

## FROM SCRATCH TO PLATE: “ACCOUNTING INFORMATION SYSTEMS FOR SPICES IN MADURA ISLAND”

Citra Nurhayati<sup>1</sup> Nurul Kompyurini<sup>1</sup> Anita Carolina<sup>1</sup>, Prayudi S Prabowo<sup>2</sup>

<sup>1</sup>Accounting Department, Faculty of Economics, Universitas Trunojoyo Madura, <sup>2</sup>Economic Department, Faculty of Economics and Business, State University of Surabaya, Indonesia

Email: citra@trunojoyo.ac.id, nurul.kompyurini@trunojoyo.ac.id, anita.carolina@trunojoyo.ac.id, prayudiprabowo@unesa.ac.id

### ARTICLE INFO

### ABSTRACT

Received:

**March, 26<sup>th</sup> 2022**

Revised:

**April, 16<sup>th</sup> 2022**

Approved:

**April, 17<sup>th</sup> 2022**

*Spices are a priceless wealth of Indonesia. Many other countries in the world import it especially Europeans who desperately need pepper for almost all the flavors of its cuisine. The culinary history of Indonesia is not spared from the raw ingredients of spices that become the main raw materials of Indonesian specialties. Almost all the flavors of cuisine throughout Indonesia use spices as seasoning "Madura" has a typical culinary that also uses spices such as soto, satay, Kaldu, and Nasi serpong. With the proliferation of culinary business in Madura and also the needs of daily cuisine that in fact use spices; This makes the need for spices increase. But with such a wide distribution and widespread spice plantations in Madura, encourage researchers to know the distribution process of the spices after harvesting until it reaches the hands of consumers (from scratch to plate). The distribution process can be explained in more detail by using one of the "Accounting Information System" business processes called "Supply Chain". In the "Supply Chain" will be explained a clear sequence of spices began to be planted-harvested-merchant-consumers. An Accounting Information System framework which is consists of "input-process-outputs". Input can be input or raw materials (spices seeds), while the process are: Spices begin to be planted, maintained then harvested (as output). The Output (harvested Spices) are entering the Chain of "Supply Chain"; they are going to be marketed or distributed to consumers directly, or sent to middle traders, and or sent to the market. The Supply Chain is expected to be able to better known in detail the journey of*

Citra Nurhayati, Nurul Kompyurini, Anita Carolina, Prayudi S Prabowo. (2022). From Scratch to Plate: “Accounting Information Systems For Spices In Madura Island”. Journal Eduvest. Vol (2): 673-683

How to cite:

E-ISSN:

2775-3727

Published by:

<https://greenpublisher.id/>

*"The Spice" to reach the consumer to be used as the main spice in cooking, along with the price that occurs and the relationship that occurs between producers, middle parties and consumers. This research was conducted using qualitative methods. The data processing technique by interviewing several important informants spread across 4 Regency in Madura which is very helpful in solving problems in the formation of the Supply Chain.*

**KEYWORDS**

Spices, Accounting Information Systems, Supply Chain



**This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International**

## INTRODUCTION

Spices are essential commodities for many countries around the world. They have been intoxicating people's meals with unforgettable tastes (Katz, 2016). However, Spices plantations are not easy to find anywhere; they need special treatments and circumstances (Chevallier, 2016). Indonesia, as one of the tropical countries in the world, is suitable for growing spices such as Turmeric, Ginger, Pepper, Galangal, Coriander, etc (Kandiannan, Prasad, & Kumar, n.d.). But unfortunately the Indonesian nation itself is less concerned and concerned about the potential that exists, so the government must try hard to increase the potential, it is evident that the lowering of funds of about 5.5 trillion rupiah to develop the potential of Indonesian spices that only occupy a portion of 1% (th.2019) in export commodities every year (www.malukunews.com). The number of farmers who do not use superior seeds even some who use fake seeds is the cause of the continued decline in the number of spice exports, in addition there is no adequate attention in terms of quality and agricultural technology over people's spice plantations.

The culinary history of Indonesia is not spared from the raw ingredients of spices that become the main raw materials of Indonesian specialties (Yudhistira & Fatmawati, 2020). Almost all the flavors of cuisine throughout Indonesia use spices as seasoning. Starting from the island in the western tip of Indonesia to the eastern end, all have the same flavor base that is "spice" or known internationally as "Spices". Some of the famous Indonesian cuisines to foreign countries are Rendang, Soto, Satay and Nasi goreng; All use the basic spices and their blend with coconut milk derived from coconut that is widely grown throughout Indonesia. There are many kinds of Indonesian cuisine that began to be widely liked by international audiences, even they were amazed by the variety of one type of cuisine that each region has a variety and different ways of cooking even though the name is the same as "Soto"; Every region in Indonesia has this type of cuisine but strangely has a different taste and varies in terms of appearance and how to serve it.

"Madura" has a very famous "Soto" cuisine, besides that there is "Satay", "Kaldu", "Nasi Serpang", "Rujak Madura", "Bubur Madura" (Tajin Sobih), "Topak Ladeh" (Madura's style of vegetable stew with rice cake), and so on. The main spice uses spices namely (turmeric, galangal, lemongrass, pepper, cloves, nutmeg) and combined with coconut milk from coconut.

With the proliferation of culinary business in Madura that presents a variety of specialties make the need for spices will certainly increase. In addition, the need for spices to be used in everyday cooking will also increase the number of needs. Please note that the use of spices is not only for cooking but also used for herbal medicine and spa purposes that are also very famous. When viewed from the natural conditions of Madura which is

relatively prone to dry, slightly hilly in some places as well as a lot of lime soil content that is very possible to grow spices. According to data collected from several sources; In 4 districts on the island of Madura there are already spice plantations. Bangkalan Regency has 2 hectares, Sampang Regency spreads throughout the district which ranges in area of 4-9 ha and the quantity of the results is relatively the same every year, Pamekasan Regency is spread in almost all districts and is usually planted near its homes or yards and Sumenep Regency is in guluk-guluk area. (Sulistiyawati & Andriani, 2017)

With such a wide distribution and not concentrated spice plantations in Madura, encourage researchers to know the distribution process of the spices after harvesting until it reaches the hands of consumers. The distribution process can be explained in more detail by using one of the accounting information system business processes called "Supply Chain". In the "Supply Chain" will be explained a clear sequence of spices began to be planted-harvested-merchant-consumers. An Accounting Information System framework which is consists of "input-process-outputs". Input can be input or raw materials (spices seeds), while the process are: Spices begin to be planted, maintained then harvested (as output). The Output (harvested Spices) are entering the Chain of "Supply Chain"; they are going to be marketed or distributed to consumers directly, or sent to middle traders, and or sent to the market (Krishnaraj, Gunaseelan, Arunmozhi, & Sumandiran, 2020). The Supply Chain is expected to be able to better known in detail the journey of "The Spice" to reach the consumer to be used as the main spice in cooking, along with the price that occurs and the relationship that occurs between producers, middle parties and consumers.

This Research focusing on identifying the problems of "How is the Accounting Information System on the distribution of "The Spice" in Madura? and How is the Supply Chain of spices for seasoning until become a dish.

## RESEARCH METHOD

Research on the Accounting Information System for the distribution of "Spices" in Madura and the Supply Chain of spices for seasoning until become a dish; is conducted using a type of qualitative research with a qualitative descriptive approach, an approach with qualitative descriptive methods, According to Nazir (1988: 63) quoted in Prastowo (2012: 186) is a method used to examine the status of a human group, a set of conditions, an object, a thought system, or a class of events in the present. According to Arikunto (2003:310) quoted in Prastowo (2012:310) it is asserted that research using qualitative descriptive methods is not intended to test certain hypotheses, but only describes "what is" about a variable, symptom, or state. The method in this study is done using how to collect data, compile, and describe so that results are obtained in the form of "Supply Chain" of Spices for Madurese Cuisine (Rachim & Tambunan, n.d.).

The research data obtained by the authors was obtained from interviews with informants (spice farmers) in 4 districts in Madura, spice traders, and spice consumers.

### 1. Informant

Informant is a person who is used for a research purpose in providing information about the situation and conditions in the research place (Cossham & Johanson, 2019). Researchers use data generated from conducting interviews so that to complete the data, researchers need an informant related to the research conducted (Moises Jr, 2020). The informant criteria used by researchers are: spice farmers who come from 4 districts in Madura, spice traders, spice consumers

### 2. Data Collection Methods

1. Interview

According to Moleong (2007: 186) interviews are conversations with specific intentions conducted by two parties, namely researchers and informants, where the researcher who asks the question and the informant who answers the question. According to Moleong (2007: 190) said that a structured interview is an interview that the interviewer sets himself the problem and the question to be asked. The method of data collection uses a way of allocating questions and answers directly with parties who have the authority to provide explanations on issues related to spices in Madura.

2. Documentation

According to Bungin (2012: 142) the document is a recording of events that are closer to conversations, concern personal issues, and require interpretation that is very closely related to the context of the recording of the event.

According to (Sholikhah et al., 2020) the document is a record that has passed. Documents can be in the form of pictures, writing, or monumental works of a person (Moliner & Bovina, 2019). Documents in the form of pictures such as photographs, living drawings, sketches and others (Stiles & Selz, 2012). Documents in the form of writings such as diaries, stories, biographies, policy regulations. Documents in the form of works such as works of art, which can be sculptures, films, pictures, and others. The method of collecting data on this study by collecting data derived from the agricultural service, the results of interviews with informants about spices in Madura.

Data analysis techniques are a very important part of a study. These data are used by researchers to solve research problems (Alhojailan, 2012). The steps used to analyze the data are the first to perform classification. After obtaining information or data from the field or from informants then classified according to the problem or type of question asked. The second is Reduction, this problem is to choose which information is appropriate and not in accordance with the research problem. Because not infrequently informants will tell stories at length with just one question. The third is presentation. After the information is obtained and selected it is presented in the form of tables or explanations. So that the information obtained is really clear and understandable and helps researchers in diving into the problems that exist in the object of research in terms of Spices for Madurese Cuisine.

The next stage is the interpretation, data or answers from the informant is analyzed and interpreted by explaining about the Supply Chain in the Accounting Information System related to spices in Madura.

Data validity techniques in qualitative research is an important part to know the level of trust from the results of research that has been done using triangulation techniques when collecting data, so that the data obtained will be more consistent, valid and accountable. Triangulation can be interpreted as checking data from various sources in a way, and various times (Sholikhah et al., 2020).

Researchers choose to use triangulation techniques because according to researchers this technique is a technique that can facilitate researchers in eliminating differences that occur in the field. Researchers also hope that using this

technique can check their findings by comparing them with several sources. Data or findings can be recognized in qualitative research in the absence of differences between what researchers report and what actually happens to the objects studied (Mukumbang, Marchal, Van Belle, & van Wyk, 2020). The triangulation of sources in this study was done by checking the data that had been obtained from several different sources, namely from several people involved or knew about spices to obtain information.

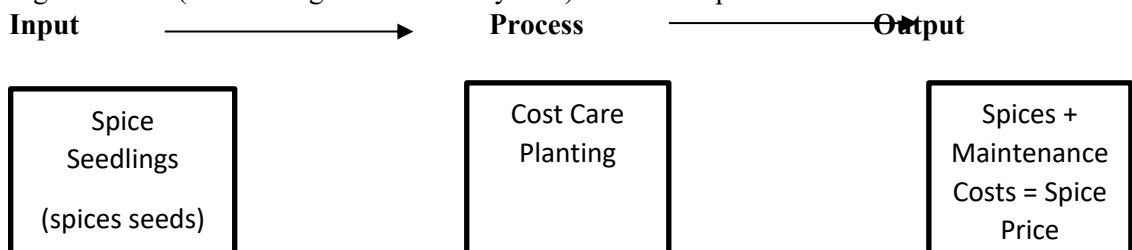
Triangulation techniques are performed by confirming data to different sources with the same technique, i.e. data obtained from interviews with the main informant, and supporting informants and documentation. Time triangulation can also affect data credibility, so researchers perform data collection techniques to informants in different times and situations.

## RESULT AND DISCUSSION

### 1. Accounting Information System on the distribution of Spices in Madura.

This research aims to find out the Accounting Information System that applies to the distribution of spices on the island of Madura. Accounting Information System is an "order" consisting of: "Input", "Process" and Output and can clearly be described as follows:

Figure 1. AIS (Accounting Information System) model on Spice Grower



Source: Self-processed data

From the SIA Model above input is a spice seedling; then the process is the process of planting and caring for spice plants then the output is the result of the spice harvest plus all the costs incurred in maintaining the spice plant. According to data obtained in the field, Madura has several areas that can be identified spice potential, namely:

1. Bangkalan Regency: Turmeric Galis Subdistrict, → grown and produced in large quantities.
2. Sumenep Regency: Rubaru District, Matanair → Lengkuas District, planted and produced in large quantities

Table 1. How to Plant

No	Name	Experience of growing Turmeric	How to plant and harvest?	How many times does it harvest in a year?
1	Namiah's mother (50 years old)	Long time ago, proceeding	Given mess and fertilizer	1 time (large harvest), or

**Citra Nurhayati, Nurul Kompyurini, Anita Carolina, Prayudi S Prabowo**

		from parents	the	cow (buthok), Unplug leave	dung and	can harvested every 3 bln	be
2	Mother PaI (45 years old)	Long time ago, proceeding from parents	the	Given fertilizer cow (buthok), Unplug leave	mess and dung	1 time (large harvest), or can be harvested every 3 bln once 1 time	
3	Mudhali's mother is 60 years old)	Long time ago, proceeding from parents	the	Given mess and cow (buthok), Unplug leave	white fertilizer dung and	2 times (large harvest), or can be harvested every 3 bln	
4	Mrs Nasir (40 years old)	21, passed on from parents		Given mess and cow (buthok), Unplug leave	white fertilizer dung and	1 time (large harvest), or can be harvested every 3 bln once 1 time	
5	Mrs Musrifah (45 years old)	10 years, passing on from parents		Given mess and cow (buthok), Unplug leave	white fertilizer dung and	1 time (large harvest), or can be harvested every 3 bln	
6	Mrs Midah (60 years old)	Long time ago, proceeding from parents	the	Given mess and cow (buthok), Unplug leave	white fertilizer dung and	1 time (large harvest), or can be harvested every 3 bln	
7	Mrs Kosneyeh (25 years old)	Long time ago, proceeding from parents	the	Given mess and cow (buthok), Unplug leave	white fertilizer dung and	1 time (large harvest), or can be harvested every 3 bln	
8	Mother Soimah (48 years old)	Long time ago, proceeding from parents	the	Given mess and cow (buthok), Unplug leave	white fertilizer dung and	1 time (large harvest), or can be harvested every 3 bln	

Source: self-processed data

3. Pamekasan Regency: it is known that there is Pakong Jahe Subdistrict, → the results are sent outside Pamekasan, but the location of the plantation is spreading so it is difficult to identify.

4. Sampang Regency: it is known that there is potential for spices in Tambelangan -→ Ginger District, but not many are planted and have been replaced with many other plants. For the above reasons, the discussion is focused on the results of turmeric spices (Bangkalan) and Lengkuas spices (Sumenep)

Accounting Information Systems help to identify the distribution of spices ranging from farmers to being the main spice in cooking. System building in the form of inputs – processes – outputs provides a core picture of the story of the flow of the supply of "spices". Supply flow or "Supply Chain" is a small piece of an Accounting Information System that is able to explain the inputs that occur until the spice can be "priced" by the buyer.

## 2. Turmeric Potential

Deje Leke Hamlet, Kaju Anak Village, Galis-Bangkalan District is like a normal village in Madura that has begun to be touched by modernization. It turns out that in it has the potential of abundant produce even used as a source of income for farmers. "Turmeric" or "konyek" in Madura language is one type of spice that is widely used for spices in madura or Indonesian cuisine. In addition to cooking, turmeric can also be used as a basic ingredient in making herbal medicine. Turmeric farmers in Kaju Anak village are dominated by women or housewives.

Basically, growing turmeric just to meet your own needs but because it produces in large quantities then it eventually becomes a commodity worth selling. Uniquely because it may also be supported by the composition of soil elements that are very supportive, turmeric can thrive and the quality is good. The Turmeric Peasant Women's Group (KWT) dominates the Peasant Group in Kaju Anak village; Every day the turmeric "basket" is always in front of the house of the accuser. Here are some interview results in the field with several informants who are members of the Turmeric Peasant Women's Group in Kaju Anak Village:

Table 2. Distribution Channel

No	Name	Where will it be sold?	Price and quantity size that are benchmarked
1	Namiah's mother (50 years old)	Directly in the market every Tuesday or Wednesday, middlemen	50 rb/ per basket
2	Mother Pa'I (45 years old)	Directly in the market, barter, middlemen	50k per 2 baskets
3	Mudhali's mother is 60 years old)	Directly in the market, middlemen	60k per basket
4	Mrs Nasir (40 years old)	Directly in the red land market or galis, middlemen	40k per 2 baskets

5	Mrs Musrifah (45 years old)	Directly taken to the market	40k per basket
6	Mrs Midah (60 years old)	Directly sold in galis market, middlemen of patemon and galis	15rb per kilo
7	Mrs Kosneyeh (25 years old)	Middleman	35rb- 40k per basket
8	Mother Soimah (48 years old)	Directly to the galis market and the red soil market	20rb- 25rb per basket (contains approximately 15 kg)

Source: self-processed data

Profiles of farmers who become informants, all of whom have been more than 10 years as farmers. Even some farmers claim to have long carried out farming activities in descending from their parents or grandparents. From the information gathered, planting turmeric is very potential once in the village of Kaju Anak, it is proven that the soil is not supportive when trying to grow other spice plants such as: key. The process of planting to harvesting causes farmers to understand and can learn directly how to charge prices or give value from the resulting products (turmeric) so that it meets the price by their respective standards. So, they created "Accounting information" on the turmeric they planted until they could meet prices that matched their respective standard sizes. Evident from the dose of "basket" used to measure the value or price to be paid by the buyer.

Then, found 3 channels of "Distribution" carried out by turmeric farmers, namely: (1) sold directly to the market every day of the market; (2) Barter with neighbors or merchants in the market; and (3) sold to middlemen who come directly to the village. The information can be used as a reference in concluding the distribution flow that occurs in turmeric farmers in marketing their products.

### 3. Galangal Potential

The next potential spice plant is "Lengkuas". This potential is widely seen in several villages in Rubaru Subdistrict and Manding Subdistrict, Sumenep Regency. For galangal farmers, they have their own farmland. The process of fertilizing plants all do as much as 2 times with a fairly young plant age. With the length of planting can be said to be 1 year, the results obtained vary depending on the area of planting land. For an area of 2 laggu equivalent to 2500 M<sup>2</sup>, the result ranges from 1000 Kg. While for the area of 1 laggu equivalent to 1250 M<sup>2</sup>, the result is 450 Kg.

Table 3: How to Plant

No	Name	Experience of planting Galangal	How to plant and harvest?	How many times does it harvest in a year?
1	Darda'I (50 years old)	13 years	Fertilized in the 1st and 3rd months,	1 time/ or depending on the price



			immediately revoked entirely
2	Usman (46 years old)	12 years	Fostered at the age of half a month, immediately revoked entirely
3	Ilyas (52 years old)	13 years	Given fertilizer 1 months 1st and 3rd, remove it entirely
4	H. Misraji (51 years old)	24 years old	Fertilized in the first and fourth months, cut 1/2 to keep the shoots alive
5	Mr Ipul	Forwarding from the parents	Given urea fertilizer at the beginning then at the age of 11/2 months given phonska fertilizer, diligently watered, buying seedlings in the market

Source: self-processed data

Table 4 Distribution Channels

No	Name	Where will it be sold?	Price and quantity size that are benchmarked
1	Darda'I (50 years old)	Sold to collectors	15 rb-22 rb per kg
2	Usman (46 years old)	Sold to markets and collectors	15rb-20rb per kg
3	Ilyas (52 years old)	Sold to collectors	15 rb-22 rb per kg
4	H. Misraji (51 years old)	Sold to collectors	15rb-25rb per kg
5	Mr Ipul	Sold to collectors	17rb- 20rb per kg

Source: self-processed data

The distribution channel chosen by galangal farmers is directly sold to collectors or middlemen. But uniquely farmers prefer to sell their galangal when the price in the market is high, so it can be said to plant galangal can be used as savings; That is, if it is needed to be disbursed into money. Accounting Information System that occurs at the potential of galangal in Sumenep regency is started by planting, caring and then harvesting

galangal to sell it at an adequate price in accordance with the process carried out. Here is a model image of the distribution flow that can be inferred from the results of interviews in the field.

## **CONCLUSION**

From the provisional results of this study can be concluded several things, namely: The distribution of spice plantations in Madura is uneven, many of which are only for their own consumption so that they are only planted in the yard or in front of the house only. The producers of certain spice commodities (turmeric and Galangal) in large quantities are in Bangkalan and Sumenep regencies. Accounting Information System that occurs in spices in Madura can be explained starting from the planting process by farmers to harvested which results in a selling price to middlemen or markets based on all costs and efforts done in the planting process. The Supply Chain Model "Si Rempah" for Madurese Cuisine starts from local farmers who sell directly to middlemen or markets then from the market sold to households or food entrepreneurs. From the household sector there can also be direct purchases to farmers. Spices in Madura cuisine can already be fulfilled from the produce of madura island itself. This is very influential on the taste of his special cuisine. Because the structure of the soil greatly affects also the quality of the spices produced.

## **REFERENCES**

- Alhojailan, Mohammed Ibrahim. (2012). Thematic analysis: A critical review of its process and evaluation. *West East Journal of Social Sciences*, 1(1), 39–47.
- Chevallier, Andrew. (2016). *Encyclopedia of Herbal Medicine: 550 Herbs and Remedies for Common Ailments*. Penguin.
- Cossham, Amanda, & Johanson, Graeme. (2019). The benefits and limitations of using key informants in library and information studies research. *Information Research*, 24(3), 15.
- Kandiannan, K., Prasad, Shalendra, & Kumar, Salesh. (n.d.). *SPICES IN FIJI—PERSPECTIVES AND PROSPECTIVES FOR THE AGRICULTURE DEVELOPMENT IN THE ERA OF CLIMATE CHANGE*.
- Katz, Sandor Ellix. (2016). *Wild fermentation: The flavor, nutrition, and craft of live-culture foods*. Chelsea Green Publishing.
- Krishnaraj, S., Gunaseelan, Rupa, Arunmozhi, M., & Sumandiran, C. S. P. (2020). Supply chain perspective and logistics of spices in Indian retail industry. *Materials Today: Proceedings*.
- Moises Jr, C. (2020). Online data collection as adaptation in conducting quantitative and qualitative research during the COVID-19 pandemic. *European Journal of Education Studies*, 7(11).
- Moliner, Pascal, & Bovina, Inna. (2019). Architectural forms of collective memory. *International Review of Social Psychology*, 32(1).
- Mukumbang, Ferdinand C., Marchal, Bruno, Van Belle, Sara, & van Wyk, Brian. (2020). Using the realist interview approach to maintain theoretical awareness in realist studies. *Qualitative Research*, 20(4), 485–515.

- Rachim, Mochammad Taslim, & Tambunan, Damelina B. (n.d.). *PROMOTION AND DISTRIBUTION DEVELOPMENT STRATEGIES OF JANK JANK WINGS (MANYAR GARDEN SHOPHOUSE SURABAYA)*.
- Sholikhah, E. N., Mustofa, M., Nugrahaningsih, D. A. A., Yuliani, F. S., Purwono, S., Sugiyono, S., Widyarini, S., Ngatidjan, N., Jumina, J., & Santosa, D. (2020). Acute and subchronic oral toxicity study of polyherbal formulation containing *Allium sativum* L., *terminalia bellirica* (Gaertn.) roxb., *curcuma aeruginosa* roxb., and *amomum compactum* sol. ex. maton in rats. *BioMed Research International*, 2020.
- Stiles, Kristine, & Selz, Peter. (2012). *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings (Revised and Expanded by Kristine Stiles)*. Univ of California Press.
- Sulistiyawati, Sulistiyawati, & Andriani, Cici. (2017). *Kemampuan berpikir kritis dan hasil belajar biologi berdasarkan perbedaan gender siswa*.
- Yudhistira, Bara, & Fatmawati, Ani. (2020). Diversity of Indonesian soto. *Journal of Ethnic Foods*, 7(1), 1–9.