

# Business Analysis and Marketing Strategy of Certified Rice Seed in Indonesia (The Case Study at BBTPH Surakarta)

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**Abstract:** *The aim of this study is to determine the efficiency of business and marketing strategies of rice seed at BBTPH Surakarta, which is one of the seed center producing certified seed. The analytical method used in this study is analysis of efficiency, BCG and QSP matrixes. The results showed that the certified rice seed increasing in BBTPH Surakarta is in the efficient category with R/C ratio of 1.50. Based on BCG matrix analysis, the position of BBTPH Surakarta in 2015 is in the low market position relatively, but it is still compete in the industries that growing rapidly with 25.03% of market growth and the relative market share of 0.06. The QSPM matrix showed that the priority of marketing strategies that can be applied at BBTPH Surakarta is the service improvement strategy for the customers of BBTPH Surakarta.*

**Keywords:** business, certified rice seed, efficiency, strategy

## 1. Introduction

Rice is the staple food for the people of Indonesian. The population is increasing day by day. To feed the ever growing population we have to increase the horizontal as well as vertical expansion of agriculture. But the productivity in agricultural land is gradually diminishing during the last four decades. To increase the productivity, question of quality seed is come to the fore <sup>(15)</sup>. One of the effort that can be done to increase rice production is the improvement of cultivation technologies, such as the increase in the use of improved seed.

Currently, farmers obtain rice seed from two sources, which are (i) seed were obtained from the market by traders and manufacturers of commercial seed called formal seed sector, and (ii) the seeds derived from the crop itself (farm-saved seed) or bought by/barter with the other farmers, called informal seed <sup>(19)</sup>.

The use of certified seeds is one of the factors that influence the increased of rice productivity. Certified seed is the seed which the process of production apply the certain requirements in accordance with the quality standards of seeds (the field and laboratory) supervised by the BPSB through certified label <sup>(20)</sup>. The main purpose of seed certification is to protect the varieties authenticity and genetic purity on varieties resulted by the breeders could be received by farmers with superior characters as written in the description <sup>(14)</sup>. The role of BBTPH Surakarta in order to produce enough certified rice seed is very potential. BBTPH Surakarta is one of Central Java Provincial Government assets that produce certified rice seed.

Zukarnaen <sup>(23)</sup> stated that business of seed production is proper to be developed because the output is quite profitable. There search conducted in Tulungagung, East Java, the level of efficiency of rice seed farming of Ciherang on 1 Ha areal was 1,538. This means that farmers obtained profit from this business because the ratio value was greater than 1. Abidin <sup>(1)</sup> reported that seed business was given an advantage relatively

high of USD 9.4121 million/ha in Konawe, Southeast Sulawesi. The seed business based on the community could encourage the successful implementation of the National Rice Production Enhancement Program (P2BN).

Currently, all companies is operating in the marketing environment, facing a large amount of uncertainty. Thus, in order to succeed in the market, companies should subjected to the process of an adaptation continuously <sup>(22)</sup>. Each company, whether engaged in services and non-services sectors, in conducting business activities require a strategy that would put the company in the best position, able to compete and continue to grow by optimizing all potential resources owned <sup>(8)</sup>. Great potential in an effort to rice seed increasing need management marketing strategy precisely so would raise the revenue of BBTPH Surakarta which resulted in an increase of regional income local revenue.

Muhammad Hanafi <sup>(4)</sup> reported that the company's position in the quadrant star expressed as the market leader. The Company was experienced high growth as the company should be able to defend themselves from the conditions of rapid industrial growth rate and overcome the attacks of competitors. While Mustain <sup>(14)</sup> said that the development of certified rice seeds in the Department of Agriculture and Animal Husbandry East Lombok using strategies to increase seed production through a partnership with farmers as the chosen strategy is deemed best to be a priority. This study aims to determine the business efficiency of certified rice seed increasing in BBTPH Surakarta and to determine the position of BBTPH Surakarta using BCG matrix and formulate alternative strategies that could be applied in the marketing of certified rice seeds in BBTPH Surakarta.

## 2. Methodology

The research area was determined intentionally (purposeful) that is BBTPH Surakarta appropriate to research purposes. Purposeful sampling technique involves selecting a

particular unit or a case based on a specific goal <sup>(18)</sup>. Several other authors <sup>(9)</sup> have also presented typologies of purposive sampling techniques. Samples or respondents in this study were the key informants, as a result of their own professional skills, or position in a society, could provide more information and more insight into what were going on around them <sup>(21)</sup> in that it had as well as the information was still to be fully involved in the business activities of the rice seed increasing in BBTPH Surakarta.

The method used to analyze the business of certified rice seed increasing were the cost, revenue, profit, and efficiency analysis. While to analyze the identification of strategic factors uses the Matrix Boston Consulting Group (BCG). The QSPM Matrix methods used to select the best strategy that best matches with the external and internal environments. Stages of data analysis methods used are:

1. Analysis of Rice Seed Increasing Enterprise Certified

a. Cost

$$TC = TFC + TVC$$

TC = Total cost (rupiah)

TFC = Total fixed cost (rupiah)

b. Revenue

$$TR = Q \times P$$

TR = Total revenue (rupiah)

Q = Quantity

P = Price of certified rice seed product (rupiah)

c. Profit

$$\pi = TR - TC$$

$\pi$  = Business profits increasing of certified seeds (Rupiah)

TR = total revenue (Rupiah)

TC = Total cost (Rupiah)

d. Efficiency

$$\text{Efficiency} = R / C$$

R = Total revenue

C = Total cost

The criteria used in the assessment of business efficiency are:

R / C > 1 means the increasing of certified seeds businesses run already efficient

R / C = 1 means the certified seed increasing businesss undertaken have not been efficient or business to reach the breakeven point (BEP)

R / C < 1 means the increasing of certified seed business that is run inefficiently

2. Identification of strategic factors

a. Analysis of the Boston Consulting Group (BCG)

Among the tools available, the analysis of the product-portfolio of the famous BCG matrix offers an effective tool for strategic planning <sup>(2)</sup> BCG matrix was a model that divides an area with two lines are vertically and horizontally into four quadrants, namely star, question mark, dogs and cash cow. The main objective matrix Boston Consulting Group (BCG) is to determine which of the products deserve attention and financial support so that the product can survive and become a contributor to the company's performance in the long term. In real-world practice, BCG matrix method was considered a success by those who use it. Haspeslagh <sup>(5)</sup> found that almost all respondents believe that the use of official portfolio planning methods have a positive impact.

Two main indicators described by BCG matrix is Market Share and Market Growth. Here is

a formula to find the market growth rate and relative market share:

Market Growth Rate Year n =

$$\frac{\text{The sales volume of the year n} - \text{the sales volume of the year n-1}}{\text{the sales volume of the year n-1}}$$

Relative Market Share Year n =

$$\frac{\text{The sales volume of the year n}}{\text{Competitors' sales volume year n}}$$

b. Priority Strategies

The second analysis used was Quantitative Strategic Planning Matrix (QSPM). This technique could objectively define the prioritized alternative strategies, as a technique QSPM requires good intuitive judgment. QSPM was as a tool for evaluating the strategy to be implemented so as to optimize the results obtained <sup>(23)</sup>.

QSPM allows strategists to evaluate alternative strategies objectively, based on the internal-external factors that have been identified previously <sup>(3)</sup>. In a study <sup>(12)</sup> shows how QSPM could be successfully used by businesses to make a decision. In the absence of such tools QSPM, the decisions strategic sometimes was made mainly based on emotion, politics, feelings, past experience, and intuition.

### 3. Results And Discussion

#### A. Cost, Revenue and Business Profit Rice Seed Multiplication BBTPH Surakarta

a) Cost Analysis

Cost usually is one of the basic criteria in the planning process. Cost is the most important factor affecting the production process <sup>(7)</sup>. The costs referred to in this study are the costs used for the multiplication of rice seeds from cultivation to marketing process for a year. Costs are taken into account is the total cost of rice seed increasing business across the paddy seed orchards BBTPH Surakarta.

Table 1. Average Cost Incurred by BBTPH Surakarta for One Year (January 2015-December 2015)

No	description of activities	Cost (Rp)	Percentage (%)
1	Wage Labor	1.148.150.000	60,34
2	Shopping Seed	29.775.000	1,56
3	Pesticide	544.500.000	28,62
4	Work equipment	104.340.000	5,48
5	Seed certification	13.320.000	0,70
6	Office stationery	9.104.500	0,48
7	Print	4.133.000	0,22
8	Multiplication	2.600.000	0,14
9	Travel	46.730.000	2,46
Total		1.902.652.500	100,00

b) Revenue

The total of revenue is the sum of all its revenue from the sale of a number of products (goods produced). Following receipt of certified rice seed increasing business in BBTPH Surakarta for one year can be seen in Table 2.

Table 2. The total of revenue BBTPH Surakarta (January 2015- December 2015)

No	Seed producers	Income (Rp)
1	KBP Tegalgondo	175.930.500
2	KBP Sonobijo Palur	723.925.000
3	KBP Banyudono	244.364.500
4	KBP Sri Widodo	349.779.000
5	KBP Lawu	556.025.000
6	KBP Sri Makarti	424.666.000
7	KBP Masaran	378.006.000
Total		<b>2.852.696.000</b>

c) Profit

Business profits of certified rice seed increasing in BBTPH Surakarta is the difference between total revenue and total cost. BBTPH Surakarta profits for one year can be seen in Table 3.

Table 3. Business profits Certified Rice Seed Increasing in BBTPH Surakarta(January 2015- December 2015)

No	Description	Total (Rp)
1	Cost	1.902.652.500
2	Income	2.852.696.000
3	Profit	950.043.500

d) Business efficiency

Business efficiency of certified rice seed increasing can be determined by analysis of the Revenue-Cost Ratio (R / C Ratio).

Table 4. Efficiency of Rice Seed Multiplication Enterprise Certified BBTPH Surakarta (January 2015- December 2015)

No	Description	Total(Rp)	R/C Ratio
1	Total costs	1.902.652.500	1,50
2	Income	2.852.696.000	

Rated R / C ratio of certified rice seed multiplication efforts in BBTPH Surakarta more than one so that the rice seed breeding business is feasible to be developed or profitable.

**B. Identification of Internal and External Factors**

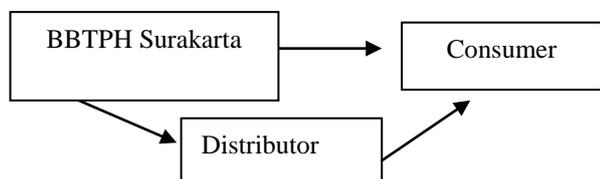
1. Identification of Internal Factors

a. Marketing mix

1) Product:- BBTPH certified rice seeds Surakarta in marketing packaged in a transparent plastic bag 5 kilograms. In the plastic bag, contained trademark, using a name that is Tegalgondo seed orchards. Based on quality, product rice seed BBTPH Surakarta has a good quality image that has been formed by farmers to consumers that the brand Tegalgondo rice seed is the seed of high quality.

2) Price:- The price of certified rice seeds BBTPH Surakarta is cheaper compared to other manufacturers that under the rules of the Central Java Governor no.24 year 2014, 80% of the market price.

3) Distribution:- BBTPH created distribution channel distribution is made as close as possible to its customers. The pattern of the distribution channel of certified rice seeds BBTPH Surakarta can be seen as follows:



BBTPH Surakarta promoting products of certified rice seeds only through direct promotion by word of mouth. BBTPH Surakarta also do promotions with the exhibition following the provincial level, such as "Fair Agro Expo" which is regularly held in Soropadan,Central Java, once a year.

b. Financial condition

Capital raised BBTPH Surakarta is largely derived from the funds Budget (APBD) Central Java Provincial Government and a small portion of funds derived from the State Budget (APBN). From calculations that have been done that the value of R / C ratio for the business of certified rice seed multiplication in Surakarta BBTPH of 1.50, so that the rice seed breeding business is feasible to be developed or profitable. From these results, it is generally BBTPH Surakarta has sufficient internal capabilities better able to compete in the national seed industry environment.

c. Aspects of Human Resources

Human resources involved in the processing of certified rice seeds in BBTPH Surakarta is divided into two, namely the permanent workforce and labor tenga not fixed. Labor and equipment is recorded as the labor staff at the Department of Agriculture and Horticulture in Central Java which is responsible for carrying out the functions BBTPH Surakarta in managing administration and matters related to the production and marketing of seeds. Meanwhile, labor precarious employment field is responsible for the production and processing of rice seed in the field.

d. Production

Certified rice seed production process consists of two stages, namely stages of planting and processing. Phase planting seed in the soil is the first step to the Quality Control of the company to ensure good seed in the land to harvest. After going through the stages of planting, seed candidate enters the processing stage. Processing stage consists of threshing, drying, cleaning, storage and packaging.

2. Identify External Factors

a. Economic conditions

When the price of certified seeds in the market rises, the price of rice seed certified automatic BBTPH Surakarta also go up, because the pricing of seeds is 80% of the market price. It is not be a significant obstacle for the marketing of seed BBTPH Surakarta, because the seed is the base ingredient needed by farmers, and in terms of price is cheaper than the price of rice seed on the market so that the marketing of rice seed certified in BBTPH Surakarta keep it running smoothly.

b. Socio-Cultural Conditions

Associated with the culture of Indonesian society who consider rice as a staple food, the demand for rice is the result of the rice crop is increasing every year concurrently with the population growth in Indonesia. Social relationships that exist between BBTPH Surakarta with other stakeholders (suppliers, breeders, farmers consumer, and other related services) is very good and intertwined relationship of mutual need and mutual benefit.

c. Government policy

Policies issued by the government in hopes of helping the smooth operation of the company and became the foundation for any company in business. Government policies particularly in the field of seed for food crops and horticulture issued with the hope of improving seed

system in all subsystems, in order to solidify the seeding program.

d. Competitor

BBTPH Surakarta is a seed producer owned by the department, with the level of limited production capabilities and marketing area who prefers to meet the needs of farmers in the region. Meanwhile, state-owned seed producer has a high level of production capability with nationwide marketing area and there is a private seed producers with a production level depends on the ability of each manufacturer. The main competitors in this study is a private manufacturer of certified rice seed which has a scale of the national market that is "PP Kerja".

e. Natural conditions

Increased temperatures will cause the active photorespiration which can reduce productivity of plants<sup>(6)</sup>. In addition to affecting productivity, natural conditions also affect the marketing of certified rice seeds in BBTPH Surakarta. This is related to the growing season, when the dry season, the demand for rice seed decreased.

f. Information Technology

BBTPH Surakarta in the operational activities are supported computer-based information system, but unfortunately only the headquarters and some garden seeds who have computer equipment that had been on line. Computer equipment that is still limited to the use of so-in the data store.

g. Consumer

The main advantages of certified rice seed products belonging BBTPH Surakarta in the eyes of consumers is in terms of price and purity of seed are awake. As for the difficulty consumers is sometimes desirable varieties that

$$\frac{\text{The sales volume in 2015} - \text{the sales volume in 2014}}{\text{the sales volume in 2014}} \times 100\%$$

are not available in BBTPH Surakarta and out of stock.

$$\frac{350.870 - 280.622}{280.622}$$

**C. Identification of Strategic Factors**

Identification of internal factors can be seen in Table 5 as follows:

Table 5. Identification of strategic factors Internal BBTPH Surakarta

Internal factors	Strength	Weakness
Product	Produce certified seed products and high quality	The products can not be stored for too long
Price	Government-subsidized price of 20%	-
Brand	Widely known product brands	-
promotion finance	-	lack of promotion Capital regulated by governments
Production	Strict quality control	-
Human Resources	Highly skilled and experienced	- Lack of manpower paddy - HR elderly

Identification of factors - such as external factors can be seen in Table 6 as follows:

Table 6. Identification of strategic factors External BBTPH Surakarta

External factors	Opportunity	Threat
Economy	Certified seed is a basic requirement of farmers	Inflation Rate
Socio-Cultural Conditions	- Well established relationships with suppliers, customers, or other stakeholders - There is a regular customer	Availability of raw materials
Government	Government regulations	
Competitor	-	The rise of private producers
Natural conditions	-	Extreme climate change
Information Technology	Developments in information technology	-
Consumer	-	Trend rice varieties changed

**D. Alternative Strategy Formulation**

1. Matrix BCG (Boston Consulting Group Matrix)

a. Analysis of Growth Market (Market Growth)

At BCG matrix calculation is measured by the percentage increase in the value or volume of sales of rice seed the past two years. And to determine the level of market growth, the required data is data about the sale of certified rice seeds in 2014 and 2015.

Table 7. Sales of Certified Rice Seeds BBTPH Surakarta

Year	Sales volume (kg)
2014	280.622
2015	350.870

Market Growth Rate in 2015 =

$$= 25.03\%$$

Based on calculations using BCG matrix above, it can be seen the market growth rate of sales of certified rice seeds BBTPH Surakarta at 25.03%, which means that BBTPH Surakarta has a high growth market.

b. Market Share Analysis BBTPH Surakarta

Relative market share analysis shows the market share of total sales of certified rice seeds BBTPH Surakarta compared to its biggest competitor, "PP Kerja"

Table 8. Sales Data Rice Seed certified in Surakarta 2015

No	Producer	Sales volume (kg)	Market Share (%)
1	PP Kerja	6.236.075	43.74
2	PT. Saprotan Benih Utama	3.846.150	26.98
3	PB. Usaha Tani	1.061.940	7.45
4	PT. Pertani (Persero) UPB Palur	678.655	4.76
5	PT. Petrokimia Gresik Perwakilan Jateng	549.435	3.85
6	PB. Maju Sejahtera	468.400	3.29
7	PB. Krida Tani	434.850	3.05
8	BBTPH Wilayah Surakarta	350.870	2.46
9	PB. Tani Sentosa	325.550	2.28
10	PB. Karya Tani Makmur	304.750	2.14
Total		14.256.675	100

Relative market share in 2015 =

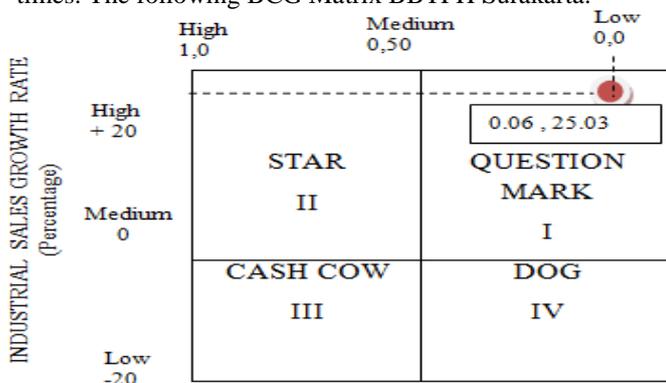
$$\frac{\text{BBTPH Surakarta sales volume in 2015}}{\text{PP Kerja sales volume in 2015}} = \frac{350.870}{6.236.075}$$

= 0,06

Based on BCG matrix calculations to determine the relative market share (relative market share) the relative market share BBTPH Surakarta in 2015 of 0.06 times <1, which means BBTPH Surakarta has a smaller market share than the “PP Kerja” for its relative market share value more less than one.

c. Position Analysis BCG Matrix BBTPH Surakarta

Based on the calculation of the market growth rate in BBTPH Surakarta, the obtained result of 25.03%, this means that high market growth rate BBTPH Surakarta. Calculation of relative market share in 2015 obtained a yield of 0.06 times. The following BCG Matrix BBTPH Surakarta:



Based on BCG matrix BBTPH position Surakarta in 2015 in the position of the Question Mark (Question Mark) indicating that the position BBTPH Surakarta are at the relatively low market share, but to compete in the fast-growing industry. Based on BCG matrix as well as internal and external conditions BBTPH Surakarta then obtained some alternative strategies that could be considered include:

1. Facilitate sales and marketing to create a website BBTPH Surakarta.
2. Improve promotion more often hold exhibitions and follow agribusiness.
3. Improved customer service for BBTPH Surakarta.
4. Expand the marketing area with open access and booking service consumers outside Java.
5. Make quality level / grade by making premium grade seed / super.
6. Produce and introduce new varieties to consumers.

d. Priority Strategies

Based on the results of the assessment matrix QSPM, the obtained sequence from the strategy of its highest TAS value to the lowest.

Best marketing strategies that can be applied in the business of certified rice seed multiplication in Surakarta based matrix analysis QSPM is a strategy to increase the value of services for customers with TAS (Total Attractive Score) of 6.77. BBTPH Surakarta can improve services for customers. Consumers who become customers BBTPH Surakarta be a priority and get better service as the ease of booking / booking seed products, ease of transaction, retrieval of goods can be outside working hours as agreed, and so forth.

No	KEY FACTORS	Weight	Alternative Strategies					
			I		II		III	
			AS	TAS	AS	TAS	AS	TAS
<b>Internal Key Factors</b>								
1.	Produce certified seed products and high quality	0.13	4	0.50	2	0.25	3	0.38
2.	Government-subsidized price of 20%	0.12	4	0.47	3	0.35	2	0.24
3.	Widely known product brands	0.11	4	0.44	2	0.22	3	0.33
4.	Strict quality control	0.11	4	0.44	2	0.22	3	0.33
5.	Highly skilled and experienced	0.10	2	0.20	3	0.30	4	0.40
6.	The products can not be stored for too long	0.08	4	0.34	3	0.25	2	0.17
7.	lack of promotion	0.08	3	0.25	4	0.34	2	0.17
8.	Capital regulated by governments	0.10	4	0.40	3	0.30	2	0.20
9.	Lack of manpower paddy	0.08	3	0.25	2	0.17	1	0.08
10.	HR elderly	0.08	2	0.17	3	0.25	4	0.34
Total Weight		1,00						
<b>Key External Factors</b>								
1.	Certified seed is a basic requirement of farmers	0.12	4	0.47	3	0.35	2	0.23
2.	inflation rate	0.08	4	0.31	3	0.23	2	0.16
3.	Well established relationships with suppliers, customers, or other stakeholders	0.12	4	0.47	3	0.35	2	0.23
4.	Their regulars	0.10	4	0.40	2	0.20	3	0.30
5.	Availability of raw materials	0.10	2	0.20	3	0.30		0.00
6.	Government regulations	0.12	4	0.47	2	0.23	3	0.35
7.	Developments in information technology	0.09	3	0.26	4	0.34	2	0.17
8.	Rampant private producers	0.09	4	0.34	3	0.26	2	0.17
9.	Extreme climate change	0.11	2	0.22	3	0.33	4	0.43
10.	Trend rice varieties changed	0.09	2	0.19	3	0.28	4	0.37
Number of Total Attractiveness		1,00	6.77		5.52		5.05	

#### 4. Conclusion

Based on research that has been done, it can be concluded as follows:

1. Businesses certified rice seed multiplication in BBTPH Surakarta including efficient category for the R / C ratio is more than one. Rated R / C ratio for the business of certified rice seed multiplication in Surakarta BBTPH of 1.50. Rice seed multiplication effort is feasible to be developed or profitable.
2. Position BBTPH Surakarta are at the relatively low market share, but to compete in the fast-growing industry. Based on BCG matrix BBTPH position Surakarta in 2015 in the position of the Question Mark (Question mark) with a market growth of 25.03% and the relative market share of 0.06.
3. Based on the priority matrix analysis QSPM marketing strategies that can be applied BBTPH Surakarta is the strategy of improving service for customers based on loyalty.

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