

FARMER SATISFACTION THROUGH FARMER GROUP PERFORMANCE: A STUDY IN SWAMPLAND, SOUTH KALIMANTAN

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Binti Tsaniatul Marhamah

Masters of Agribusiness Management, Agriculture Faculty, Universitas Gadjah Mada

Masyhuri

Lestari Rahayu Waluyati

Department of Social Economic, Agriculture Faculty, Universitas Gadjah Mada

Abstract: The government is conducting a program that more concerned with the presence of leak swamp called SERASI (Save the Peasant Welfare Farmers) for rice farmers, by providing various assistance including production input and other supporting activities such as education for farmers and the development of agricultural institutions. The existence of farmer groups has a positive influence on the sustainability of leak swamp farming, but it doesn't deny the shortcomings felt by farmers in the management and performance of the farmer groups. This research was conducted to determine farmers satisfaction with the performance of farmer groups and find various steps and strategies from internal management factors to develop farmer groups so that they can work better in supporting both government programs and farmer's welfare with Analysis methods of IPA (*Importance Performance Analysis*) and CSI (*Customer Satisfaction Index*). Data collection involved 42 farmers using a questionnaire. The results showed that farmers were satisfied with the performance of the farmer group with a value of 67.21% and they had to prioritize internal management in the group, namely Statutes/Articles of Association, vision, and mission, organizational structure, work plan, administration, financial records, training, superior seed, integrated pest control, granting credit and the latest information.

Keywords: Farmer group, satisfaction, IPA, swampland



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Swampland in Indonesia reaches 34.93 million ha, spread across Sumatera, Java, Kalimantan, Sulawesi and Papua (BBSDLP 2014). In South Kalimantan, swamps were recorded at 4,969,824 ha and around 119,523 ha were leak

swamps (BPS South Kalimantan Province 2014). Of that area, only 80% is used to grow rice once a year. Lebak swamp experiences quite high water fluctuations, namely flooding in the rainy season and drought in the dry season, especially on shallow swampland. Other constraints include inadequate supporting infrastructure, such as farm roads and drainage channels, the extent of land ownership, as well as limited farming capital, farmers' knowledge

Corresponding Author:
Binti Tsaniatul Marhamah,
Masters of Agribusiness Management,
Agriculture Faculty,
Universitas Gadjah Mada,
DOI:<http://dx.doi.org/10.21776/ub.jam.2020.018.01.07>

of the characteristics of swampland, supply of production facilities, postharvest and marketing of products (Kusumowarno 2014).

The quality of extension agents in assisting farmers undergoing farming has been quite good (Tahitu, 2013). Farmers' perceptions of the quality of PPL services have also been good, although they are still experiencing technical obstacles in the field (Permana, et.al., 2016). However, the role of extension agents who have tended to lead to the transfer of the latest technology needs to shift towards empowering farmers as well, by providing technology that is in accordance with the needs and abilities of farmers (Indraningsih, et. al., 2010).

Lakitan (2014) states that the technology developed is rarely relevant to the real needs and/or real problems faced by farmers. Even though domestic technology is substantially relevant, it is often not commensurate with farmers' adoption capacity, does not promise greater farm profits, and/or is less competitive compared to similar technologies already available on the market.

According to Syahyuti (2011) Institutionalism as a matter of norms, values, regulations, and knowledge that guides guidelines for individuals and organizations, is formed with the aim of realizing stakeholder goals. The role of an independent and resilient institution becomes an orientation in the development of food security. Farmer groups as a local institution that is a gathering place for farmers. According to Kotler (2005), satisfaction is the feeling of being happy or disappointed in someone who comes from the comparison between his impression of the performance of a product with his expectations. According to Tjiptono (2004) who cites Day's opinion, satisfaction or dissatisfaction is the consumer's response to the evaluation of perceived discrepancies between previous performance and the actual performance of the product felt by the user.

Climatic conditions in the village of Hambuku Raya in general when the rainy season is flooded and when the dry season experiences a slight drought. Land types include wetlands with high humidity. The rainy season generally occurs from

October to April, and the dry season occurs from May to September (Balittra, 2018).

In accordance with the characteristics of the swampy swampland, where in the rainy season the land will be inundated by water with high and long inundation varies according to the type of leak (Nugroho et al. 1991), namely:

1. Shallow Leak, inundation height ≤ 50 cm with a length of inundation < 3 months
2. Middle Leak, inundation height of 50 cm-100 cm, with inundation length 3-6 months
3. Deep Leak, inundation height ≥ 100 cm, with inundation time > 6 months

This study involved 3 groups of leak swamp rice farmers in Hambuku Raya Village, Sungai Pandan District, Hulu Sungai Utara Regency, South Kalimantan. The three farmer groups are included in the mini alabio polder area which is a polder developed into a national food barn. There are around 80 hectares of polders being developed covering 3 villages, namely Hambuku Raya, Hambuku Hulu, and Hambuku Pasar. Planting is carried out in stages based on the type of land, namely shallow, middle ground, in terms of the surrounding community known as watun 1, watun 2, and watun 3. Watun 1 system on the shallow leak is done in April where the water begins to recede in the shallow swamp making it possible to plant. Furthermore, Watun 2 in the middle of the Lebak is done in May, and Watun 3 in the Lebak is done in June to July where the water is completely receding, because the water level is shallow when the tide exceeds 1 meter, so it must be completely receding in order to be able to recede planted with rice.

This study aims to look at the level of farmer satisfaction with the performance of farmer groups and know the steps and strategies of internal management factors for the development of farmer groups in order to work better in supporting both government programs and farmer welfare.

METHOD

The selection of research locations was conducted *purposively* in Hambuku Raya Village,

Sungai Pandan District, Hulu Sungai Utara Regency, South Kalimantan. The time of data collection starts from January-February 2019. Consideration of the location that in the Village of Hambuku Raya, Sungai Pandan District, Hulu Sungai Utara District is an area of leak swamp farming which is included in the Serasi program (Save the Peer Welfare Farmers) of the Ministry of Agriculture (Ministry of Agriculture) with the largest area of the mini Alabio polder which has been cultivating agriculture by planting superior seeds and the farmer group that receives the most innovations given by the government as well as the main point of gathering groups rice farmers of leak swamp in three villages (members of the mini Alabio polder) namely the VillageMarket Hambuku, Hambuku Raya, and Hambuku Hulu.

The process of determining aspects and performance indicators of farmer groups based on the guideline for assessing the ability of farmer groups of the Ministry of Agriculture, supported by previous research by Arifiyanti (2017), consists of ability to plan, ability to organize, ability to implement, ability to control and report, and ability to develop leadership. Based on these considerations, it was decided to use 5 aspects to measure the interests and performance of farmer groups, namely aspects of

the organization, human resources, management, agribusiness and technology, and information. The number of respondents in this study was 42 farmers belonging to farmer groups. The questionnaire in this study contains 5 aspects of farmer group performance appraisal which contains 28 statement attributes, where farmers are given the opportunity to assess the performance of existing farmer groups and then the data will be processed using the IPA method to determine which attributes in which quadrant to be able to develop is carried out to progress the performance of farmer groups.

Importance Performance Analysis was first introduced by Martilla and James (1977) as a tool to measure the level of importance and level of performance in a 2-dimensional graph that can explain the existing situation and provide practical advice (Wulansari, et al., 2018). The IPA interpretation is divided into 4 quadrants based on the measurement of performance results.

Interviews were also conducted with related parties such as extension workers, Baliitra officers (Swamp Agriculture Research Agency), Village apparatuses, and other relevant parties to add information needed in research.

Importance	High	Concentrate here I	Keep up the good work II
	Low	Low priority III	Possible overkill IV
		Low	High
		Performance	

Figure 1 Quadrant analysis of interests and performance

RESULTS

Analysis of Validity and Reliability

The collection of performance data on farmer groups was obtained from questionnaires given to members of farmer groups. The questionnaire uses a Likert scale with a score of 1 to 4 (Leung, 2011). The results of the questionnaire were first analyzed

using the validity and reliability test. A validity test is done to measure the validity of a questionnaire. A questionnaire is said to be valid if the questions in the questionnaire are able to express something that will be measured by the questionnaire and have a *Corrected Item-Total Correlation* value greater than the value of r table. The r table value for sample 30 at the 5% error level is 0.361.

Table 1 Test the validity of farmer group performance evaluation indicators

Indicators	Significance Value	Description
1. Statutes/Articles of Association (AD/ART)	0.587	Valid
2. Vision and Mission	0.569	Valid
3. Organizational structure	0.664	Valid
4. Written work plan	0.734	Valid
5. Administration	0.909	Valid
6. Cash and group member fees	0.891	Valid
7. Financial records	0.752	Valid
8. Rights and obligations of management	0.657	Valid
9. Rights and obligations of members	0.725	Valid
10. Quality, competence, and activeness of the board	0.909	Valid
11. Management commitment	0.617	Valid
12. Management motivation	0.445	Valid
13. Member activity	0.532	Valid
14. Monitoring	0.427	Valid
15. Conference meeting	0.614	Valid
16. Coaching	0.816	Valid
17. Training	0.816	Valid
18. Agricultural equipment facilities (tractors, pumping machines)	0.560	Valid
19. Breeding seeds	0.655	Valid
20. Superior seed facilities	0.485	Valid
21. Chemical fertilizer facilities	0.645	Valid
22. Pesticide facilities	0.485	Valid
23. Agricultural product marketing facilities	0.655	Valid
24. Integrated pest control	0.420	Valid
25. Provision of credit	0.655	Valid
26. Plant in unison	0.667	Valid
27. Planting time	0.428	Valid
28. Latest information	0.420	Valid

Source: Primary data 2018 (processed)

Table 2 Test the reliability of farmer group performance evaluation indicators

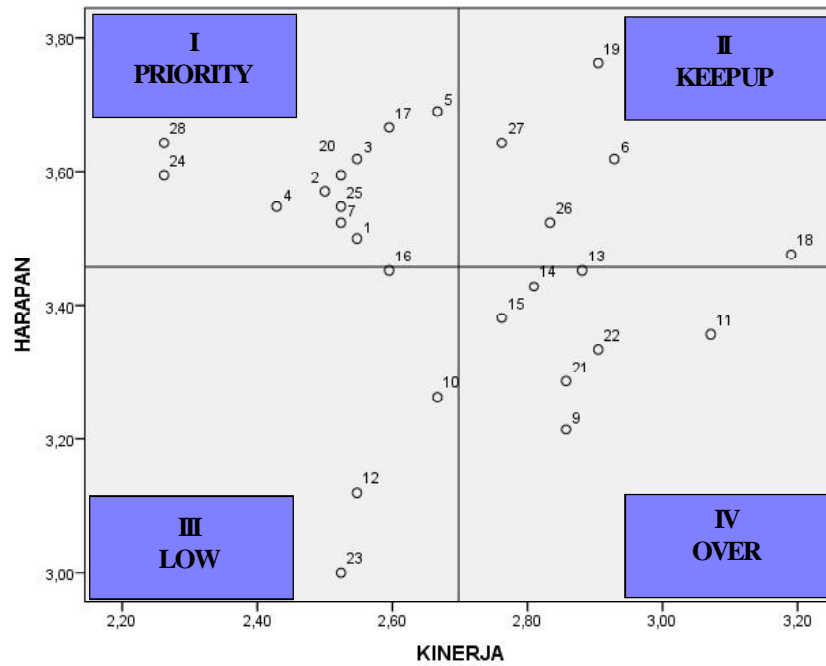
	Indicators	Significance Value	Description
1.	Statutes/Articles of Association (AD/ART)	0.747	Reliable
2.	Vision and Mission	0.748	Reliable
3.	Organizational structure	0.745	Reliable
4.	Written work plan	0.744	Reliable
5.	Administration	0.739	Reliable
6.	Cash and group member fees	0.737	Reliable
7.	Financial records	0.743	Reliable
8.	Rights and obligations of management	0.748	Reliable
9.	Rights and obligations of members	0.748	Reliable
10.	Quality, competence, and activeness of the board	0.739	Reliable
11.	Management commitment	0.746	Reliable
12.	Management motivation	0.749	Reliable
13.	Member activity	0.747	Reliable
14.	Monitoring	0.750	Reliable
15.	Conference meeting	0.744	Reliable
16.	Coaching	0.739	Reliable
17.	Training	0.739	Reliable
18.	Agricultural equipment facilities (tractors, pumping machines)	0.748	Reliable
19.	Breeding seeds	0.746	Reliable
20.	Superior seed facilities	0.748	Reliable
21.	Chemical fertilizer facilities	0.745	Reliable
22.	Pesticide facilities	0.748	Reliable
23.	Agricultural product marketing facilities	0.746	Reliable
24.	Integrated pest control	0.750	Reliable
25.	Provision of credit	0.746	Reliable
26.	Plant in unison	0.748	Reliable
27.	Planting time	0.749	Reliable
28.	Latest information	0.750	Reliable

Source: Primary data 2018 (processed)

Farmer Group Performance

The IPA analysis is depicted in a two-dimensional Cartesian diagram. The data used for the

Cartesian diagram is the average value of each attribute. The results of IPA measurements as shown in Figure 2.



Source: Primary Data 2018 (processed)

Figure 2 Distribution of IPA quadrants

Table 3 Data on the level of importance and satisfaction of respondents in Hambuku Raya Village in 2019

No	Variable	Indicator	Target	Performance	Quadrant
1	Organization	1. Statutes/Articles of Association (AD/ART)	3,5	2,5	I
		2. Vision and Mission	3,6	2,5	I
		3. Organizational structure	3,6	2,5	I
		4. Written work plan	3,5	2,4	I
		5. Administration	3,7	2,7	I
		6. Cash and group member fees	3,6	2,9	II
		7. Financial records	3,5	2,5	I
		8. Rights and obligations of management	3	3,1	IV
		9. Rights and obligations of members	3,2	2,9	IV
2	Human Resources	10. Quality, competence, and activeness of the board	3,3	2,7	III
		11. The commitment of the management	3,4	3,1	IV
		12. Motivational chasers	3,1	2,5	III
		13. Active members	3,5	2,9	IV
3	Management	14. Monitoring	3,4	2,8	IV
		15. Conference meeting	3,4	2,8	IV
		16. Coaching	3,5	2,6	III
		17. Training	3,7	2,6	I

No	Variable	Indicator	Target Performance Quadrant		
		18. Agricultural facilities (tractors, pumping machines)	3,5	3,2	II
		19. Breeding seeds	3,8	2,9	II
		20. Superior seed facilities	3,6	2,5	I
		21. Chemical fertilizer facilities	3,3	2,9	IV
		22. Pesticide facilities	3,3	2,9	IV
		23. Agricultural product marketing facilities	3	2,5	III
		24. Integrated pest control	3,6	2,3	I
4	Agribusiness Venture	25. Provision of credit	3,5	2,5	I
5	Information Technology	26. Plant in unison	3,5	2,8	II
		27. Planting time	3,6	2,8	II
		28. Latest information	3,6	2,3	I
Total value			100,5	78,07	
Average value			3,5	2,7	

Source: Primary data 2019 (processed)

Table 4 Customer Satisfaction Index assessment indicators of farmer groups in Hambuku Raya Village

Indicators	Y	WF	X	WS
1. Statutes/Articles of Association (AD/ART)	3,50	3,48	2,5	8,87
2. Vision and Mission	3,57	3,55	2,5	8,88
3. Organizational structure	3,62	3,60	2,5	9,17
4. Written work plan	3,55	3,53	2,4	8,57
5. Administration	3,69	3,67	2,7	9,79
6. Cash and group member fees	3,62	3,60	2,9	10,55
7. Financial records	3,52	3,51	2,5	8,85
8. Rights and obligations of management	3,00	2,99	3,1	9,17
9. Rights and obligations of members	3,21	3,20	2,9	9,14
10. Quality, competence, and activeness of the board	3,26	3,25	2,7	8,66
11. Management commitment	3,36	3,34	3,1	10,26
12. Management motivation	3,12	3,10	2,5	7,91
13. Member activity	3,45	3,44	2,9	9,90
14. Monitoring	3,43	3,41	2,8	9,58
15. Conference meeting	3,38	3,36	2,8	9,29
16. Coaching	3,45	3,44	2,6	8,92
17. Training	3,67	3,65	2,6	9,47
18. Agricultural equipment facilities (tractors, pumping machines)	3,48	3,46	3,2	11,04
19. Breeding seeds	3,76	3,74	2,9	10,87
20. Superior seed facilities	3,60	3,58	2,5	9,03
21. Chemical fertilizer facilities	3,29	3,27	2,9	9,34
22. Pesticide facilities	3,33	3,32	2,9	9,63
23. Agricultural product marketing facilities	3,00	2,99	2,5	7,53
24. Integrated pest control	3,60	3,58	2,3	8,09

Indicators	Y	WF	X	WS
25. Provision of credit	3,55	3,53	2,5	8,91
26. Plant in unison	3,52	3,51	2,8	9,93
27. Planting time	3,64	3,62	2,8	10,01
28. Latest information	3,64	3,62	2,3	8,20
Amount	100,5	100	78,07	268,83
CSI (\sum WS: 4) x 100 percent				67,21

Source: Primary data 2019 (processed)

DISCUSSION

Swamp Rice Planting Pattern

Most of the leak swamps in South Kalimantan are planted with superior paddy rice with a cropping system, which is rice planting carried out before the dry season, where the water level has reached 15-20 cm from the ground surface. In a normal year (NY), planting in shallow swamp is carried out in May, while in the middle swamp it is carried out in June, and deep swamp in July / August, while in dry years (DY), planting in swamps the shallow weak becomes early around April, the middle weak in late May and the deep weak in early July. In the wet year (WY), planting in the shallow weed is carried out in June while the middle weed is shifted in July and the weak cannot be planted because the time of land is at safe water levels for relatively narrow rice growth.

The peak of the planting season is carried out by farmers in the middle and deep taps occurring from June to July, while the shallow taps occur from January to March. This happens because of the average receding water in the shallow faster than in the middle or in the shallow. The peak planting date obtained from the results of farmer interviews is from April to July.

The pattern of rice planting in leak swamp follows the pattern of seasons or inundation time. In this case, farmers use the terms watun 1, watun 2, and watun 3. Farmers only plant rice once a year or fallow pattern. The method of planting that is applied is transplanting with a tiled system. So far, not many farmers have applied the spacing, so productivity can not be increased. But after there was a

briefing from the instructor from the Agriculture and Balittra Office, there were also some farmers who had implemented the legowo planting system 2: 1 or legowo 4: 1 with spacing (20 cm x 10 cm) x 40 cm, or (25 cm x 12.5 cm) x 50 cm. Before sowing the seeds are soaked for 24 hours, then drained and aged for 12 hours. Nursery area 100-200 m²/ ha. Seedlings are planted at the age of 21-30 days after scattering with a spacing of 20 cm x 20 cm, or 25 cm x 25 cm with a number of seeds 4-6 stems/ planting holes.

Farmer Group Performance

A reliability test is done to see the consistency of the questionnaire in measuring a variable. A questionnaire is said to be reliable if the respondent is consistent in answering questions. A variable is said to be reliable if it gives a *Cronbach's Alpha value* > 0.60. A validity test was conducted on 30 respondents. From the test results of 28 indicators of farmer satisfaction, the entire correlation value or r-count for each indicator is greater than r-table ($r > 0.361$), which means the questionnaire is valid (Table 1). Furthermore, the reliability test of 28 indicators showed that the questionnaire was reliable because it had a *Cronbach's Alpha value* > 0.60 (Table 2).

Assessment of members' perceptions of the 28 group indicators was analyzed using the method *Importance Performance Analysis* (IPA). Members are an important factor in determining each policy, activity, and plan for the group, therefore it is important to assess the members of the farmer group's group organizational performance. Analysis of the IPA method can see the extent to which

members assess the performance of the group at the level of interest of members and the level of the actual performance felt by members. The average value of the importance level of 2.7 and followed by an average performance of 3.5 so that the level of conformity of the sample results between interests and performance is 6. This indicates that these attributes are appropriate to be applied to farmer groups in the village of Hambuku Raya.

In quadrant, I (Figure 2) is an indicator that is considered important but in reality, is not as expected. In this region, farmer groups must improve their performance to the maximum in order to obtain maximum results. There are 11 indicators included in quadrant I (priority), namely Statutes/Articles of Association, vision and mission, organizational structure, written work plans, administration, financial records, training, superior seed facilities, integrated pest control, granting credit, the latest information. Supported by research conducted by Listiawati (2010) that the provision of facilities, plans for farming activities, and the provision of the latest information both related to new technology, markets, and capital opportunities really need to be improved to support the improvement of instructor performance.

In quadrant II (Figure 2) the existing attributes are considered important by the respondent and are in accordance with those felt by members of the farmer group. Included in quadrant II (maintain) are cash and contribution from group members, agricultural equipment facilities (tractors and pumping machines), seed breeding, simultaneous planting, and planting time. In Arifiyanti's research (2017), cash and contribution from group members is something that must be maintained in the performance of farmer groups, because it is very useful for the continuation of the activities in the farmer groups.

Quadrant III (Figure 2) contains attributes that are considered less important by the respondent and their performance is less than optimal. Which is included in quadrant III (low) is the quality, competence, and activeness of the management, motivation of the management, coaching, marketing facilities for agricultural products. Harmaidi (2011) examines extension workers who state that service

and activeness of the management of farmers and give trust to farmers is a low priority because the relationship between farmers and extension workers must be more harmonious to unite goals.

Quadrant IV (Figure 2) contains attributes that have good performance but are not considered important by the respondent farmers or the attributes are overused. Which includes quadrant IV (excessive) are the rights and obligations of the management, rights, and obligations of members, the commitment of the management, member activity, meetings of chemical fertilizer facilities, and pesticide facilities.

The level of expectation with the highest value is breeding seeds with a value of 3.8 (Table 3). In line with farmers' expectations that seed breeding is one of the main needs in rice farming. The highest level of performance, namely facilities for agricultural equipment (tractors, pumping machines) with a value of 3.2 indicates that the facilities of agricultural equipment facilities (tractors and pumping machines) already exist and function well enough to maximize the yield of farmers' rice farming, where the facilities are from the government. So it can be seen that the dependence of farmer groups on government assistance is very high. In the future farmers are expected to be able to see the ability of farmer groups to *survive* by not always relying on government assistance. The lowest value of the performance level is the latest information and pest and disease control with a value of 2.3. This indicates the lack of good coordination of the latest information regarding matters relating to leak swamp farming and also the lack of maximum control of pests and diseases such as rat pests which are still the main concerns of farmers when conducting leak swamp farming.

Based on Figure 1, the indicators related to the level of expectation and satisfaction of farmer group respondent members are grouped in each quadrant. Divided into 2 criteria, namely good and sufficient performance. The priority quadrants (I) and low (III) are included inadequate performance. Whereas the maintain (II) and excessive (IV) quadrants are included in good performance criteria.

Customer Satisfaction Index

Measurement of the consumer satisfaction index is important to determine the satisfaction of farmers with the performance of farmer groups based on the proposed attributes. From the results of the assessment will be seen how high the satisfaction of respondents to the services provided. From table 4 it can be seen that the *Weight Score (WS) value* Total of 2.68 is obtained from the sum of all *Weight Scores* of each assessment attribute. Then the *Total Weight Score* divided by the number 4, as the maximum scale used in this study. The results of the distribution of *Total Weight Score* with a maximum scale multiplied by 100 percent, to get the percentage of satisfaction. From this operation, a satisfaction value of 67.21 percent was obtained. Where this amount is included in the satisfied category. The satisfaction index must, of course, be increased to 100%, so that more and more farmers are active and develop the performance of farmer groups. This is in line with Mustika's research (2018), that farmers who are satisfied with the AOTP (Rice Farming Insurance) attribute will be very happy and possible to participate in the AOTP program in a sustainable manner.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Farmer groups focus more effort on the attributes of Statutes/Articles of Association (AD/ART), vision and mission, organizational structure, written work plans, administration, financial records, training, superior seed facilities, integrated pest control, granting credit, the latest information. The level of satisfaction of farmers, in general, is satisfied with the group's performance, but improvements in the form of internal management are needed so that farmers' trust increases so that farmers are enthusiastic about participating in developing farmer groups.

Recommendations

Farmer groups are advised to immediately make improvements to internal management regarding the

making of Statutes/Articles of Association (AD/ART), vision and mission, organizational structure, written work plans, administration, financial records. Farmer groups are also advised to increase the satisfaction of their members by conducting training, providing facilities superior seeds, integrated pest control, granting loans and providing the latest information on cultivation technology, and other latest information for increasing rice productivity in swampland.

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