



## Technology-Based Marketing: Industrial Revolution 4.0, Needs, Challenges and Solutions for Sayurbox Companies

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### Abstrak

*Revolution 4.0 is a technological development designed to increase the efficiency and effectiveness of business processes. Various leading technologies such as machine learning, cloud computing, the Internet of Things (IoT), blockchain, and various artificial intelligence have been used to support revolution 4.0. SayurBox is one of the revolutions in the agricultural industry in the 4.0 era. With this, companies can create additional value for customers and increase profits. At the same time, the marketing mix remains an integral part of technological progress. This is because the marketing mix has increased customer engagement by increasing the relevance aspect and creating additional value for market competition. With the marketing mix, companies can integrate 4.0 technologies such as artificial intelligence, augmented reality, and others to create offers that are customer- friendly, real, and sustainable. This will help companies to incorporate convenience, flexibility, and a personalized experience into their services to attract new customers and retain loyal customers.*

## 1. Introduction

Technology-Based Marketing is one of the most effective ways to increase product and service sales. The Industrial Revolution 4.0 offers a variety of technology-based solutions to help marketers increase productivity, maximize profits and improve customer experience. Industry 4.0 has brought many changes that lead to new trends in marketing, including increased use of technology to increase marketability. This technology allows marketers to deliver messages faster and more

targeted, as well as improve the customer experience. The main need facing marketers is understanding how to integrate technology into their marketing strategy. They must also know how to optimize the technology and make sure it works to achieve their marketing goals. One of the biggest challenges right now is keeping up with the latest trends in technology and ensuring that their marketing strategies are kept up to date. In addition, one needs to ensure that the technology-based marketing tools he or she uses work effectively and provide value. To address this challenge, marketers can set and follow technology-based marketing guidelines and strategies (Bratha et al, 2022). Actively listening to the latest technology platforms, applying the right technology-based marketing tools, and understanding how to optimize the value of technology at every opportunity is the best way to operate efficiently. In addition, it must also apply the right performance metrics to measure the success of technology-based marketing strategies. Technology-based marketing is needed to gain profits when marketing products or services. However, it also offers challenges and solutions. With the right solution, marketers can increase sales and improve customer experience by using effective marketing technologies (Nusifera et al, 2020).

The industry is currently undergoing a transition that is completely related to the complete digitization of manufacturing processes. Big Data Analytics, Cloud Computing and Mobile Technology, Smart Sensors, and the Internet of Things (IoT), leading to the emergence of the modern industrial digital revolution, referred to as Industry 4.0 (Salam et al, 2018). The First Industrial Revolution, which occurred at the end of the 18th century, was characterized by mechanical production driven by steam and water power (Wijaya et al, 2023). The 2nd Industrial Revolution that emerged in the 20th century and led to the growth of mass production was marked by the development of electricity, and in the 1970s, developments in computers and information technology that led to the automation of production processes ushered in the 3rd Industrial Revolution (Lediana et al, 2023). The industrial revolution 4.0 in collective terms is the scope of technology and the organizational value chain. Therefore, disclosure of business aspects and digital transformation needs to be carried out by the retail industry (Cahyono, 2023).

With the increasing need for digital transformation, companies like Sayurbox are also faced with unique challenges. One is navigating the complexity of the technological infrastructure required to manage and analyze data effectively. Additionally, companies also need to consider the challenges of customer data security and privacy, especially when dealing with sensitive information such as food preferences and purchase history. Therefore, comprehensive and innovative solutions are needed to overcome these challenges, involving collaboration between marketing, information technology and data science experts to create sustainable and adaptive strategies in the face of ever-evolving market dynamics.

A marketing plan is a primary basis for directing and coordinating marketing efforts within a company (Lubis, 2022). The marketing plan operates on two counts: strategically and tactically. The strategic marketing plan outlines the target market and company value based on an analysis of the best market opportunities. While the tactical marketing plan determines marketing tactics including product features, promotions, merchandise, pricing, sales distribution, and service standards. A good marketing plan does not take a long time and costs a lot in the process of its

formation, but it is enough to be researched, considered, and evaluated at each stage so that it will help the company achieve its desired goals (Azzahra et al, 2023).

Sayurbox is a company that specializes in providing fresh products for households (B2C) and restaurants (B2B). Currently, the Sayurbox company has developed into e-commerce that sells a variety of basic needs, including meat, vegetables, fruit, and spices. The emergence of Sayurbox in the midst of bustling e-commerce sellers of fruit, vegetables, and basic necessities is a challenge for the company to maintain its existence in the market (Wijoyo et al, 2021).

For this reason, an integrated system is needed to be able to manage the resources owned by the company and later be able to utilize the data stored in the integrated data storage center for analysis and can be used as a basis for decision-making for improvements in various related fields. The marketing mix integrates marketing communications to consolidate marketing tools, approaches, and resources within the company to maximize impact and gain an edge over the competition.

## **2. Methods**

This research method is a descriptive analysis by describing the data obtained using a literature study and then formulated from the results of the literature study to be analyzed. This research is descriptive research, namely research conducted to determine the value of an independent variable, either one variable or more (independent) without making comparisons or relating to other variables (Vaddhano, 2023). This research will explain the transformation of the Sayurbox marketplace due to the industrial revolution 4.0. Research explanations were obtained from a collection of expert opinions and summarized into one: 1) Gather available sources of information and literature, both from books, the internet, pre-existing papers, own experiences, and other materials related to this topic; 2) Read the sources that have been reviewed; 3) Identify the information read and whether it is relevant to the topic to be discussed; 4) Summarize the key points from each of the relevant literature; 5) Write down and rearrange the important points that have been obtained in a structured manner into a paper.

The data analysis used is the Content Analysis model, which includes activities to clarify the symbols used in communication, use criteria in clarification, and use analysis techniques in making predictions. The activities carried out in this analysis process include: 1) Determining the content analysis of the research results; 2) Classify data based on the results of the research conducted and, 3) Make predictions on the data that has been researched.

## **3. Findings and Discussions**

### **3.1 Transformation 1.0 to 4.0**

The marketing revolution started with marketing 1.0 to today's marketing 4.0. Marketing is the management process responsible for identifying, anticipating, and satisfying customer needs profitably. The development of economic activities (business activities) that direct the flow of goods and services from producers to consumers (Dewatara & Agustin, 2019). Marketing has developed from a product-centered marketing concept to a new-age marketing concept with a managerial approach, social, and virtual reality that considers the need to create certain significant values for consumers, communities, and companies. So, to get a clear

understanding of the shift from selling goods and products to managerial, social, and virtual reality concepts, we need to study the evolutionary process from marketing 1.0 to marketing 4.0.

**Marketing 1.0:** The Marketing 1.0 concept as described by marketing theorist professor Philip Kotler, who is known as the “father” of modern marketing, has been practiced since the industrial era until the first half of the 20th century, based on the traditional interactive approach which focuses largely on products and services offered by the company. The concept is simply about creating a very attractive selling point (Wijoyo et al, 2021).

**Marketing 2.0:** The second evolution of the marketing concept, is Marketing 2.0. The main feature of this concept is using information technology and its tools to manipulate and distribute information. It promotes product features and functionality. The concept is more focused on customers identifying and satisfying their needs than creating loyalty. Thus, by creating specific objectives for the marketing effort and target market, it can replace traditional mass marketing with audience segmentation.

**Marketing 3.0:** From a marketing 3.0 perspective, marketing is brought to the arena of human aspirations, values, and passion. It is based on a new wave of technological developments and its essential tools: the internet, social media, computers, and cell phones. Namely, Social Media Marketing (SMM). Instead of relying on past statistics and trends, direct communication with the customer base provides real-time data and indicators. Therefore, the decision-making process can be taken into account as a result of the knowledge generated through interaction with clients, and analysis, then the goals are achieved. Therefore, Marketing 3.0 combines emotional marketing with human spirit marketing (Nugroho & Andarini, 2020).

**Marketing 4.0:** Marketing 4.0 relates to “a marketing approach that combines online and offline interactions between companies and consumers”. On the other hand, it combines machines or artificial intelligence with other Information Telecommunication and Computing (ITC) technologies to increase productivity, while at the same time, taking advantage of human-to-human connectivity to improve consumer interaction processes. It mostly focuses on customer interaction and the increasing demand for companies to improve their channels and downstream communication approaches (Nusifera et al, 2020).

### **3.2 E-commerce**

Sayurbox is the first farm-to-table e-commerce company in Indonesia. With an extensive network of local farmers, Sayurbox provides organic and conventional, and healthy vegetables and fruits to Sayurbox customers every day. The owner of Sayurbox is Amanda Cole. He came from the success of innovation in agriculture which he named Sayurbox. Together with the tens of employees he has, this company has served tens of thousands of customers with an estimated 1,000 deliveries of fruit and vegetables per day. Sayurbox Amanda was founded in 2016 and managed to get her name on the Forbes 30 Under 30 list for Industry, Manufacturing & Energy 2019 category. The idea came from her love for gardening (Anugrah et al, 2022).

### **3.3 Marketing mix**

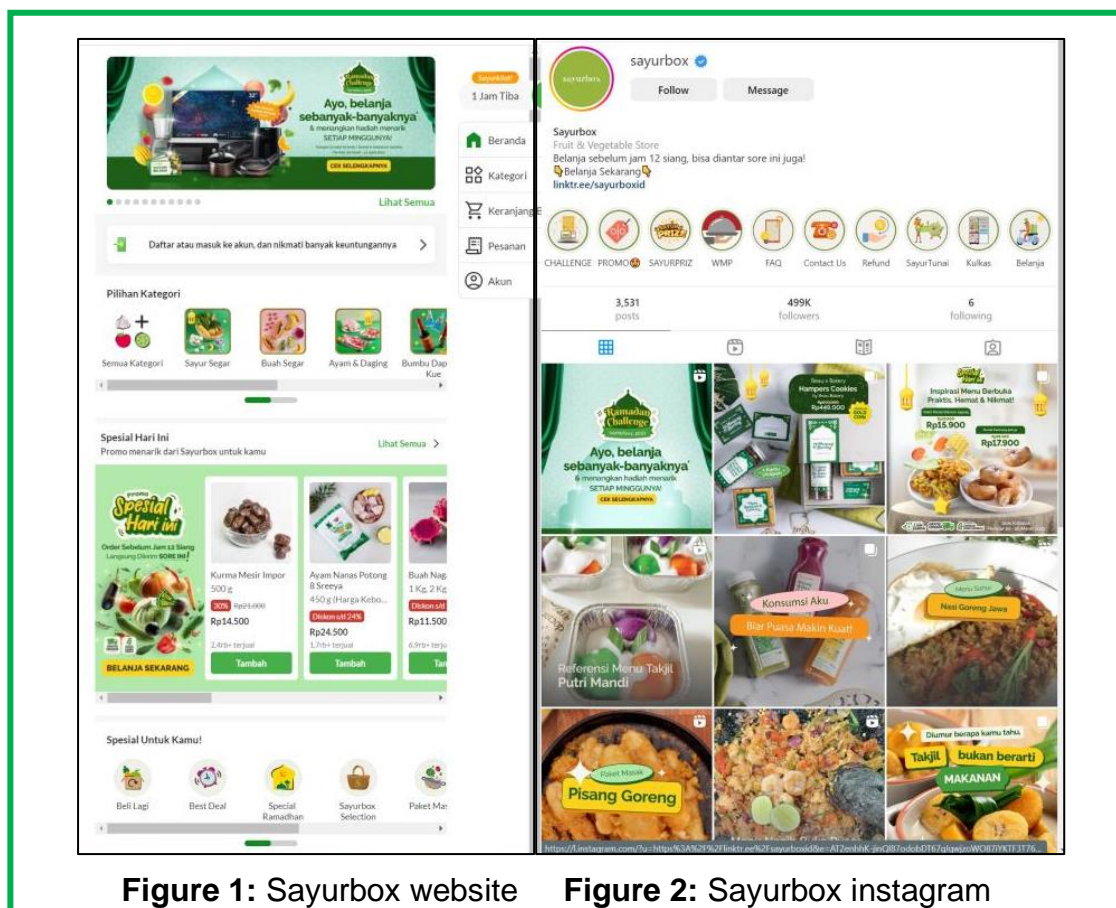
Marketing communications integration is a strategic key for companies in consolidating marketing tools, approaches and resources. By combining various communication elements, such as advertising, sales promotions, public relations, and direct marketing, companies can create consistent, strong messages and reach their audiences effectively. In the context of Sayurbox, a company that focuses on marketing organic and fresh products, the integration of marketing communications is important to maximize its impact. By utilizing the 7P Marketing Mix theory, Sayurbox can design a holistic marketing plan, including product, price, promotion, place, people, process and physical evidence, to achieve its business goals. Sayurbox's marketing plan based on the 7P Marketing Mix theory includes various strategies to strengthen its position in market competition. In terms of products, Sayurbox offers a wide variety of fresh and high quality organic vegetables and fruits. By setting competitive and fair prices, this company can attract customers who care about health and environmental sustainability. Through smart promotions, including online campaigns, partnerships with influencers, and active social media activities, Sayurbox can increase its brand awareness and expand market share. In terms of distribution, the company leverages technology to provide fast and reliable delivery services, thereby ensuring widespread availability of their products. By integrating all these elements, Sayurbox can strengthen its position as a market leader in the organic vegetable industry.

One of the advantages offered by Sayurbox is a competitive and always up-to-date pricing policy. By using advanced technology in market price monitoring and demand analysis, Sayurbox can adjust prices dynamically to remain competitive in an ever-changing market. This ensures that customers get the best value for their fresh vegetable products, while the company maintains healthy profits. With a proactive approach to pricing, Sayurbox strengthens its position as a leader in the food distribution industry that is innovative and responsive to market needs.

Sayurbox not only offers a wide selection of fresh products such as vegetables, fruit, meat, sauces, spices, frozen foods and snacks, but also complements its services with various other products. Customers can find various daily needs such as eating utensils, mother and baby equipment, health products, kitchen equipment, and other household goods. By providing a wide and quality product range, Sayurbox meets the needs of diverse consumers by making it easy to shop on one trusted and practical platform.

Promotion of Sayurbox products is carried out through their main platform, namely the official website Sayurbox.com, as well as popular social media such as Instagram. Through the website, customers can easily access the latest information about products, prices and special offers. Meanwhile, creative and interesting promotional campaigns are also frequently published on Sayurbox's official Instagram account, giving its followers the opportunity to participate in various contests, discount offers and attractive prizes. Examples of frequent promotions include customer loyalty programs with reward points, special discounts for purchases of a certain amount, and special offers for certain products every week. By utilizing these two platforms, Sayurbox has succeeded in building strong relationships with customers and keeping them involved in every aspect of promotions and sales.





**Figure 1: Sayurbox website**      **Figure 2: Sayurbox instagram**

Sayurbox provides an operational location in the form of an online shop which can be accessed via their official website or via an application available on the Google Play Store. Users can easily browse various fresh products and other daily necessities, and make purchases quickly and conveniently through this platform. However, for now, Sayurbox delivery services are limited to destinations in the Jakarta, Bogor, Depok, Tangerang and Bekasi areas. By focusing on these regions, Sayurbox ensures efficient and fast delivery to customers in these areas, while maintaining high quality standards in all aspects of its operations.

Sayurbox involves a variety of individuals in its operations, covering a variety of important roles. First of all, farmers are an integral part of the supply chain, providing the fresh, high-quality products that are at the core of Sayurbox's business. Then, couriers play an important role in delivering customer orders on time and in good condition. On the marketing side, digital marketing specialists are responsible for managing lucrative online promotional campaigns and building the online presence of the Sayurbox brand. The finance and accounting team plays a role in managing the company's financial aspects, ensuring operational sustainability. Meanwhile, software engineers and UI UX designers worked together to develop and improve Sayurbox's online platform to make it more user-friendly and efficient. Lastly, quality checkers play a role in ensuring that all products received and delivered to customers meet strict quality standards, maintaining consistent customer satisfaction and trust in the brand. This collaboration of various individuals with different expertise is the basis for Sayurbox's operational success. By integrating these roles in its operational processes, Sayurbox can provide

comprehensive and quality services to its customers. From agricultural resources to final delivery, every step in the supply chain is carefully controlled to ensure consistent customer satisfaction. Through solid teamwork and a focus on continuous innovation, Sayurbox is able to maintain its position as a leader in the technology-based food distribution industry, providing a superior shopping experience and high-quality products to its loyal customers.

Physical evidence of Sayurbox's existence is available in various forms which provide clarity regarding its operational continuity. First, the use of mobile phones and devices with internet access shows transparency in their services. Customers can easily access the Sayurbox website or application to order products and monitor delivery status in real-time. Second, the presence of active couriers on the streets is concrete evidence of Sayurbox's efforts to distribute fresh products to customers. They quickly deliver orders directly to the door, showing the company's commitment to meeting consumer needs directly. Third, the existence of product reception and distribution activities in offices shows that the operational infrastructure is mature. This ensures efficiency in inventory management and delivery, as well as providing guaranteed availability of quality products. Fourth, the existence of quality checking warehouses in Bogor and Jakarta provides a physical basis for a strict product selection process before being sent to customers. This reflects Sayurbox's commitment to providing consistently high quality fresh products to their customers. Thus, Sayurbox's physical existence is proven through thoroughly integrated infrastructure and processes.

The shopping process at Sayurbox.com is designed to make it easier for buyers with clear steps. First, buyers need to log in to the Sayurbox.com website or application. This can be done beforehand by registering or using an existing Facebook or Google account. After logging in, the second step is to place an order for the desired item by exploring the variety of fresh products available. Then, in the third step, the buyer is asked to enter the delivery address details and select the desired delivery time. It is important to note that the delivery time selection feature has limited quotas and additional fees may apply. The next step is to make payment for the order in the fourth stage. Here, buyers have the option to enter a promo code or use cashback balance if available. After successful payment, in the fifth stage, the goods will be sent immediately according to the agreed order details. With this structured and transparent process, buyers can comfortably enjoy a practical and efficient shopping experience at Sayurbox.com.

#### **4. Conclusion**

Based on the research and discussion presented, it can be concluded that the challenges faced in the Industry 4.0 era in the world of e-commerce are enormous. Digital transformation has changed the way of life of society and industry, thus having a major impact on the progress of e-commerce in Indonesia, especially Sayurbox. Technology alignment occurs between e-commerce technology and the retail industry in the 4.0 era, where e-commerce technology follows and adapts its technology to each of these eras. The era of the retail industry 4.0 has had many positive impacts in general on e-commerce with the innovation strategy implemented so that Sayurbox's e-commerce growth prospects are getting better in the future.

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