is carried out in two ways (Septyato & Joko Dewanto, 2012). The first method is General through (a) exhibition and promotion of MSME products in malls or marketplaces, (b) Smesco festivals, Smesco fashion and accessories, Smesco food and packaging, (c) domestic MSMEs exhibitions, (d) festivals, (e) development and capital, and (e) fostering by the Cooperative and MSME Office. The second method is Special through (a) online marketing, (b) marketing communities on Facebook, Twitter, Instagram, and WhatsApp, (c) intermediaries such as advertising, marketing, and MSME marketing transaction sites, (d) e-commerce support, and (e) Search Engine Automation (SEO). The National Mango Board (NMB) promotion program can increase demand for mangoes and have a significant effect on increasing consumption in the United States (Ward et al., 2019)

The emergence of online marketplaces allows anyone to become an entrepreneur. The digital industry is an inclusive growth path because the strong internet penetration through smartphones makes more people able to interact in cyberspace, both as producers, consumers, and intermediary traders (APJII, 2016). MSME e-marketing can be done by communicating and increasing customer value, changing marketing strategies, using information, communication and promotion, manufacturing goods and services, achieving customer relationship management (CRM), and assisting in attracting customers, providing online distribution, developing customer strategies and tactics, promotion support, contact strategy, internal optimization, and integrated online.

Several things need to be done in developing a marketing strategy, namely market segmentation, target market determination, market positioning, and market diversification. Marketing 4.0 emphasizes improving communication with customers (Tarabasz, 2013). The ability to respond to the market affects market penetration, and market penetration (marketing network expansion, customer interaction, and market mix intensity) affects marketing performance (Mutmainnah et al., 2016). The implementation

of the market penetration strategy aims to improve business performance by attracting old customers to make more purchases (Sarwoko, 2017).

Network expansion and integration are important for MSMEs to successfully internationalize their companies (Ahimbisibwe et al., 2020). Market penetration has a significant effect on the cost leadership strategy, which increases the competitiveness and competitive advantage of MSMEs. Cost leadership strategy affects performance. Growth strategies and competitive strategies need to be integrated to maintain competitive advantage, enhance competence, and achieve superior performance (Alkasim et al., 2018). Additionally, effective and coordinated support from export promotion agencies has a very important role (Appiah et al., 2019). Further, Entrepreneurial Orientation (EO) has a significant positive effect on the performance of MSMEs with the role of social media and marketing ability to mediate the relationship (Susanto et al., 2021). Strategic resource management and entrepreneurial innovation have a significant effect on MSME performance. Entrepreneurs need to apply new decision-making styles, processes, and behaviors that can affect their competitive position and profits during penetration into new markets (Okoi et al., 2022).

Commodity processing post-harvest activation plans include (1) strategic development, (2) post-harvest processing, (3) raw material stock system, (4) diversification of derivative products and formulations, (5) activating rural-urban hubs as liaisons with potential marketing areas, (6) downstream activation in the marketing area for wider market penetration (Purnomo et al., 2020). Digital technology has evolved from a communication or promotion function to a more personalized design, content, and behavior change intervention function. Digital technology is the main tool for interaction and collaboration between individuals and can also be used for multilevel stakeholders, policymakers, and partners as part of behavior change interventions (Flaherty et al., 2021).

MSMEs are currently able to provide greater job opportunities, namely 97.0% of Indonesian workers (PPN/Bappenas, 2019). In that, the roles of MSMEs (Wiyono, et. al., 2006) as cited in (Yuwono & Retno, 2013) include (a) the population is massive and distributed everywhere, (b) runs in various sectors, (c) micro-enterprises as the main livelihood are run with high focus and determination, (d) can be trusted and have smooth business traffic, and (e) the relatively simple financing pattern results in a relatively high level of profit.

This study aims at the market penetration, namely seeking a larger market share for current products and markets through better marketing efforts. This strategy is low-risk by using marketing 4.0 by confirming the potential customer community, brand clarification, 4C connected marketing mix, and collaborative customer service. The objective is to influence consumer behavior and increase market share.

## RESEARCH METHOD

This study used a qualitative descriptive research method with Atlas.Ti software. The positivist paradigm was used in collecting data on the market penetration of Indramayu mangoes through surveys and interviews with farmers in Indramayu and Pemalang Regencies, mango intermediaries in Indramayu Regency, entrepreneurs of mango derivative products in Indramayu Regency and Cirebon City, the Agriculture Office of Indramayu Regency, the Cooperative and MSME office of Indramayu Regency and Cirebon City, the village head of Mangga Alpukat village, and the Tropical Fruit Research Agency of Pasuruan Regency. Observations were also made to obtain information on current and future marketing by visiting mango gardens, factories, and shops for mango products and their derivatives.

Verbatim interview transcripts were analyzed using Atlas.Ti version 9.0 by coding and annotating when analyzing and interpreting the interview text. The analysis was carried out in three stages. First, data analysis by reading interview transcripts word for word. Second, rereading the transcripts, extracting all the themes, and grouping them into general categories containing the same smaller sub-themes. Third, analysis and interpretation of the content of each theme according to the research context. In addition, things that have been done in dealing with similar problems were evaluated so that comparisons and results can be used in planning and decision-making. The data used in the study were primary data from online and offline surveys and secondary data from available research reports, books, and electronic articles.

## FINDINGS AND DISCUSSIONS

Almost every house in Indramayu Regency has a mango tree of various types and sizes. The types of Indramayu mangoes consist of *gedong gincu*, *golek*, *gajah*, *ruca*, *king*, *harumanis*, *cengkir*, and *agrimania*. Each type of mango has its own characteristics. For example, *gedong gincu* mango has an attractive color with a fresh, sweet, and sour taste. Each type of mango determines its harvest time and market share. In the western part of Indramayu, people plant *cengkir* and *raja* mangoes, while people in the eastern part plant *gedong gincu* mangoes. The *golek* mango has almost been abandoned due to the dwindling demand. The *gedong gincu*, *cengkir*, *harumanis*, and *gajah* (known as Balinese mangoes) mangoes are sold as fresh fruit in Jakarta, Bandung, and East Java with grades A, B, and C while the off-grades ones are further produced into juice, syrup, fermented snack, dried mango, and sambal. The *ruca* mango is more appropriate for *dodol* production. Some MSMEs sell mango-derived products using grade A mangoes as raw materials so that the mangoes can be consumed even though they are not in season.

Most tree owners prefer to sell their crops to intermediaries rather than selling them themselves. This is because selling mangoes to intermediaries means that their mangoes are confirmed to be sold, the process of selling the harvest is easy, and there is no need to pack mangoes before shipping. The biggest challenge faced by mango farmers is the limited information about potential buyers, which so far has only been controlled by

intermediaries. This is in line with (Ramadhani & Rasmikayati, 2017) who state that farmers lack bargaining power in determining the price of mangoes to intermediaries.

The rapid increase in internet use has changed the ecosystem of buying and selling agricultural products using e-commerce. The use of e-commerce technology in the agricultural sector can bring significant changes for farmers because it is expected to eliminate the role of intermediaries, benefit both farmers and buyers, facilitate delivery, and eliminate the limitations of cross-regional sales access. The main objective of implementing e-commerce for Indramayu mango farmers is to provide a new business model to facilitate farmers to buyers, farmers to businesses, and buyers to farmers directly. In addition, the Indramayu mango e-commerce can provide a wide market reach when farmers enter the harvest season. The farmers are given the convenience to find a suitable market for the mango products they have for sale and have full control over the determination of the selling price they want.

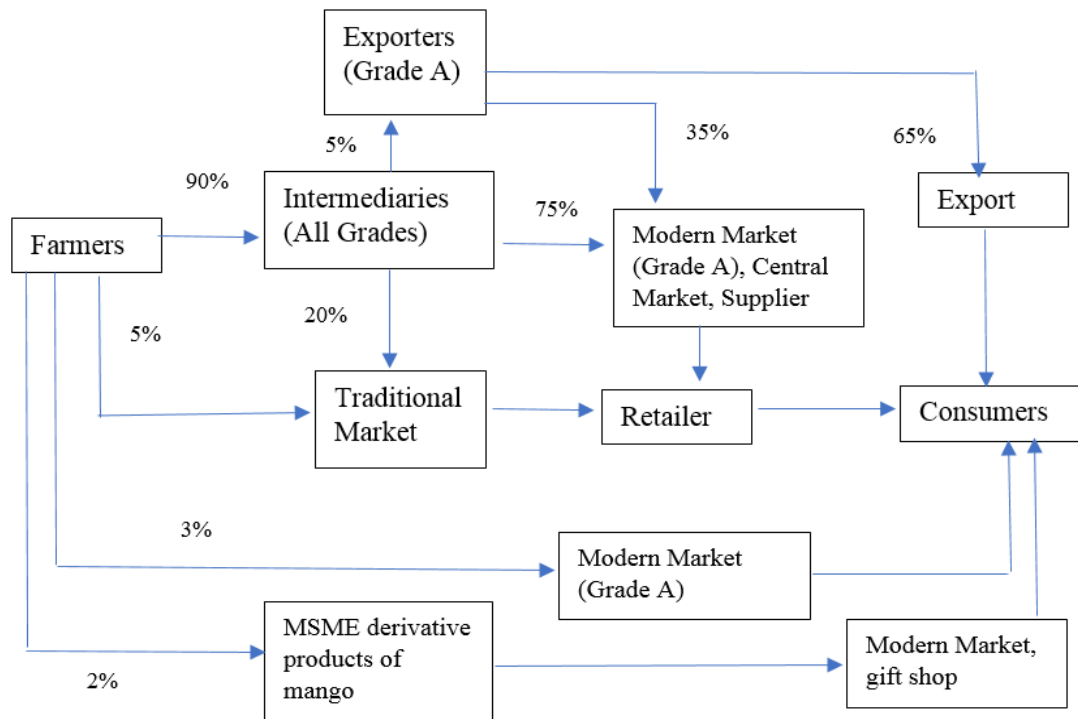
Success in implementing the Indramayu mango e-commerce model is expected to be able to increase income for farmers, who so far have not been able to use mangoes as a main source of income. In addition, there is an indirect impact of increasing the economic cycle of Indramayu Regency as the largest mango production center in West Java. The implementation of e-commerce has its own challenges for agricultural products, especially mangoes. This is due to the short shelf life of mangoes. In addition, it is also necessary to prepare the process before harvesting, packaging, and shipping. Farmers must be able to predict when the right time is to start selling their crops so that the mangoes received by consumers can be consumed as they expect.

Traditional farmers do not only cultivate mangoes on their own land and trees, but also on leased land and trees with various agreements, such as selling after or before harvest. Land/tree tenants often use stimulant drugs to make the trees produce a lot of fruit without proper care. In the long run, this action can result in poor fruit quality and decreased land quality. Mango sales are usually carried out traditionally on the roadside by waiting for passing consumers. However, the COVID-19 pandemic that lasted for two years resulted in limited mobility and a lack of consumers passing through Indramayu. Therefore, during this time, the fruit was not picked and left to fall from the tree, which resulted in them rotting and then becoming fertilizer because the farmers did not know where to sell them.

Mangoes that do not sell well due to their small size, imperfect shape, or imperfect skin can be further processed into syrup, juice, fermented snacks (dry and wet), and sambal. The *cengkir* mango with a maturity level of 80% can be made into fermented or dried fruit with a shelf life of one year so that customers can enjoy mangoes even if they are not in season. Mango cultivation engineering to produce fruit that is not in season has been carried out, but the cost is still higher than the selling price. The new types of engineered mangoes include *agrimania* mango (Indramayu Regency), *istana* mango (Pemalang Regency), avocado mango (Pasuruan Regency), and *arummerah* mango (Pasuruan Regency), which is currently being tested.



The development of new products allows farmers to blaze new trails by mastering a certain market share. *Agrimania* has succeeded in becoming the mango product with the highest price in Indonesia. Mango farmers and entrepreneurs of derivative products who are creative and understand information technology try to market online. However, not all of them get the expected results. The distribution of mango sales in Indramayu is shown in Figure 1. The percentage is estimated based on the results of interviews.



**Figure 1: Mango marketing channel in Indramayu District**

Source: (Deliana et al., 2017), adjusted.

The results of previous research conducted by (Purnama et al., 2014) using a SWOT analysis and AHP found that the competitive position of mangoes (*gedong gincu* and *harumanis* as the main export varieties) in Indonesia is in growth and development cells. The research recommended the main strategic priorities, including (1) increasing mango marketing, (2) standardizing mango gardens, (3) increasing cooperation between exporters and farmers, and (4) developing a one-stop service to produce and ensure the availability of high-quality fruit with international standards. Government assistance for domestic and international marketing of mangoes is needed to expand market reach with favorable prices and payment methods for farmers. The farmers' knowledge also needs to be enriched so that they can empower their businesses to improve their welfare.

According to (Aguilera-Castro & Virgen-Ortiz, 2016), the factors relevant to a market penetration strategy from a source-based perspective are (1) funds to achieve growth, (2) expensive marketing activities, (3) large resources for different businesses, (4) new

market segments, (5) low levels of market saturation, (6) opportunities to increase the use of existing customers, (7) sales of major competitors are declining while overall industry sales are increasing, and (8) entrepreneurs implement strategies to introduce goods and services in new markets.

(Eggers et al., 2017) state that entrepreneurial orientation has a positive effect on the use of social networks in MSMEs and the use of social networks does not directly affect MSME growth but mediates entrepreneurial orientation and MSME growth. Internal factors that affect the knowledge and application of information technology for MSME entrepreneurs include technology infrastructure and human resources, financial capacity, company size, and innovation ability. On the other hand, the external factors include competitive pressure, external support, and community expectations. The use of social media allows people to share ideas, content, thoughts, and relationships online. Online engagement can range from simple engagement (blogs, chats) to collaboration and cocreation (tagging, sample editing), especially on social networking sites (Facebook and Instagram).

Marketing 4.0 is a marketing approach that combines online and offline interactions between companies and consumers, combining style with substance in forming a brand that will ultimately complement the machine-to-machine relationship with a human-to-human touch to increase customer engagement. Digital and traditional marketing go hand in hand to win customer advocacy. Online and offline interactions are both needed to complement each other. Advances in technology make it easier for manufacturers to market their products online because it is more practical, fast, and efficient with a wider range of customers and potential customers.

The development of information technology has changed the needs and expectations of consumers in relation to digital marketing. (Ghazie & Dolah, 2019) found that the use of digital marketing has greatly increased, and awareness, utilization, convenience, application layout and design, and satisfaction levels have become better. In a connected world, the concept of the marketing mix has evolved to accommodate more customer participation. The 4P should be redefined into 4C, namely Co-creation, Currency, Communal activation, and Conversation (Kotler et al., 2017). Co-creation is the involvement of customers in the creation of ideas so that the company can increase the success rate of new product development. Consumer buying patterns have also changed from 4A (Aware, Attitude, Act, and Act Again) to 5A (Aware, Appeal, Ask, Act, and Advocate).

Aware is a condition in which the customer starts to know the service provider; Appeal means the customer feels attracted to the company; Ask means the customer feels unsure and starts asking friends or family to convince themselves; Act means the customer decides to use the service if friends and family say it's good; Advocate means loyalty, which has undergone a shift in the marketing 4.0 era. The output of the customer path no longer only ends at the purchase (act) stage, but how they can influence other people to also make a purchase and become existing customers after their purchase.

Research by (Limirang & Bachtiar, 2021) found that the use of marketing 4.0 makes customers feel more interested in continuing to make purchases. According to (Widahartana et al., 2021), the use of digital advertising (Instagram, Facebook, TikTok, fanpage, marketplace) needs to pay attention to the message conveyed in the advertisement, use beautiful and attractive visuals, choose advertising themes that are in accordance with market conditions, and use marketing advertisements such as limited offers. Digital advertising can help in the awareness stage of potential consumers, so that it will generate interest by following the company's account, then wanting to get information quickly. Digitization allows all activities to be faster and easier, but some consumers are more comfortable with offline shopping. The information received will affect the purchasing decisions that will be made by potential customers. Customers who are satisfied with the products and services they receive will recommend them to others, although 5A consumer behavior is not always sequential (Indah Kencana Putri, 2019).

The factor that influences the successful implementation of digital marketing is knowledge about its application, which can provide more benefits in the future (Aisyah, 2018). The obstacles faced in the use of marketing 4.0 are inadequate facilities and infrastructure (Ummasyroh et al., 2020). The most important results of marketing 4.0 are getting as many potential customers as possible, creating diverse products according to consumer needs and desires (co-creating products), and as much communication and cooperation with potential customers as possible (Tarabasz, 2013). Marketing 4.0 is a modern method that can increase aggressive campaigns and various innovations with a focus on sales and awareness. Digital transformation will create new experiences for customers when consuming a product (Rahayu et al., 2018). In agriculture and MSMEs, this approach will create new images to increase marketing and sales.

The changing role of information and communication technology used for marketing purposes poses an important challenge for farmers and MSMEs to carry out a deep transformation associated with extensive restructuring and marketing evolution to improve their competitive position (Swieczak, 2017). The dynamic external environment forces MSMEs to open by utilizing their available resources and collaborating with customers and other interested parties to take advantage of available market opportunities.

Market penetration is an intensive growth strategy proposed by (Keller & Armstrong, 2018). This strategy allows entrepreneurs to penetrate existing markets and increase market share. This growth strategy is carried out so that the company can achieve growth by penetrating the existing market more deeply, taking advantage of the available opportunities for sales growth in that market to increase its market share. A market segmentation strategy is needed to identify different customer groups that offer the company the opportunity to select its target market by developing the right marketing mix. Market segmentation and targeting strategies are the basis for understanding the consumer market. Knowing customer groups of different sizes and customers will completely shape the market and its demographic profile, lifestyle, orientation, and other

behavioral characteristics that differentiate one group from another. This gives producers the opportunity to determine the target market segment.

A market penetration strategy means the farmer/intermediary stays in the existing market and sells its product line in that market. This can be achieved by conducting business as usual, meaning that it involves more aggressive marketing efforts to penetrate deeper into the existing market and take advantage of all available opportunities for sales growth in that market. In addition, market penetration is also an intensive growth strategy. The company seeks to achieve growth in its current product market by further penetrating existing markets with existing product lines.

Market penetration occurs when the existing market is developed and has a strong brand with good market acceptance. This condition allows manufacturers to market existing products in existing markets by gaining competing customers (i.e., taking a share of the competitor's market share). Other ways include attracting non-customers or convincing current customers to buy and consume more of the product. In a competitive market, maintaining the current market share and expanding it can be achieved by companies with above-average performance, maintaining profits that exceed the industry average.

The appropriate strategy to increase market share depends on the relative position of producers in this market, namely market leaders, market challengers, and market nichers. Research by (Uko & Ayatse, 2014) that market nichers are the most appropriate competitive strategy for MSMEs in Nigeria. Market nichers are small, narrow niches as specific market segments whose customers have different needs to fulfill. Market nichers are usually unattractive to many large producers because of their small size. Under these conditions, MSMEs operating in a market dominated by large competitors must find safe and profitable market nichers. Market nichers must be large enough to sustain growth but small enough to be unattractive to larger entrepreneurs. Market nichers can be very profitable because they are not attractive to competitors. In addition, customers in a niche often pay a premium price to satisfy their specific needs. Market nichers are close to their customers, know their needs very well, and use this knowledge to cultivate close relationships and develop a marketing mix that meets specific needs better than competitors do. In this way, companies that apply market nichers can carry out production and marketing based on specialization.

The market penetration strategy is used by entrepreneurs who want to achieve growth with existing products in the current market segment with the main objective of selling the product, entering the market as quickly as possible, and finally gaining a sizeable market share. Market penetration is a pricing strategy based on product novelty (Bulle, 2020) and it can affect performance (Waithaka & Mwangi, 2020). The market penetration strategy used in this study involves the use of marketing 4.0, namely co-creation, currency, communal activation, and conversation. The factors that hinder the implementation of marketing 4.0 as a digital marketing medium include inadequate facilities and infrastructure, such as a website that can be accessed at any time for the convenience and satisfaction of customers/potential customers in accessing information (Ummasyroh et al., 2020).

The products offered must be in accordance with consumer tastes (co-creation) in terms of quality, design, color, packaging, and price (Kesa & Lee, 2017). Competitive pricing (currency) positions mango to refer to other options in the market. Entrepreneurs need to set prices after considering the prices of comparable products, using the product to send a message about whether their offering is of better value or higher quality. In the distribution channel strategy (communal activation), the existing distribution network needs to be expanded geographically to make it easier and faster. Distribution channel members specialize in what they do at a much lower cost than the entrepreneur running the entire distribution channel alone. In addition to cost, delivery times are also reduced due to the efficiency and experience of channel members. The role of marketing 4.0 in influencing consumer purchasing patterns. Utilization of the marketing mix 4.0 requires a good understanding of information technology, which allows communication between producers and potential customers.

## CONCLUSION AND IMPLICATION

The development of Marketing 4.0 which includes co-creation, currency, communal activation, and conversation allows the market penetration strategy to successfully increase the market share of Indramayu mangoes. The involvement of customers and prospective customers in determining the marketing mix can affect consumer buying patterns, which include aware, appeal, ask, act, and advocate.

The implication of this study is that farmers/entrepreneurs need to be open to technology, so they can take advantage of advances in information technology to implement market penetration strategies to increase market share. Furthermore, it is important to be aware of and address the inhibiting factors, which include inadequate facilities and infrastructure, immature strategy formulation, poor quality content, baseless conclusion drawing, content plagiarism, and ignoring website viewers.

## Acknowledgments

The research team would like to express their sincere thanks to all those who have helped until the publication of this paper. The author also wishes to thank Universitas Pasundan for supporting this research activity, specifically thanks to the Directorate of Research, Technology, and Community Service (DRTPM) Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia who have supported our research through funding Assignment Research Grant.

## References

1. Afifah, A. N., Najib, M., Sarma, M., & Leong, Y. C. (2018). Digital Marketing Adoption and The Influences Towards Business Successes of MSMEs Creative Sector in Indonesia and Malaysia. *Jurnal Aplikasi Manajemen*, 16(3), 377–386. <https://doi.org/10.21776/ub.jam.2018.016.03.01>
2. Aguilera-Castro, A., & Virgen-Ortiz, V. (2016). Model for Developing Strategies Specific to SME Business Growth. *Entramado*, 13(2), 30–40. <https://doi.org/10.18041/entramado.2016v12n2.24204>
3. Ahimbisibwe, G. M., Ntayi, J. M., Ngoma, M., Bakunda, G., & Kabagambe, L. B. (2020). The Internationalization of Small to Medium-Sized Enterprises: do all Levels in International Networking Matter? *Journal of Small Business and Enterprise Development*, 27(5), 817–837.

<https://doi.org/10.1108/JSBED-09-2019-0313>

4. Aisyah, A. N. (2018). *Penerapan Digital Marketing Dan Pengaruhnya Terhadap Keberhasilan Usaha Mikro, Kecil Dan Menengah Sektor Kreatif Di Indonesia Dan Malaysia*. Institut Pertanian Bogor.
5. Al Akbar, W. (2014). *Studi Potensi Wisata Kuliner di Kabupaten Indramayu Provinsi Jawa Barat*. Universitas Negeri Yogyakarta.
6. Alkasim, S. B., Hilman, H., Bohari, A. M. Bin, Abdullah, S. S., & Sallehddin, M. R. (2018). The Mediating Effect of Cost Leadership on the Relationship Between Market Penetration, Market Development, and Firm Performance. *Journal of Business and Retail Management Research*, 12(3), 190–200. <https://doi.org/10.24052/jbrmr/v12is03/art-17>
7. APJII. (2016). *Penetrasi & Perilaku Pengguna Internet Indonesia 2016*.
8. Appiah, K., Osei, C., Selassie, H., & Osabutey, E. (2019). The Role of Government and the International Competitiveness of SMEs: Evidence from Ghanaian Non-traditional Exports. *Critical Perspectives on International Business*, 15(4), 296–322. <https://doi.org/10.1108/cpoib-06-2018-0049>
9. Ashari, Saliem, H. P., Ariningsih, E., Suhaeti, R. N., Septanti, K. S., Maulana, M., De Faveri, S., Johnson, P., & Shanmugam, V. (2021). Gedong Gincu mango farmer's perceptions toward the advantages and obstacles of the modern market. *IOP Conference Series: Earth and Environmental Science*, 892(1), 0–6. <https://doi.org/10.1088/1755-1315/892/1/012011>
10. Bulle, M. (2020). *Market Penetration Strategies on Organizational Performance*.
11. David, F. R., & David, F. R. (2019). *Manajemen Strategik: Suatu Pendekatan Keunggulan Bersaing-Konsep*.
12. Deliana, Y., Fatimah, S., & Charina, A. (2017). Marketing and Value Chain of “Gedong Gincu” Mango with its Labeling and Packaging. *Acta Horticulturae*, 1183, 373–381. <https://doi.org/10.17660/ActaHortic.2017.1183.53>
13. Dewandari, K. . T., Mulyawanti, I., & Amiarsi, D. (2009). Pembekuan Cepat Puree Mangga Arumanis dan Karakteristiknya Selama Penyimpanan. *J.Pascapanen*, 6(1), 27–33.
14. Eggers, F., Hatak, I., Kraus, S., & Niemand, T. (2017). Technologies That Support Marketing and Market Development in SMEs—Evidence from Social Networks. *Journal of Small Business Management*, 55(2), 270–302. <https://doi.org/10.1111/jsbm.12313>
15. Flaherty, T., Domegan, C., & Anand, M. (2021). The Use of Digital Technologies in Social Marketing: a Systematic Review. *Journal of Social Marketing*, 11(4), 378–405. <https://doi.org/10.1108/JSOCM-01-2021-0022>
16. Ghazie, D. A., & Dolah, J. (2019). *How Digital Marketing Affects Consumer Behavior*. 207(Reka), 214–217. <https://doi.org/10.2991/reka-18.2018.48>
17. Hii, C. ., Ong, S. P., & Law, C. . (2011). Drying Studies of Tropical Fruits Cultivated in Malaysia: A Review. *Journal of Applied Sciences*, 11(24).
18. [Http://www.bps.go.id](http://www.bps.go.id). (n.d.). *No Title*.
19. Indah Kencana Putri, L. P. (2019). Perilaku Konsumen Pengguna Instagram di Era Marketing 4.0. *Jurnal Manajemen Bisnis*, 16(4), 20. <https://doi.org/10.38043/jmb.v16i4.2248>
20. Keller, K., & Armstrong, G. (2018). Principle of Marketing. In *General Equilibrium Theory* (16th Globa).
21. Kesa, D. D., & Lee, C.-W. (2017). *Market Penetration Concept : Indonesian Product Competitive Advantage Toward Export to Taiwan*. January 2017. <https://doi.org/10.2991/icbmr-17.2017.57>
22. Khalil, M. (2017). Expansion of SMEs into Emerging Markets. *Research Centre for International Trade*

*Management.*

23. Kotler, P., & Armstrong, G. (2016). *Marketing Management* (15th edi.). Pearson.
24. Kotler, P., Kartajaya, H., & Setiawan, I. (2017). *Marketing 4.0. Bergerak dari Tradisional ke Digital*. PT. Gramedia.
25. Limirang, R. S., & Bachtiar, A. (2021). Perencanaan Strategi Pemasaran Dalam Upaya Peningkatan Kunjungan Pasien Poliklinik Gigi Rumah Sakit Satya Negara Marketing Strategy Planing To Increase Dental Patient Visits At Satya Negara Hospital. *Jurnal Kesehatan Masyarakat*, 8(1), 34–47. <https://ojs.uniska-bjm.ac.id/index.php/ANN/article/view/4586>
26. Muchiri, Mahungu, S. M., & Gituanja, S. . (2012). Studies on Mango (*Mangifera indica*, L.) Kernel Fat of Some Kenyan Varieties in Meru. *Journal Of the American Oil Chemists' Society*, 89(9). [https://www.researchgate.net/publication/257730019\\_Studies\\_on\\_Mango\\_Mangifera\\_indica\\_L\\_Kernel\\_Fat\\_of\\_Some\\_Kenyan\\_Varieties\\_in\\_Meru](https://www.researchgate.net/publication/257730019_Studies_on_Mango_Mangifera_indica_L_Kernel_Fat_of_Some_Kenyan_Varieties_in_Meru)
27. Mujiyana, M., Sularto, L., & Mukhyi, M. A. (2013). Pengaruh Penerapan Periklanan Di Internet Dan Pemasaran Melalui E-Mail Produk Umkm Di Wilayah Depok. *J@Ti Undip : Jurnal Teknik Industri*, 7(3), 161–168. <https://doi.org/10.12777/jati.7.3.161-168>
28. Mutmainnah, A. C., Soesanto, H., & Sufian, S. (2016). Studi Tentang Pengaruh Kemampuan Merespon Pasar dan Inovasi Produk Terhadap Penetrasi Pasar Pada Kinerja Pemasaran (Studi Empiris pada: Industri Rumahan Telur Asin di Kabupaten Brebes). *Sains Pemasaran Indonesia*, 15(1), 1–11.
29. Nadirah, S. B. M. Z. (2009). *Production of Mangifera Indica Powder Using Spray Dryer and the Effects of Drying on its Physical Properties* [Universiti Malaysia Pahang]. [http://umpir.ump.edu.my/id/eprint/716/1/SITI\\_NADIRAH\\_BINTI\\_MD\\_ZAINI.pdf](http://umpir.ump.edu.my/id/eprint/716/1/SITI_NADIRAH_BINTI_MD_ZAINI.pdf)
30. Novia, C., Utomo, D., Tinggi, S., Nurul, T., Probolinggo, J., Tinggi, S., Nurul, T., Probolinggo, J., Pertanian, F., & Pasuruan, U. Y. (2015). Diversifikasi Mangga Off Grade Menjadi Selai Dan Dodol. *Teknologi Pangan : Media Informasi Dan Komunikasi Ilmiah Teknologi Pertanian*, 6(2), 1–4. <https://doi.org/10.35891/tp.v6i2.471>
31. Okoi, I., Ubi, I., Iheanacho, M., Emori, E., & Sunday, E. (2022). Strategic Entrepreneurship Practices and Performance of Small and Medium-sized Enterprises in Nigeria. *Problems and Perspectives in Management*, 20(1), 108–116. [https://doi.org/10.21511/ppm.20\(1\).2022.10](https://doi.org/10.21511/ppm.20(1).2022.10)
32. Omoyza, I., & Agwu, E. (2016). Effectiveness of Social Media Networks as a Strategic Tool for Organizational Marketing Management. *Journal of Internet Banking and Commerce*, 21(2), 1–19. <https://doi.org/10.1007/128>
33. Pawar, A. V. (2014). *Study Of The Effectiveness Of Online Marketing Communication*. <https://www.coursehero.com/file/23818386/Study-Of-The-Effectiveness-Of-Online-Marketing-On-Integrated-Marketing-Communication-Amruta-Pawarpd/>
34. Pearce, J. A., & Robinson, R. B. J. (2009). *Manajemen Strategi Formulasi, Implementasi dan Pengendalian*. Salemba Empat.
35. PPN/Bappenas, K. (2019). *Rencana Pembangunan Jangka Menengah Nasional 2020 - 2021*. [https://www.bappenas.go.id/files/rpjmn/Narasi\\_RPJMN\\_IV\\_2020-2024\\_Revisi\\_28\\_Juni\\_2019.pdf](https://www.bappenas.go.id/files/rpjmn/Narasi_RPJMN_IV_2020-2024_Revisi_28_Juni_2019.pdf)
36. Pratiwi, D. E. (2013). *Analisis Strategi Pemasaran Mangga Gedong Gincu Kabupaten Indramayu untuk Pusat Perbelanjaan di Kota Besar*. IPB. <https://repository.ipb.ac.id/bitstream/handle/123456789/67197/H13dep.pdf?sequence=1&isAllowed=y>
37. Purnama, I., Sarma, M., & Najib, M. (2014). Strategi Peningkatan Pemasaran Mangga di Pasar

- Internasional ( The Enhancement Strategies for Indonesian Mango Marketing in International Market ). *Jurnal Holtikultura*, 24(1), 85–93.
38. Purnomo, D., Bunyamin, A., Nawawi, M., Danuwidjadja, T. G., & Izzatulloh, M. H. (2020). Innovative Post-harvested Processing Activation Program for Potential Local Agro-based Food Commodity Using Design Thinking Approach (Case Study: Keladi Tuber (*Caladium bicolor* Vent.) Commodity in Manokwari, West Papua). *IOP Conference Series: Earth and Environmental Science*, 443(1). <https://doi.org/10.1088/1755-1315/443/1/012082>
  39. Rahayu, A. U., Herawaty, I., Rahmawati S., N., Prafitriyani, A. S., & Afini, A. P. (2018). Marketing 4.0: A Digital Transformation in Pharmaceutical Industry To Reach Customer Brand Experience. *Farmaka*, 16(1), 80.
  40. Ramadhani, W., & Rasmikayati, E. (2017). Pemilihan Paar Petani Mangga Serta Dinamika Agribisnisnya Di Kecamatan Panyingkiran, Kabupaten Majalengka, Provinsi Jawa Barat. *Mimbar Agribisnis, Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 3(December), 185–202.
  41. Rasmikayati, E. (2018). Kajian Potensi Dan Kendala Dalam Proses Usahatani Dan Pemasaran Mangga Di Kabupaten Indramayu. *Sosiohumaniora*, 20(3), 215. <https://doi.org/10.24198/sosiohumaniora.v20i3.15859>
  42. Sarma, M. (2020). Entrepreneurial Marketing untuk Keberhasilan Pemasaran di Masa Pandemi. In *Journal of Agricultural and Food Engineering*. <https://doi.org/10.37865/jafe.is052020>
  43. Sarwoko, E. (2017). Strategi Pertumbuhan Usaha Kecil Menengah ( UKM ). *Jurnal Ekonomi Modernisasi*, 13(1), 46–52.
  44. Septyato, D., & Joko Dewanto, I. (2012). Pengembangan Strategi E-Marketing UMKM Di Indonesia. *Ekonomi Dan Bisnis*, 165–172.
  45. Statistik, B. P. (2021). *Indeks Pembangunan Teknologi Informasi dan Komunikasi*.
  46. Statistik, B. P. (2022). *Kabupaten Indramayu Dalam Angka*.
  47. Susanto, P., Hoque, M. E., Shah, N. U., Candra, A. H., Hashim, N. M. H. N., & Abdullah, N. L. (2021). Entrepreneurial Orientation and Performance of SMEs: the Roles of Marketing Capabilities and Social Media Usage. *Journal of Entrepreneurship in Emerging Economies*, 2053–4604. <https://doi.org/10.1108/JEEE-03-2021-0090>
  48. Swieczak, W. (2017). The Impact of Modern Technology on Changing Marketing Actions in Organizations. *Marketing 4.0. Marketing of Scientific and Research Organizations*, 4(26), 161–186.
  49. Tarabasz, A. (2013). The Reevaluation of Communication in Customer Approach - Towards Marketing 4.0. *International Journal of Contemporary Management*, 12(4), 0–6.
  50. Uko, J. P., & Ayatse, F. a. (2014). Market Penetration as a Growth Strategy for Small and Medium-Sized Enterprises in Nigeria. *Management and Administrative Sciences Review*, 23(1), 8–23.
  51. Ummasyroh, Firdaus, Y., & Andriyani, T. (2020). Penerapan Marketing 4.0 Dan Pengaruhnya Terhadap Keberhasilan Kegiatan Promosi Pemasaran Politeknik Negeri Sriwijaya. *Jurnal Administrasi Bisnis*, 4(1). <https://jurnal.polsri.ac.id/index.php/jrtap/article/view/1970>
  52. Wainaina, N. G., & Oloko, M. (2016). Market Penetration Strategies and Organizational Growth: A Case of Soft Drink Sector in Kenya. *International Journal of Management and Commerce Innovations*, 3(2), 219–227.
  53. Waithaka, P., & Mwangi, M. R. (2020). Market Penetration Strategy and Performance of Agrochemical Companies in Nakuru County , Kenya Muriithi , Robert Mwangi and Dr . Waithaka Paul , PhD Market Penetration Strategy and Performance of Agrochemical Companies in Nakuru County , Kenya. *Journal of Strategic Management*, 4(4), 23–33.



54. Ward, R. W., Michel, M., & Ortega, L. (2019). Estimating the Impact of the National Mango Board's Programs on the United States Demand for Mangos. *Acta Horticulturae*, 1244, 193–200.  
<https://doi.org/10.17660/ActaHortic.2019.1244.29>
55. Widahartana, I. P. E., I Ketut, S., & I Made, R. E. (2021). Efektivitas Penerapan Iklan Digital Pada Era Marketing 4.0 Di Hotel Grand Mirage Resort Bali. *Jurnal Bisnis Hospitaliti*, 10(2), 84–93.  
<https://doi.org/10.52352/jbh.v10i2.484>
56. Yuwono, R., & Retno, R. R. (2013). Analisa Faktor-Faktor Penghambat Pertumbuhan Di Jawa Timur. *Agora*, 1(3).