

Conference Paper

Feasibility Study of the Pagar Sayuran Organik Business

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ORCID:*Christian Herdinata: <http://orcid.org/0000-0003-2228-5820>***Abstract**

Modern cultivation supports better lifestyles in urban society where initially people think that it is only possible to conduct cultivation activities in remote or large areas, which restricts urban people to create friendly urban cultivations. Therefore, Pagar Sayuran Organik established a modern design of equipment for hydroponic cultivation. This research aimed to discover the feasibility of business development from the existing business, covering 5 research aspects: Market and Marketing, Technical and Technology, Legal, Financial and Human Resources. The population in this study was people of Gresik Regency that had significant population growth and housing developments, so that they were expected to become potential consumers. This study discovered that Pagar Sayuran Organik has fulfilled the 5 aspects' requirements. Therefore, the Pagar Sayuran Organik business is feasible to develop.

Keywords: Hydroponics Starterkit; Organic Vegetables; Hydroponics; Feasibility Study.

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Published: 22 March 2021

Publishing services provided by
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Selection and Peer-review under the responsibility of the ICOEN Conference Committee.

1. Introduction

Hydroponic cultivation was very famous and interesting farming style in recent years and it was famously known as Urban Agriculture with easy procedure and high quality production (Schnitzler, 2012). Hydroponics became wonderfully desired by people because of their positive advantages. Many consumers needed fresh vegetables from their local environment in spite of the limited space of cultivation in urban residence. Therefore, Hydroponics cultivation is the solution (Theduke, 2011; Kumar, 2019; Schnitzler, 2012).

Some Middle East Countries have applied hydroponics as urban lifestyle for growing fruits and vegetables. Initially, those countries had low rate vegetables and fruits consumption due to the limited fruit and vegetable stocks. They had to distribute fruits and vegetables from traditional farming which needed some time to approach cities (Martin & Molin, 2019; FAO, 2010)

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Hydroponics cultivation was not only as little garden to produce fruits and vegetables, but also to relaxation for expiration. It could refresh air and vanished air pollution. Therefore, many modern cities applied Urban Hydroponics to reduce air pollution. Plants around modern residence could capture dust and they could exchange CO₂ to O₂ that could reduce temperature rise and global warming (Deelstra and Girardet 2005).

Modern city has limited space. Therefore, farming was impossible with traditional cultivation. Hydroponics concept in modern city was in line with green city concepts that would bring resilience and environmental sustainability which became modern people's most-wanted concept. (FAO 2010).

Hydroponic farming was established and developed in early 2017 by some greenhouse farmers. They established greenhouse for hydroponic cultivation. The hydroponic farmers consisted of organic vegetable communities and hobbyists who realized the potential hazard of pesticide. Their influence expanded to surrounding residence. Thus, many people bought fruit and vegetables from greenhouse in Gresik residence.

Pagar Sayuran Organik was firstly produce organic vegetables contributed to consumers in Gresik Regency. Moreover, it had potential opportunities to expand their business range. Based on the survey result, the researcher noticed that: (1) Pagar Sayuran Organik ran small business limited to organic vegetable productions. Their consumers came to their hydroponic gardens. (2) Inconsistent farming technique. In the beginning of 2017 they used Deep Water Culture series, while in this year, they applied NFT standard system. (3) The vegetables were unaffordable for middle to low class. (4) The production home's layout was not standard and not esthetic.

Products of Pagar Sayuran Organik are fresh hydroponic vegetable and its equipment such as starter kit and fence. Fresh hydroponic vegetables always provided by the company. Moreover, Starter kit is the medium for cultivating hydroponically. The fence is a frame or guard of hydroponic vegetables. It functions as border and protector of hydroponic vegetables. Further, almost all starter kits and fences have general and standard shapes but Pagar Sayuran organic developed these designs into modern style that made hydroponic cultivation more beautiful.

For that reason, Pagar Sayuran Organik was a unique business idea in the modern and urban area. Yet, this business is fragile without further analysis and proper strategies because without analysis and strategy any business will never be succeeded. Further, this feasibility study aimed to assess whether the business was worth to develop or unworthy to progress (Eldridge et al. 2016). Thus, the importance of feasibility study for Pagar Sayuran Organik is to determine the viability through five aspects such as

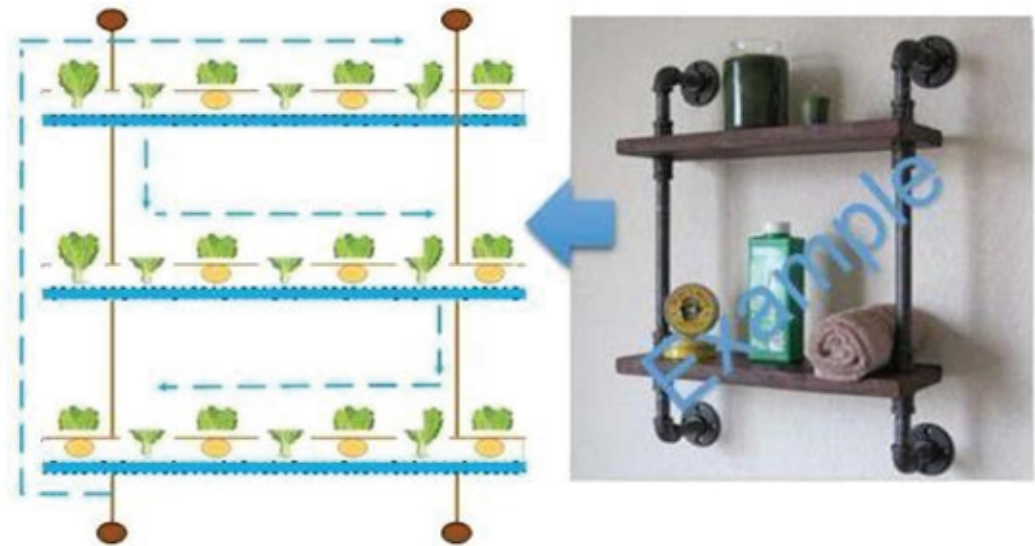


Figure 1: Example of modern hydroponic fence by Pagar Sayuran Organik

Market and Marketing, Technical and Technology, Legal, Financial and Human Resource Aspects.

2. Method

This study used qualitative method to obtain detail data and information. This study was conducted to examine Pagar Sayuran Organik based on five aspects, they are: Market and Marketing Aspects, Technical and Technological Aspects, Legal Aspects, Financial Aspects and Human Resource Aspects. The researcher collected qualitative data from observation, semi-structured interview and documentation. Further, the researcher clarified and rechecked the data to interviewee to get validation of the analyzed-data. The main data source in this study was Pagar Sayuran Organik Company located in Semen Gresik, Segunting Block G-26, Sidomoro, Kebomas, Gresik, East Java.

Therefore, there were five categories and steps of Data analysis, they are:

1. Analyzing Market and Marketing Aspects by SWOT analysis
2. Observing the Technical and Technological Aspects,
3. Checking and Validating the Legal documents
4. Analyzing the Financial
5. Detecting the Human Resource

3. Result and Discussion

3.1. Market and Marketing Aspect

3.1.1. Market Aspect

According to Suliyanto (2010) market aspect is a crucial and important aspect before starting a business because potential incomes come from product's disposal. Further, Market will support the marketing aspect that develops business income.

a. SWOT analysis

SWOT analysis aimed to identify internal strength of the company. SWOT consisted of S (Strength), W (Weakness), O (Opportunity), T (Threat). Firstly, Internal Strategic Factor Analysis by combining strength and weakness factors (Freddy Rangkuti, 2001:22) Insert 5 to 10 strength and weakness factors, give value of each factors with scale 1,0 (Very Significant) and 0,0 (Not Significant). Further, give rating to each strategic factors with scale 1 (weak) and 4 (very strong) give the rating after measuring to competitors average. Sum it all to obtain ISFA value and it will be used to discover quadrant positioning in the SWOT analysis.

Secondly, Measuring External Strategic Factor Analysis by inserting opportunities and threats factors and measuring them as well as the weakness and strength factors above.

Based on both tables above, it could be seen that business in this study was in quadrant 1 it means that this business was feasible because it had positive abscis (X) and ordinate (Y) axis.

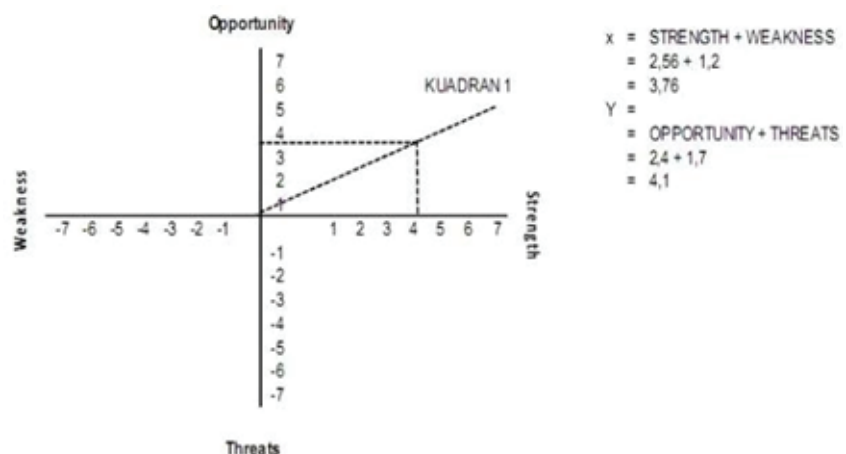


Figure 2: Diagram of SWOT quadrant

TABLE 1: ISFA Table

Strategic Factors (Strength)	Value	Rating	Value x Rating
Have a firm partnership	0,2	4	0,8
Product Marketing Network through Partnership	0,1	4	0,4
Have Skill and Knowledge in technology and microcontroller	0,2	4	0,8
Have 2 Firm Investors	0,1	4	0,4
Have a good relation with BUMN dan BUMD	0,4	4	0,16
Total			2,56
Strategic Factors (Weakness)	Value	Rating	Value x Rating
Home Production Scale	0,2	1	0,2
Limited Workshop Location	0,2	2	0,4
Limited liquid fertilizer availability (supplier from West Java)	0,1	1	0,1
Far distance supplier	0,2	1	0,2
Experience VS competitor factors	0,3	1	0,3
Total			1,2

Source: Proceeded Data

Figure 2 above identified that business in this study was in Quadrant 1 with the strategies as follow:

-SO: create a new and different starter kit from unused pipe and vast into hydroponic furniture. -WO: Improving product promotion, enlarge workshop and production capacity. - ST: Partnership in starterkit production and investor partnership to expand business. - WT: Improve Human Resource quality to follow technological development so that starter kit product can be developed and combined with new technologies.

3.1.2. Marketing Strategy

TABLE 2: ESFA

Strategic Factors (Opportunity)			
	Value	Rating	Value x Rating
Great Demands of organic vegetables	0,3	3	0,6
New design and product ideas	0,2	3	0,6
Easier license	0,1	2	0,2
Gresik Economic development	0,3	2	0,6
Expensive Organic Vegetables	0,1	4	0,4
Total			2,4
Strategic Factors (Threat)			
	Value	Rating	Value x Rating
Big Furniture company emerge	0,2	1	0,2
Competitive Design and Idea of competitors	0,2	3	0,6
Technological Development	0,2	2	0,2
Import Product	0,2	3	0,3
Competitive and big Capital of competitors	0,2	2	0,4
Total			1,7

Source:

proceeded Data

Segmentation

Pagar Sayuran Organik used demographic factor strategy based on industrial types, company capacity and location this company's type is a creative industry combined with minimalist design and urban style with developed-technology. Therefore, this company produced hydroponic starter kit and fence combining with modern design and new technology.

Targeting

The first target in this study is urban household in which lived at minimalist space of house, yet desired hydroponic starter kit and beautiful furniture at once. Second target were hobbyists and employees who seek side job that can be done beside their job. Opportunity from these targets is big because it can be a new trend in hobby. Third target

in the business is companies with large production planning to produce efficient and high quality hydroponic vegetables. Moreover, other companies that want to decorate their interior with wood furniture combined with hydroponic plants.

Positioning

Positioning was determined based on products benefits such as fresh hydroponic vegetables for healthy urban lifestyle; starter kit that make hydroponic cultivation easier; and hydroponic furniture that beautify interior. Therefore, in this study, the positioning tagline was “Pagar Sayuran Organik” which means the hydroponic vegetables with its border and fence to protect and support them in hydroponic cultivation without worrying about space and location.

4. Technique and Technological Aspects

According to Soeharto in Rinaldy (2017) technique analysis aimed to produce project's blueprint. Blueprint is an important aspect of a project because it is the framework for business development. Moreover, machine and technological material must be chosen selectively because it must give cost efficiency in production activity.

Technique of production was carefully controlled with best machine and technology. Choosing machine and technology must be appropriate with company's condition by measuring economic objectives of machine usage as process of efficiency in production house. Pagar Sayuran Organik applied simple but finest technique and technology to support the production process. The company has adequate technology to create an artistic and modern starter kit equipment. Besides, the company also has proper layout location in their production room. The location was good to support the production process, quality control, and even shipping and marketing process.

5. Legal Aspect

According to Soeharto in Rinaldy (2017) based on regulation number 4 years 1982 about basic regulation of environmental management that all planning that potentially damage environment must have permission in the form of certificate or license. The regulation varied based on the regional policy.

All the legal documents can be complied by Pagar Sayuran Organik company to support their business. Therefore, the fulfilled documents as follows:

1. Deed of Establishment, Articles of Incorporation
2. Trade Business License
3. Company Registration Certificate
4. Taxpayer Registration Number

6. Financial Aspect

Kear stated in Rinaldy (2017) there are some methods to calculate asset depreciation such as; straight line method, service hours method, productive output method and reduce charge method. Cash flow is an outcome planning consists of two types they are net cash flow both income and outcome. The researcher analyzed Payback Period, Net Present Value, and Internal Rate of Return to examine the financial aspects of Pagar Sayuran Organik.

The researcher obtained good financial analysis result in this study. Payback Period, Net Present Value, Internal Rate of Return with normal scenario as follows:

1. Payback Period (PP)= 2,13 Year
2. Net Present Value (NPV)= Rp. 62.686.064,-
3. Internal Rate of Return (IRR) = 25%

7. Human Resource Aspect

Sulisyanto (2017) stated that labors had important roles in business both in technological business and manpower business. Therefore, anything regarding to job description, job analysis, job specification, organizational structure, salary and employee development planning must be organized and stated clearly.

Pagar Sayuran Organik has arranged and categorized job descriptions of every procedure in the business along with employee's roles. Based on the Fig, 3 the SOP was described clearly and completely.

Based on the study, the human resource aspect was confirmed as follow:

1. Job Analysis identified good standard operational process
2. Job Specifications was specified based on position, job description and skill
3. Organizational Structure was structured orderly

NO	AKTIVITAS	PELAKSANA					MUTU BAIK			KETERANGAN	
		RISTEK	QCONTROL	WORKSHOP	KONSUMEN	MARKETING	PERLENGKAPAN	WAKTU	OUTPUT		
1	1. Tim Ristek membuat desain dan pengembangan produk starterkit berdasarkan usulan dan ide dari Tim Ristek dengan tetap didampingi oleh Tim Quality Control untuk mendapatkan produk yang sesuai. 2. Desain produk dapat diperoleh juga dari konsumen atau dari Tim Marketing (fitur custom produk yang ditawarkan oleh JMO's Organik)							Referensi atas ide yang didapatkan dan masukan custom dari konsumen	1 bulan	dokumen referensi dan ide yang didapatkan, dokumen persetujuan	
2	Desain starterkit yang telah diusulkan oleh Tim Quality Control akan dilanjutkan kepada Tim Workshop untuk dilakukan perakitan starterkit, Tim Quality kontrol untuk pemesanan custom diwakili oleh Konsumen dan Tim Marketing							Desain starterkit yang telah disetujui	2 minggu	Dokumen desain starterkit yang akan dibuat	
3	Produk utama dan custom yang telah divalidasi oleh Tim Quality Control dan konsumen/Tim Marketing akan dilakukan finishing terakhir kalinya							Desain starterkit yang telah disetujui	2 minggu	Dokumen persetujuan desain	
4	Tim Workshop akan melakukan packing produk yang kemudian akan diteruskan melalui jasa kurir untuk selanjutnya diteruskan kepada konsumen							formulir rencana pengiriman produk	1 minggu	dokumen pengiriman produk	
5	Konsumen mendapatkan produk yang telah dipesan dan akan didampingi oleh Tim Marketing dalam program Customer Relation							formulir penerimaan barang	1 minggu	Produk	

Figure 3: SOP of Pagar Sayur Organik

No	Position	Hour/Year	Development program
1	Workshop leader	40	Leadership Program Marketing Program
2	Administrator	40	Documentation Program Customer Relationship Program
3	Production Staff	40	Design Thinking Development Program Innovation Skill

Figure 4: Human resource development Planning

4. Job Description was described to execute effective and efficient production
5. Salary was written and explained in detail based on job description and specification
6. Employee development Planning is important to improve human resource quality such as training, workshop, etc.

8. Conclusion

In conclusion, the researcher discovered that Pagar Sayuran Organic Business had fulfilled the five required aspects namely: Market and Marketing Aspects, Technical and Technology Aspects, Legal Aspects, Financial Aspects and Human Resource Aspects. There are many potential market and targets in this business. Then, the marketing process can be done effectively and futuristic income can be seen potentially. Furthermore, this business has good technical and technological aspects that support the business ideas and design. Further, the legal documents can be fulfilled legally as the basic requirement in business. Hence, the business has good financial aspect which has good income and proper profit for company and employees. Moreover, the human resource aspect is good because the employees execute their job based on their position, description and specification. Then they have development program to enhance human resource quality. Therefore, business of Pagar Sayuran Organic was feasible to develop.

Acknowledgement

The researcher would like to praise gratitude to Almighty God due to His blessings so that this study could be completed well. Moreover, the researcher also sent many thanks to all participants who had helped to conduct this study. Thanks a million.

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