

## Evaluation of PIAT UGM Herbal Drink: SWOT Analysis

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Received: October 2022; Accepted: March 2023; Published: April 2023

### ABSTRACT

Herbal drinks provide very promising business potential as people become more aware of the benefits of living a back-to-nature lifestyle. This trend is also an opportunity for processed herbal drink products made by PIAT UGM, such as Rosegar, Gilegrass, and Segar Ayu. The purpose of this study is to evaluate the development of these three products using descriptive analysis based on primary data. The data was gathered from five PIAT UGM employees and ten customers and analyzed with a SWOT analysis. The results of this study revealed that the priority development strategy that can be applied is the Strengths-Threats strategy, through strengthening the branding of high-quality products, tested flavors, and BPOM-registered. In addition, PIAT needs to optimize product promotions through social media and scheduled basis to penetrate various groups, make products as official merchandise for UGM, and collaborate with gift shops and travel agents in the Special Region of Yogyakarta.

*Keywords: Herbal drinks, processed products, PIAT, SWOT*

### INTRODUCTION

Indonesia is a potential producer of herbal commodities attributed to its fertile soil conditions, favorable climate, and diverse flora. Herbal plants such as ginger, lemongrass, turmeric, curcumin, rosella, cinnamon, secang, cloves, and other medicinal plants are commonly used as raw materials by the locals to make functional herbal drinks (Dwisatyadini, 2017). Indeed, the Indonesian government presently categorizes herbal plants as ten potential commodities for development (Nurmayasari & Mu'tamar, 2018). Moreover, the usage of herbal plants is popular not just in Indonesia but in many other countries because it is considered to have fewer adverse effects than modern chemical drugs (Mafruchati, 2020).

Herbal drinks have very prospective business opportunities due to the growing public awareness of the benefits of living a back-to-nature lifestyle. This shift in thinking pushes food industry actors, particularly those producing herbal beverages, to innovate and provide products that meet consumer demand (Istiatin & Marwati, 2021). Instant beverages, both single-serving and powdered, are a viable option for designing beverage solutions that meet serving standards.

This challenge prompted the Center for Agrotechnology Innovation of Universitas Gadjah Mada (PIAT UGM) to develop processed herbal products, such as Rosegar (rosella drink), Gilegrass (citronella ginger powder drink), and Segar

Ayu (*wedang uwuh* fresh drink). These three products are expected to keep the usage of herbs popular among millennials. Furthermore, the three products already have a distribution license from the Food and Drug Supervisory Agency (BPOM) to provide preventive supervision as a consumer protection guarantee for safe consumption.

Because of the dynamic nature of the business environment, PIAT UGM must evaluate the development of its herbal products (Rosegar, Gilegrass, and Segar Ayu) to ensure that they are not inferior to the herbal products offered by competitors. Therefore, PIAT UGM must be more thorough and focused in assessing product competitiveness to determine the sustainability of the three products developed. Furthermore, PIAT UGM necessitates strategic planning capable of analyzing problems, both internal and external, to the organization that is becoming increasingly complex by optimizing organizational capability, one of which is through SWOT analysis.

SWOT analysis (strengths, weaknesses, opportunities, threats) is a popular analytical framework used by organizations because it is a fast, effective, and efficient method for identifying potential for development, decision-making, and expanding the vision and mission of organizations ((Rozmi, 2018; Wu, 2020). The SWOT matrix is developed by integrating internal and external organizational aspects to maximize strengths and opportunities while minimizing weaknesses and threats (Namugenyi et al., 2019). This analysis will yield various potential strategies interconnected with other strategies (Vlados, 2019); (Wu, 2020)). Using this analysis, PIAT UGM is expected to be able to establish a business strategy for the development of herbal products so that they can compete and thrive.

## METHODS

This research was conducted at the Center for Agrotechnology Innovation of Universitas Gadjah Mada (PIAT UGM)

using a descriptive method (Nassaji, 2015), and the data used were primary (Kostewicz et al., 2016) in the form of five PIAT UGM employees who were selected using purposive sampling (Etikan, 2016). The five employees are involved in planning the product development of PIAT UGM. In addition, the resource persons also consisted of 10 consumers of UGM PIAT who regularly buy the product obtained through a random sampling method (Singh & Masuku, 2014). The collected data is analyzed using SWOT analysis, a strategic business tool formed from the dimensions of strengths, weaknesses, opportunities, and threats (Kostewicz et al., 2016).

SWOT consists of *Strengths* and *Weaknesses* as an Internal Factor Analysis System (IFAS) and *Opportunities* and *Threats* as an External Factor Analysis System (EFAS) (Oreski, 2012). Each of these indicators is rated on a Likert scale (1 to 5) from "Strongly disagree" to "Strongly agree," assigned priority weight based on the results, and when added up, the results are equal to 1 for each IFAS and EFAS (Phadermrod et al., 2019). Indicators are developed from several previous studies (Mandira et al., 2020; Rayagina et al., 2022; Ruslim et al., 2022; Trisnaningsih et al., 2022).

## RESULTS AND DISCUSSION

### Product Description of Herbal Drinks made by PIAT UGM

The herbal drink products (produced by PIAT UGM) studied were Rosegar, Gilegrass, and Segar Ayu. Rosegar's products are in the form of ready-to-drink drinks packaged and marketed in sealed plastic bottles, while Gilegrass and Segar Ayu are packaged as ready-to-drink products in small cardboard boxes (Figure 1). The three products were chosen because they have added value in the form of BPOM certification, which ensures product safety for distribution. Table 1 shows the strengths, weaknesses, opportunities, and threats of herbal drink products of PIAT UGM.



**Figure 1**  
**Herbal drink products made by PIAT UGM**

Source: Documentation of PIAT UGM (2022)

**Table 1**  
**Strengths, Weaknesses, Opportunities, and Threats of PIAT UGM Herbal Drink Products**

<p><b>Strengths</b></p> <ol style="list-style-type: none"> <li>1. Product originality</li> <li>2. Competent human resource capabilities, minimum education senior high school</li> <li>3. Product variant</li> <li>4. Expertise in concocting herbal drinks</li> <li>5. Good service quality</li> <li>6. The location of the processing business is strategic because it is close to markets, highways, and cities</li> <li>7. The marketing strategy is online</li> <li>8. The taste quality and product safety are guaranteed because it already has a BPOM registration number</li> <li>9. Naturally processed ingredients without artificial preservatives</li> <li>10. Quality raw materials</li> <li>11. Sufficient capital</li> </ol>	<p><b>Opportunities</b></p> <ol style="list-style-type: none"> <li>1. Excellent market opportunity because of the pandemic so awareness of healthy product increased and various groups of consumers</li> <li>2. Government policies that support Small and Medium Enterprises</li> <li>3. Lifestyle changes that carry the slogan "back to nature."</li> <li>4. The pandemic that changes lifestyle</li> <li>5. Increasing demand for herbal drinks</li> </ol>
<p><b>Weaknesses</b></p> <ol style="list-style-type: none"> <li>1. The technology used is still simple</li> <li>2. Simple product packaging</li> <li>3. Sales growth is not good</li> <li>4. Lack of ability to develop business</li> <li>5. Limited marketing</li> </ol>	<p><b>Threats</b></p> <ol style="list-style-type: none"> <li>1. Tight competition within the region and outside the region</li> <li>2. Varied and modern replacement products</li> <li>3. Difficult to penetrate the local market</li> <li>4. The threat of new entrants</li> <li>5. Low activity and promotion ability</li> <li>6. Do not have many customers yet</li> </ol>

Source: (Mandira et al., 2020; Rayagina et al., 2022; Ruslim et al., 2022; Trisnarningsih et al., 2022)

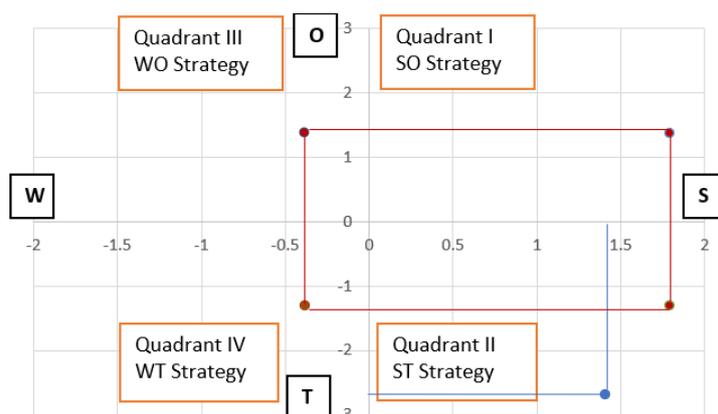
**Evaluation of Herbal Drink Product Development made by PIAT UGM**

From the results of the SWOT analysis, it is possible to evaluate the Development of Herbal Drinks Products made by PIAT UGM through the SO (Strengths-Opportunities), WO (Weakness-Opportunities), ST (Strengths-Threats) and WT (Weakness-Threats) strategies as

follows (Kolbina, 2015); (David et al., 2017).

- a. SO: optimization of strengths to take advantage of opportunities
- b. WO: reduce weaknesses through existing opportunities
- c. ST: use the strength to reduce the impact of the threats
- d. WT: reduce weaknesses and the impact of threats





**Figure 2**  
**The Four Quadrants of Strategic Planning**

Source: Primary data processed (2022)

All internal and external factors are identified and determine the difference in score values depicted in the Cartesian SWOT diagram, with the strength and opportunity factors being given a positive value (+) and the weaknesses and threats factors being given a negative value (-) (Anggraeni et al., 2017). Based on the results of the IFAS and EFAS matrices, it is known that the total IFAS final score is 1.40 and the total EFAS final score is -2.68, with the largest supporting indicator, namely guaranteed product safety because it already has a BPOM registration number (0.16) and government policies that support Small and Medium Enterprises (0.29). In addition, the biggest inhibiting indicators are limited marketing (0.09) and various substitute products (0.27).

Figure 1 shows that herbal drink products made by PIAT UGM are in quadrant II, which means that a new alternative strategy that can be used is Strengths-Threats (ST). This strategy exploits the strengths of herbal beverage products used to overcome the threat of product development. ST strategy has the highest value compared to other strategies, so it has the most effective new alternative strategy opportunity to make significant changes in improving PIAT UGM herbal drink products. Alternative strategies based on the SWOT analysis in the form of SO, WO, ST, and WT strategies

can be seen in Table 2. However, the priority strategies that PIAT UGM can apply is the ST strategy, including strengthening the branding of high-quality products, tested flavors, and BPOM-registered, optimizing promotions via social media (Instagram, Facebook, Tiktok) to penetrate various groups, online promotions are carried out regularly and on a scheduled basis, making products as official merchandise for UGM academics, and collaboration with gift shops and travel agents in the Special Region of Yogyakarta.

Strengthening the branding of high-quality products, tested flavors, and BPOM-registered can be done using the electronic word-of-mouth method through testimonials on social media. (Akhiroh et al., 2021) stated that electronic word of mouth could improve the reputation of the seller and sales. In addition, based on previous research, brand awareness can also be increased by optimizing the use of social media because it is used to establish communication and collaboration with consumers and potential consumers (Brooks et al., 2014); Afrianto et al., 2017; (Pramestya et al., 2020) and collaboration with supermarkets and shops for brand awareness (Rachmatullah et al., 2019). According to (Arvianti et al., 2022) digital marketing can increase marketing efficiency because producers get higher profits and consumers get lower prices.

**Table 2**  
**Herbal Drink Product Development of PIAT UGM**

	<b>Strengths (S)</b>	<b>Weaknesses (W)</b>
<b>Opportunities (O)</b>	<p><b><u>SO strategy</u></b></p> <ol style="list-style-type: none"> <li>1. Product design with a healthy drink motto</li> <li>2. Cooperation with every faculty at UGM</li> </ol>	<p><b><u>WO strategy</u></b></p> <ol style="list-style-type: none"> <li>1. The use of attractive glass material on the packaging</li> <li>2. Marketing on <i>e-commerce</i></li> </ol>
<b>Threats (T)</b>	<p><b><u>ST strategy</u></b></p> <ol style="list-style-type: none"> <li>1. Strengthen branding of high-quality products, tested flavors, and BPOM-registered</li> <li>2. Optimization of promotions via social media (Instagram, Facebook, Tiktok) to reach more customers</li> <li>3. Online promotions are conducted regularly and scheduled</li> <li>4. Making the products as the official merchandise of UGM</li> <li>5. Cooperation and collaboration with gift shops and travel agents in the Special Region of Yogyakarta</li> </ol>	<p><b><u>WT strategy</u></b></p> <ol style="list-style-type: none"> <li>1. Periodic promotion</li> <li>2. Use of more advanced production equipment technology</li> </ol>

Source: Primary data processed (2022)

## CONCLUSION

This study reveals that herbal drink products made by PIAT UGM have been registered with BPOM and positioned in quadrant II. It means that the most effective alternative new strategy used in product development is “diversification” by utilizing product strengths to deal with threats. The strategies that can be implemented based on the SWOT analysis can be grouped into four: Strengths-Opportunities, Strengths-Threats, Weaknesses-Opportunities, and Weaknesses-Threats.

First, the “Strengths-Opportunities” strategy can be implemented by creating product designs equipped with the motto of healthy drinks and collaborating with every faculty at Gadjah Mada University. Subsequently, the “Strengths-Threats” strategy can be implemented by strengthening the branding of high-quality products, tested flavors, and BPOM-registered, optimizing promotions via social media (Instagram, Facebook, Tiktok) which are carried out regularly and on a scheduled basis, making products as official merchandise for UGM academics, and collaborating with gift shops and travel

agents in the Special Region of Yogyakarta. Next, the “Weaknesses-Opportunities” strategy can be implemented by changing the packaging into glass material so that it can attract consumers more and have a high value on packaging attractiveness and conduct marketing in various e-commerce in Indonesia. Finally, the “Weaknesses-Threats” strategy can be applied by conducting regular offline and online product promotions and switching to more advanced and modern technology.

Overall, the evaluation process for the development of herbal drink products made by PIAT UGM was carried out with a focus on increasing product marketing programs that were carried out intensely and collaborated with outside parties so that products were easier to obtain and widely recognized in the community.

## ACKNOWLEDGMENTS

The authors thank the Center for Agrotechnology Innovation of Universitas Gadjah Mada (PIAT UGM) for providing a research grant. Also, we appreciate the Department of Agricultural Socio-

Economics, Faculty of Agriculture UGM, for supporting this research.

## REFERENCES

- Afrianto, A., Malik, D., & Hasiholan, L. B. (2017). Strategy Business Development of Companies through SWOT Analysis (Study at PT. Sido Muncul, Tbk Semarang District). *Jurnal Ekonomi Dan Bisnis Kontemporer*, 3(1).
- Akhiroh, P., Masyithoh, D., & Susilo, A. (2021). Electronic Word of Mouth Pemasaran Madu Era Covid-19 di Wilayah Malang. *Agriekonomika*, 10(1), 19–26.
- Arvianti, E. Y., Anggrasari, H., & Masyhuri, M. (2022). Pemanfaatan Teknologi Komunikasi melalui Digital Marketing pada Petani Milenial di Kota Batu, Jawa Timur. *AGRIEKONOMIKA*, 11(1), 11–18.
- Brooks, G., Heffner, A., & Henderson, D. (2014). A SWOT Analysis of Competitive Knowledge from Social Media for a Small Start-up Business. *Review of Business Information Systems (RBIS)*, 18(1), 23–34.
- David, M. E., David, F. R., & David, F. R. (2017). The Quantitative Strategic Planning Matrix: A New Marketing Tool. *Journal of Strategic Marketing*, 25(4), 342–352.
- Dwisatyadini, M. (2017). Pemanfaatan tanaman obat untuk pencegahan dan pengobatan penyakit degeneratif. *Optimalisasi Peran Sains Dan Teknologi Untuk Mewujudkan Smart City*, 2, 237–270.
- Istiatin, I., & Marwati, F. S. (2021). Sosialisasi Berbagai Peluang Usaha UMKM dan Ekonomi Kreatif di Era New Normal di Dusun Pinggir Desa Telukan Sukoharjo. *Budimas: Jurnal Pengabdian Masyarakat*, 3(1), 129–140.
- Kolbina, O. (2015). SWOT Analysis as a Strategic Planning Tool for Companies in the Food Industry. *Problems of Economic Transition*, 57(9), 74–83.
- Kostewicz, D. E., King, S. A., Datchuk, S. M., Brennan, K. M., & Casey, S. D. (2016). Data Collection and Measurement Assessment in Behavioral Research: 1958–2013. *Behavior Analysis: Research and Practice*, 16(1), 19.
- Mafruchati, M. (2020). The use of dates against COVID-19, based on effectiveness or religion's believe? trends and relevance analysis in big data. *Vaccine*, 1(0).
- Mandira, A., Swikno, S., Fadilah, M., & Sunaryo, D. (2020). Strategi Marketing Teh Rempah “Uwuhable” di Era Urbanisme dan Pandemi Covid-19. *Inovasi Manajemen Dan Kebijakan Publik*, 3(2), 14. <https://doi.org/10.54980/imkp.v3i2.121>
- Namugenyi, C., Nimmagadda, S. L., & Reiners, T. (2019). Design of a SWOT Analysis Model and Its Evaluation in Diverse Digital Business Ecosystem Contexts. *Procedia Computer Science*, 159, 1145–1154.
- Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2), 129–132. <https://doi.org/10.1177/1362168815572747>
- Nurmayasari, A., & Mu'tamar, M. F. F. (2018). Strategi Pengembangan Agroindustri Jamu di Jawa Timur. *Jurnal Teknologi & Industri Hasil Pertanian Vol*, 23(2), 57.
- Oreski, D. (2012). Strategy Development by Using SWOT-AHP. *TEM Journal*, 1(4), 283–291.
- Phadermrod, B., Crowder, R. M., & Wills, G. B. (2019). Importance-Performance Analysis based SWOT analysis. *International Journal of Information Management*, 44, 194–203. <https://doi.org/10.1016/j.ijinfomgt.2016.03.009>
- Pramestya, A. N., Aryanto, H., & Maer, B. D. A. (2020). Perancangan Strategi Branding Teh Herbal Produksi

- “SWARNA” Yogyakarta. *Jurnal DKV Adiwarna*, 1(16), 10.
- Rachmatullah, H. F., Eka, L., Rizki, S. D., Wulan, A., Prasetya, M. A., & MM, I. S. S. T. (2019). Impementasi Kewirausahaan melalui Studi Kelayakan Bisnis Sirup Herbal “Tenan’e Healthy Sirup.” *Inovasi Manajemen Dan Kebijakan Publik*, 2(1), 20–32.
- Rayagina, D., Alam, A. S., Nurkamil, Y., Agribisnis, S., Terapan, F. S., Suryakencana, U., Agribisnis, S., Terapan, F. S., Suryakencana, U., & Pala, E. S. (2022). *Business Development Strategy PKH Group Nutmeg Juice Extract Sukawang Village*. 4(1), 1–14.
- Rozmi, A. N. A. (2018). The Perception of ICT Adoption in Small Medium Enterprise: A SWOT Analysis. *International Journal of Innovation and Business Strategy (IJIBS)*, 9(1).
- Ruslim, J. C., Hagijanto, A. D., Malkisedek, M. H., Studi, P., Komunikasi, D., Humaniora, F., & Kristen, U. (2022). Perancangan Promosi Minuman Herbal Modern Jamoe Kowe sebagai Minuman Sehat dan Menyegarkan. *Jurnal DKV Adiwarna*, 1, 1–9.
- Singh, A. S., & Masuku, M. (2014). Sampling Techniques and the determints of sample size in applied statistics. *International Journal of Economics , Commerce and Management*, 2(11), 1–22. <http://ijecm.co.uk/>
- Trisnaningsih, A., Arisyahidin, & Talkah, A. (2022). Analisis Kelayakan Usaha Varian Minuman Herbal Hasil Praktek APHP Di SMKN 1 Plosoklaten Kediri. *Magister Agribisnis: Jurnal Agribisnis*, 22(3), 146–151.
- Vlados, C. (2019). On a Correlative and Evolutionary SWOT Analysis. *Journal of Strategy and Management*, 12(3), 347–363.
- Wu, Y. (2020). The Marketing Strategies of IKEA in China Using Tools of PESTEL, Five Forces Model and SWOT analysis. *International Academic Conference on Frontiers in Social Sciences and Management Innovation (IAFSM 2019)*, 348–355.