



## Hydroponic vegetable business strategy development in PT. XYZ

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### ABSTRACT

*PT XYZ is an agribusiness company. Currently, its potential is still not optimized. To support sustainable and competitive agricultural development and the sustainability of the industry in running a business, professional and efficient business plans and strategies are needed to achieve the business targets that have been set. This study aims to 1) analyze the business model run by PT XYZ, 2) analyze the internal and external conditions of PT XYZ, and 3) formulate an improvement plan for the business model of PT XYZ. The data used in this study are primary data and secondary data. Primary data was obtained through field observations, in-depth interviews with informants (purposive sampling), and distributing questionnaires. In contrast, secondary data came from various kinds of literature, both from books and the internet, regarding the results of data publications from relevant institutions and agencies relevant to the research. The method of analysis with research objectives are Business Model Canvas (BMC), SWOT (Strength, Weakness, Opportunity, and Threat) analysis, and qualitative and quantitative descriptive. The results of the Business Model (BMC) mapping at PT XYZ show that there is still a need for changes in business strategy because there are still potential customer segments to be developed. After using the SWOT analysis, there are several formulations of strategy development, namely a new alternative strategy focusing on several operational support components to reach broader consumers, integration between products and services, and a sound marketing management system.*



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## INTRODUCTION

The agricultural sector is a sector that has the potential to develop. One of the existing and developed technologies is hydroponics. Urban agriculture can be a form of solution for meeting food needs in urban areas. According to Leitman (1999) Urban life is often regarded as the cause of the decline in environmental quality. Still, urban areas themselves can be a solution to various existing ecological problems. This is possible because compared to rural areas, urban areas have more financial, human, and social capital that can create many improvements or encourage the government and the private sector to carry out repairs and other preventive actions, including meeting food needs.

The emergence of hydroponics, is based on the belief that plants can grow well anywhere as long as their nutritional needs (nutrients) are always fulfilled. In this context, media other than soil only supports plants, so they do not collapse, and water plays an essential role in plant growth. The water here is not ordinary water but water from the process of dissolving plant nutrients needed (Tallei et al. 2017).

According to Badan Pusat Statistik (2017) the trend of vegetable consumption shows the relationship between income levels and the population's eating patterns. People with low income consume vegetables in minimal quantities, and consumption will increase along with revenue. What is interesting is that although hydroponic vegetables are relatively more expensive, there are some consumers who prefer to shift to consuming hydroponic vegetables. This is due to the increasing level of consumer understanding of health, rising incomes, and current lifestyles; this causes an increase in consumer demand for hydroponic vegetables

Hydroponic vegetable production is still relatively low; this is a reflection of a series of existing factors, including small farming patterns, low seed quality supported by a diversity of species/varieties, and soft application of cultivation technology (Febrianto, 2013)

This causes a lack of fulfillment of the need for hydroponic vegetables in the community. So that people can not meet their needs for vegetables optimally. Hydroponic vegetable producers must resolve this challenge to help meet the needs of hydroponic vegetables in the community.

A business model is a concept that shows how a value is created until it is transferred to consumers to make a profit; over time, the way a business creates profit is no longer focused on developing and communicating value to consumers in the form of tangible products, but also includes intangible products such as services and services by consumer needs (Mazzarol et al. 2011).

Business model can efficiently consider the business's capabilities before the business plan is developed. This methodology is broadly applicable to new industries, existing industries, and not-for-profit and non-profit organization (Gavrilova et al. 2014)

According to Hanf and Torok (2009), Company management in the modern era needs to be more adaptive to business environment changes and face the future. One of the popular management concepts is the business model canvas; with the help of the business model canvas, companies can plan their activities financially based on the influence of internal and external factors. This enables the company to increase revenue and profit levels and ensure that it faces consumers at the right level to maintain a competitive advantage and business sustainability in the future.

Previous research used the Business Model Canvas (BMC) approach and Strength, Weakness, Opportunity, and Threat (SWOT) analysis. According to Sa'diyah (2016), based on the analysis results from the mapping on the "BMC" it shows that there is a need for a new strategy change because there are still potential and unserved market segments such as the chicken farming industry and companies in Indonesia whose capacity is lacking in meeting customer demands. Strategic issues in the SWOT identification have been carried out on the nine elements of the Business Model Canvas.

According to Nur'azkiya (2017) research related to "BMC" mapping at PT. ABC, where a strategy change is needed in the market segment because it has not met the food industry's market need in Indonesia and foreign market opportunities: Singapore, Malaysia, Canada, and the UK.

According to Mahdi (2020) Based on the results of the mapping of "BMC" with the business model canvas approach, it shows the need for a change in strategy because there are still

potential market segments that have not been reached by cooperatives, such as final consumers for processed seaweed products. There is an opportunity to develop new seaweed product innovations for getting this new customer segment, as well as opportunities to develop business activities that have been running so far with the addition and improvement of supporting facilities in the production process. Hydroponic vegetable producers must solve this challenge to help meet the needs of hydroponic vegetables in the community.

The research aims to analyze the model of company being run, to analyze being run, to analyze the condition of the business environment, and formulate alternative strategies at PT. XYZ.

## METHOD

This research was carried out at PT. XYZ with its products, namely hydroponic vegetables. This research has several stages, from the field observation stage, problem identification, field study, and literature study, to data collection and processing. This study uses qualitative methods, the data collected are primary and secondary. Data processing uses the "BMC" approach using SWOT analysis.

Data collection techniques for the "SWOT" classification are filling out questionnaires, in-depth interviews, and Focus Group Discussions (FGD) to internal and external organizations. The selection of respondents in this study was based on the consideration that the respondents knew the conditions of the hydroponic vegetable business. Data collection from the internal organization "FGD" is determined by selecting internal and external strategic factors.

According to Osterwalder and Pigneur (2010) The data analysis method is carried out to determine the existing condition of the company, environmental analysis, and the company's internal business activities using the business model canvas framework developed. This business framework is a canvas that divides the business model into nine main squares Figure 1.

## RESULTS AND DISCUSSION

### Current Business Model PT.XYZ

According to Osterwalder and Pigneur (2010). A customer segment describes a distinct group of people the company wants to reach or serve. The customer segment (Customer

Segments) is currently PT.XYZ focuses on selling hydroponic vegetable products at outlets and also marketing through social media. Usually, customers consist of homemakers fulfilling household needs and surrounding communities who need healthy vegetables at the nearest outlet.

*Value Propositions*, providing a value proposition as a hydroponic vegetable business that offers fresh hydroponic vegetables and has prices that match their quality. To maintain the freshness of its products, PT. XYZ always carries out the harvest and packaging process in the morning before giving orders to customers. In addition, PT. XYZ also provides prices according to the quality or grade produced during the harvest so that PT. XYZ can always meet customer expectations and never let them down.

*Channels* are carried out through interpersonal communication channels. PT. XYZ helps inform its customers about hydroponic vegetable production from upstream to downstream directly and indirectly. PT XYZ offers various forms of notification. PT XYZ to the public directly at the outlet, indirectly through brochures, and ordering information through several online social media such as Whatsapp and Instagram.

According to Osterwalder and Pigneur (2010) *Customer Relationship*, are the type of relationship you want with customers from certain market segments. PT. XYZ maintains good relations with customers to maintain existing market share and provide maximum service satisfaction and trust. In establishing relationships with customers, PT. XYZ uses a personal assistant service relationship, whereby PT. XYZ communicates directly with customers regarding the hydroponic vegetable business at outlets and PT. XYZ to acquire or attract new customers by creating content on their social media. Revenue Streams, The income stream obtained by PT. XYZ comes from the sale of hydroponic vegetables, which are carried out online and offline by adjusting to the development of prices on the market.

*Key Resources*, PT. XYZ makes human resources the main resource as the Main Resource to support product improvement while managing company performance management. Physical objects such as tools and equipment, production facilities such as greenhouses and packaging rooms, and mobile phones and laptops for selling

and content creation. then intellectual resources include branding and content created on social media, labels placed on products that give companies a competitive advantage, and financial resources.

*Key Activities* in running its business PT. XYZ carries out several main activities so that the business model can run smoothly, while the activities carried out by the company are production activities such as seeding, quality control, pest eradication, harvesting, packaging, and marketing. The sales activities such as marketing and transactions through WhatsApp social media. Sales in this way can build relationships with consumers. This can benefit the company because it becomes a place to realize consumer expectations and have a better shopping experience. Other activities include buying equipment, supplies, seeds, and nutrition.

*Key Partnership*, PT. XYZ has cooperation partners, namely two supermarkets in the Jakarta area. PT. XYZ conducts sales transactions with both partners every two weeks because it has a harvest time every two weeks; this partner collaboration is quite profitable for PT. XYZ because it provides additional income.

*Cost Structure*, the cost structure describes the costs that must be incurred to run a business. This section focuses on the most critical expenses a business has, its key resources, and the partnerships built to make the business model easier to work with. The cost structure includes production costs, packaging, and marketing costs, and employee wages.

Mapping of nine building blocks at PT. XYZ in the current Business Model Canvas (BMC) can be seen in Figure 2.

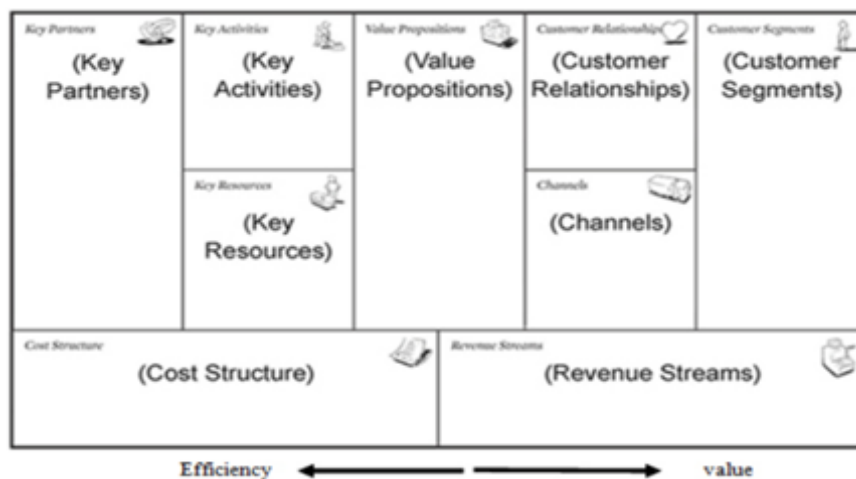


Figure 1 Business Model Canvas (Osterwalder and Pigneur 2014)

<i>Key Partnerships</i>	<i>Key Activities</i>	<i>Value Propositions</i>	<i>Customer Relationships</i>	<i>Customer Segments</i>
1. 2 supermarket partners in Jakarta	1. Production 2. Selling	1. Fresh Products 2. Affordable prices and according to quality.	1. Personal service 2. Creating social media content	1. Housewife 2. Local communities
	<i>Key Resources</i>		<i>Channels</i>	
	1. Human Resources 2. Financial resources 3. Supporting facilities		1. Direct line (Outlet) 2. Indirect channels (Social media)	
<i>Cost Structure</i>			<i>Revenue Streams</i>	
1. Production cost 2. Packaging and marketing costs 3. Employee wages			1. Sales of hydroponic vegetable products	

Figure 2 Current Business Model PT.XYZ

Table 1 SWOT Assessment on the Nine Elements of a Business Model.

<b>Element</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Customer Segments	Have segmented customers	Not yet optimal in meeting market demand	The opening of a new customer segment	The emergence of competitors who threaten market share
Value Propositions	Have fresh hydroponic vegetables	-	Can increase revenue by improving service on the product	The price of conventional vegetables is lower
Channels	The practical and efficient channel through social media	Lack of existing information dissemination media	Use of social networks to reach new customer segments	-
Customer Relationships	- Strong customer relationship - Creating a quality relationship that fits the customer segment	-	- Increase customer follow-up potential - Can strengthen customer relationships	Switching customers to other manufacturers
Revenue Streams	- Earn sustainable income - Have a recurring income stream and have frequent repeat purchases	Fluctuating income	There are other sources of income, such as processed food other than hydroponic vegetables.	Reduced revenue due to competitors
Key Resources	- Predictable resource requirements - Utilize critical resources in the right amount and at the right time.	Manual packaging technology still uses HR	More advanced technology	Competitor companies that use better technology so that they are more efficient.
Key Activities	- Service, maintenance, and care are by procedures - Product quality stability is maintained because there are always checks	- Production activities are easy to imitate - The technology used is still simple, namely the packaging process	- There is a facilitator in standardizing key activities - Available on the market, more advanced technology for automated packaging processes	- The company is threatened by competitors (Technology)
Key Partnership	There is a good relationship that exists between PT. XYZ and partners	Have not established a partnership relationship with the government.	Opening opportunities for partnerships with the government that can be beneficial	If the relationship with the liaison is disrupted, it will significantly affect the smoothness of getting new customers.
Cost Structure	Efficient operational costs	-	-	Unpredictable costs

**SWOT assessment on each element of PT. XYZ business model**

The steps were taken after mapping PT. XYZ's current business model is conducting a SWOT analysis of each element on the nine elements that have been mapped.

The SWOT mapping will be used to develop a strategy for improving the business model carried out so far. The mapping of the nine elements will be combined with the SWOT analysis results to obtain more in-depth and sharp analysis results. PT. XYZ has strategic issues of

strength, namely segmented customers, having fresh hydroponic vegetables, and good main partner relationships. Furthermore, strategic issues become weaknesses in the form of not being optimal in meeting market demand, still having a relatively small business scale, production activities are easy to imitate, and the lack of existing information dissemination media. At the same time, the opportunities that can be exploited are increasing revenue by improving product services, opening up new customer segments, having a facilitator role in key activities, and using social networks to reach new customer segments as well as strategic threats that need to be considered, namely the shift of customers to other producers, companies threatened by competitors (technology), lower conventional vegetable prices and unpredictable costs. The results of the SWOT assessment analysis regarding the nine elements are presented in table 1.

**SWOT Matrix Analysis**

Based on the SWOT analysis of each subsequent element in the SWOT matrix analysis,

alternative improvement strategies can be determined. The SWOT matrix analysis that has been plotted produces nine strategies that PT can use. XYZ, the results of the SWOT matrix analysis are described in table 2.

**PT. XYZ Model improvement**

Based on the “SWOT” analysis results in table 1 and table 2, which have been mapped, several things need to be improved to enhance the management of PT. XYZ to be better and more efficient in the future.

*Customer Segments*, on this element PT. XYZ needs to implement the W-O1 strategy to overcome problems that are not yet optimal in meeting customer demands by marketing activities and finding new markets. This strategy also aims to keep loyal consumers from participating in the word-of-mouth marketing because loyal customers are one of its advantages.

Table 2 Matrix SWOT

<b>Internal Factors</b>	<b>Strength (S)</b>	<b>Weakness (W)</b>
	<ol style="list-style-type: none"> <li>1. Customers are already segmented (CS)</li> <li>2. Have fresh hydroponic vegetables (VP)</li> <li>3. A good relationship with leading partners (KP)</li> </ol>	<ol style="list-style-type: none"> <li>1. PT XYZ has not been optimal in meeting market demand (CS)</li> <li>2. It still has a relatively small business scale (CH)</li> <li>3. Production activities are easy to imitate (KA)</li> <li>4. Lack of existing information dissemination media (CH)</li> </ol>
<b>External Factor</b>	<b>Strategy S-O</b>	<b>Strategy W-O</b>
<b>Opportunity (O)</b>		
<ol style="list-style-type: none"> <li>1. Can increase revenue by improving service on products (VP)</li> <li>2. The opening of a new customer segment (CS)</li> <li>3. There is a role of the facilitator in standardizing key activities (KA)</li> <li>4. Use of social networks to reach new customer segments (CH)</li> </ol>	<ol style="list-style-type: none"> <li>1. Expansion of new customer segments (S1, O2, O4).</li> <li>2. Maintain product quality and innovation to maintain customer trust (S2, S3, O1, O2, O3).</li> <li>3. Increase Cooperation with partners to achieve mutual benefits (S2, O1, O2).</li> </ol>	<ol style="list-style-type: none"> <li>1. Optimization of marketing activities and the search for new markets (W1, W2, O1, O2)</li> <li>2. The utilization of technology use and product promotion (W1, W2, W4, O1, O2, O4)</li> </ol>
<b>Threat (T)</b>	<b>Strategy S-T</b>	<b>Strategy W-T</b>
<ol style="list-style-type: none"> <li>1. Switching customers to other manufacturers (CR)</li> <li>2. The company is threatened by competitors (technology) (KA)</li> <li>3. Conventional vegetable prices are cheaper (VP)</li> <li>4. Unpredictable costs (CS)</li> </ol>	<ol style="list-style-type: none"> <li>1. Product quality improvement through attractive special offers (S1, S2, T1, T2, T3)</li> <li>2. Maintain and increase the existing partnership with PT. XYZ (S2,S3,T1,T4)</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve marketing management system (W1, W2, W3, T1, T3)</li> <li>2. Other cost budgeting and business scale development (W1, W2, W3, T1, T3, T4)</li> </ol>

<i>Key Partnerships</i>	<i>Key Activities</i>	<i>Value Propositions</i>	<i>Customer Relationships</i>	<i>Customer Segments</i>
<ol style="list-style-type: none"> <li>2 supermarket partners in Jakarta.</li> <li>The addition of retail partners is carried out for long-term sales of new products so that customers can easily find them.</li> <li>Addition of partnerships for promotional activities such as print media, production website/application and community.</li> </ol>	<ol style="list-style-type: none"> <li>Production</li> <li>Selling</li> <li>The addition is in the form of new product processing activities as a business opportunity, namely vegetable salad.</li> </ol>	<ol style="list-style-type: none"> <li>Fresh Products</li> <li>Affordable prices and according to quality.</li> <li>The addition of new products as a business opportunity, in the form of packaged vegetable salads that have been processed to meet consumer needs.</li> <li>Adding a hydroponic quality assurance certificate from the Ministry of Agriculture.</li> <li>Total quality control to produce premium quality products.</li> </ol>	<ol style="list-style-type: none"> <li>Personal service</li> <li>Creating social media content</li> <li>Added a feedback column on the website</li> </ol>	<ol style="list-style-type: none"> <li>Housewife</li> <li>Local communities</li> <li>Individual middle-up segments such as vegetarians and communities</li> <li>Middle up segment such as retail, cafe, restaurant and hotel.</li> </ol>
		<i>Channels</i>		
		<ol style="list-style-type: none"> <li>Saluran langsung (Outlet)</li> <li>Indirect channels (Social media)</li> <li>The addition of online channels in the form of websites or applications that are integrated with delivery, in addition to fanpages, and YouTube as a means of introduction.</li> <li>Exhibition or event.</li> </ol>		
<i>Cost Structure</i>		<i>Revenue Streams</i>		
<ol style="list-style-type: none"> <li>Production cost</li> <li>Packaging and marketing costs</li> <li>Employee salary</li> <li>Product promotion costs</li> </ol>		<ol style="list-style-type: none"> <li>Sales of hydroponic vegetable products</li> <li>Additional revenue streams from the sale of new products, namely vegetable salads.</li> <li>Additional revenue streams from online promotions.</li> </ol>		

Figure 3 Improvement of PT. XYZ

*Value Propositions.* To cover this deficiency, the company can implement a WO-1 strategy, namely optimizing marketing activities and finding new markets. When there is a threat due to many substitute products, the company must innovate to find new markets because the products already exist.

*Channels.* This problem can be solved by implementing the W-O2 strategy where technology and product promotion in the company's activities must be optimized to monitor the channel.

*Customer Relationships.* The threat exists, and the company can implement a W-T 1 strategy in which the company must improve its marketing management system. A good marketing management system can be started from within the company, namely forming a special marketing division, to carry out more focused tasks because good marketing management is a gateway to reach consumers.

*Revenue Streams.* W-O1 alternative strategies can also be applied, namely optimizing marketing activities and finding new markets. Companies can collaborate with partners by creating new markets and optimizing marketing activities.

*Key Resources.* An alternative strategy that can be applied to this element is implementing the S-T 1 strategy, which is to improve product quality through attractive special offers. This is useful when there is an integration between products and services where special offers are presented.

*Key Activities:* implementing an alternative W-O2 strategy where technology and product promotion in the company's activities must be optimized to unify the existing channels. The times that made many changes on the consumer side that changed the need for information from primary needs made it an opportunity for companies to deliver secondary products more easily.

By utilizing the alternative strategy of S-T 2, *Key Partnership* maintains and adds to the existing partnership with PT. XYZ On the one hand, partners benefit from the new channel, and on the company side, new channels are created together in addition to continuously improving good relations with partners. This situation will be supported if the company and partners cover each other's shortcomings by combining the strengths of each company.

*Cost Structure:* implementing alternative W-T 2 strategies, namely budgeting other costs and developing business scale. Determination and budgeting of other costs are needed in companies developing business scale in the future PT. XYZ can be more competitive with similar companies.

Application of alternative strategies on the business model canvas of PT. XYZ produces a new business model canvas to be used as another alternative in implementing business at PT. XYZ for the future. The mapping of alternative strategies applied to the new business model canvas for PT. XYZ can be seen in Figure 3.

## CONCLUSION

From mapping the business model canvas at PT. XYZ currently shows that there is still a need for a change in business strategy because there are still customer segments that have the potential to be served. The current business model still needs to be improved so that the profit obtained can be optimal.

There are improvements to the new business model canvas owned by PT. XYZ. Strengths, weaknesses, opportunities, and threats are unique alternative strategies that focus on adding several components to support the company's operations to reach more consumers, integrate products and services, and create a sound marketing management system.

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