

# Empowerment of Ciburial Knowledge MSMEs Through Information Technology in Supply Chain Management

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**Abstract**—Empowerment of Micro Small and Medium Enterprises (MSMEs) through information technology in SCM (Supply Chain Management) in Ciburial Village for tofu factories, the availability of soybeans and instability in the cost of soybeans are often problems they face in the production of tofu, which has an impact on the income of Micro, Small and Medium Enterprises. Supply Chain Management (SCM) is a strategic issue that is expected to overcome the problems faced by MSMEs. With the advantages of Ciburial Village which already has a village web, and the familiarity of Ciburial villagers with technology, information technology is expected to be a solution to the problems that are often faced by MSMEs in Ciburial Village. However, the application of technology-based SCM requires intense assistance in its use. This activity is carried out using a hybrid method, namely online through the WhatsApp (WA) application and offline face-to-face 2 meetings still paying attention to health protocols on Saturday in March and Monday in August 2021. Implementation of empowerment for tofu factories provides cooperation offers that can benefit 2 parties, namely customers and marketplace parties (example: Bukalapak, go food, tokopedia, etc.). Our next service is assisting in the creation of a tofu product marketing marketplace consisting of all producers through several marketplaces and providing assistance on the use of the required applications. Implementation of empowerment for tofu factories provides cooperation offers that can benefit 2 parties, namely customers and marketplace parties (example: Bukalapak, go food, tokopedia, etc.). Our next service is assisting in the creation of a tofu product marketing marketplace consisting of all producers through several marketplaces and providing assistance on the use of the required applications.

**Keywords**—Supply Chain Management (SCM), SMEs, information technology

## I. INTRODUCTION

Ciburial village geographically has an area of 8,2198 km<sup>2</sup>. Topographically, Ciburial Village is included in the highland group because it is located at an altitude between 750 to 1,200 M (asl). The average temperature in Ciburial Village is 25 degrees Celsius and the rainfall reaches 0.29 mm/year. Then in 2011, Ciburial Village was designated as a tourist village through the decision of the Bandung Regent. Ciburial Village is widely known for its potential for tourism activities in the Bandung area, such as the Cliff Palace and the Djuanda Forest Park. Tourism activities in Ciburial Village are actively socialized using social media, namely Facebook, Instagram, Twitter and YouTube, both the official accounts of the Village Government and individual accounts of Ciburial residents by digital fighters in Ciburial Village. Other than that, This village, which is located in the North Bandung area, also has other potentials, including MSMEs or Micro, Small and Medium Enterprises. Several types of businesses developed in the Ciburial Village area include handicrafts, peuyeum food, making tofu, and honey, besides that there are also several cattle, goat and chicken businesses. In addition to livestock and culinary production businesses, as well as tourism, agricultural activities are also quite an attractive industry during this pandemic.

Based on the results of interviews conducted by our team related to MSMEs in Ciburial Village and Sukaresmi Village, there are several problems faced by MSMEs in this area. For example, the problem faced by the tofu-making business, which amounts to 13 units, is that they have difficulty handling the raw material for making tofu, namely soybeans. The availability of soybeans is often a problem they face in making tofu.

Besides tofu, peuyeum and honey are other superior products in Ciburial Village. The challenges faced in the business activities of this product are related to the sales and marketing of the products produced. With the advantages of

Ciburial Village which already has a village web, and the familiarity of Ciburial villagers with technology, information technology is expected to be a solution to the problems that are often faced by MSMEs in Ciburial Village.

Based on the analysis of the situation of the target audience of PKM partners and the programs that are being and will be implemented in MSMEs in Ciburial Village, the partner problems will be explained as follows (see in table 1):

**TABLE I. PROBLEM SOLUTIONS FOR COMMUNITY PARTNERSHIP PROGRAM PARTNERS**

<b>Problem</b>	<b>Problem Solution</b>
Limited information regarding the supply of Raw Materials in the production process in Ciburial Village	Providing information related to the supply of raw materials in the production process in Ciburial Village
Limited information on the marketing process of finished goods that benefit MSMEs in Ciburial Village	Provide information related to the process of ordering finished goods that are profitable for MSMEs in Ciburial Village
Lack of integration of information related to raw materials or finished goods needed and produced by MSMEs in Ciburial Village	Assist the process of integrating information related to raw materials and finished products needed and produced by MSMEs in Ciburial Village

Based on the problems described in the previous chapter, Supply Chain Management (SCM) is a strategic issue in overcoming the problems faced by MSMEs in Ciburial Village. What is a Supply Chain (SC)? Mentzer et al. explained that SC is a set of three or more entities (organizations or individuals) that are directly involved in the upstream and downstream flows of products, services, finance, and/or information from sources to customers [1]. The definition of Supply Chain Management (SCM) is more clearly explained by The Global Supply Chain Forum (GSCF), which is the integration of business processes from end users or end users to suppliers or suppliers who provide products, services, and information that can add value to customers and other stakeholders [2]. Forester in Mentzer et al. also underscores the importance of information flow as one of the keys to successful business activities [1].

Previous research related to supply chain management issues in SMEs was also conducted by Kuo and Chen also found that Information Systems (IS), information sharing processes, and performance matrices facilitate the implementation of business strategies, which lead to SCM synchronization and performance improvement [3]. Therefore, we as implementers recommend several solutions that might be able to solve the problems faced by partners, which are described in the table 2 below:

**TABLE II. PROBLEM SOLUTIONS FOR COMMUNITY PARTNERSHIP PROGRAM PARTNERS**

<b>Problem</b>	<b>Problem Solution</b>
Limited information regarding the supply of Raw Materials in the production process in Ciburial Village	Providing information related to the supply of raw materials in the production process in Ciburial Village
Limited information on the marketing process of finished goods that benefit MSMEs in Ciburial Village	Provide information related to the process of ordering finished goods that are profitable for MSMEs in Ciburial Village
Lack of integration of information related to raw materials or finished goods needed and produced by MSMEs in Ciburial Village	Assist the process of integrating information related to raw materials and finished products needed and produced by MSMEs in Ciburial Village

**II. METHODS**

The implementation of PKM activities during the pandemic is hybrid, namely online through WhatsApp (WA) application groups and offline in the form of face-to-face training in one meeting while still paying attention to health protocols. The following stages of PKM activities are presented in the table below:

**TABLE III. PKM ACTIVITIES FROM MARCH TO AUGUST 2021**

<b>Step</b>	<b>Activity</b>	<b>Explanation</b>	<b>Output</b>
I	Make a list related to the raw materials needed by MSMEs in Ciburial Village	Collecting data through the head of the MSME community related to MSME data and the amount of raw materials needed every day in the production process	Related list With ingredients raw which required
II	Make a list related to finished materials produced by MSMEs in Ciburial Village	Collecting data through the head of the MSME community related to MSME data and the number of finished materials produced every day in the production process	Related list the finished material Produced
III	Make a list related to customers who need products produced by SMEs in Indonesia Ciburial Village	Must contact the relevant parties who need the materials finished products such as honey, handicrafts, peuyeum food, and know	Register related to customer
IV	Make a list of suppliers of raw materials needed by MSMEs in Ciburial Village	Must connect related parties with the supply of raw materials needed by the tofu manufacturing industry, namely soybeans (example: PT Agro Jabar). Providin cooperation offers that can be profitable Party	List of suppliers of raw materials needed by MSMEs in Ciburial Village

**Table 3. Cont.**

V	Make a cooperation agreement with the supplier of raw materials or customers, as well as expanding the market with online media	Providing cooperation offers that can benefit 2 parties, namely the customer and the marketplace party (example: Bukalapak, Go Food, Tokopedia, etc.)	Offer a cooperation agreement with customer know the supplier of raw materials can be an alternative solution in supply management ingredients raw materials and finished materials by expanding market with media On line
VI	Integrating that information with Information Technology which available (Ciburial Village website, marketplace and media other online)	The information is listed on the Ciburial Village website, marketplace, or other online media	The information is listed on the Ciburial Village website, marketplace, or other online media
VII	Training and Partner Assistance MSM Ein using the application SCM the right one for MSME	Provide training on the use of SCM applications for SMEs Provide assistance on the use of the required application	MSMEs are able to use SCM applications and other necessary applications.

**III. RESULTS AND DISCUSSION**

Based on the solutions and problems of partners, as well as the activities that have been carried out, some of the results that have been achieved are as follows (see in table 4):

**TABLE IV. RESULTS ACHIEVED**

Tin-Dkan	Output Type				Status Output
	Category	Sub-category	Must	Addition	
1	Activity photos and videos	Activity documents	v		Finished
2	Teaching Material	Teaching Materials in PDF files	v		Finished
3	Publication in electronic print media	Pers conference	v		Finished
4	Empowerment through Information	Make employment agreement same as party		V	Not finished yet

	Technology in SCM/supply chain, thereby increasing revenue	material provider raw			
5	Revenue Increase through SCM			Cooperation with the entrepreneurial unit of Study Program Ak	Finished

Based on the table 4 above, in the context of empowering MSMEs in 13 tofu factories, assistance to marketing activities and the initiation of cooperation are the main concerns in carrying out further activities.

The implementation of empowerment for SMEs in tofu factories provides cooperation offers that can benefit 2 parties, namely the customer and the marketplace party (example: Bukalapak, go food, tokopedia, etc.). Our next service is assisting in the creation of a tofu product marketing marketplace consisting of all producers through several marketplaces and providing assistance on the use of the necessary applications.



**Fig. 1. PKM activities interview the implementation of Supply Chain Management that has been implemented.**



**Fig. 2. Figure-2 Visit to 13 factories in the production process.**

#### IV. CONCLUSION

Based on the second phase of the survey conducted on March 30, 2021, there is a lot of information that we can get from tofu industry entrepreneurs in Ciburial Village. There are many difficulties faced by business actors in their production activities, including the difficulty of obtaining imported soybean raw materials, in addition to the high price of raw materials, a handful of entrepreneurs and the government, in this case BULOG and KOPTI, have less role in providing soybean raw materials to help MSME entrepreneurs. .

Furthermore, the tofu factory community is pressured to meet the target of 30 tons/day if they want low prices with good quality. This resulted in the profit or profit generated also became less and less.

In addition, in terms of production, marketing is still limited to traditional markets because there are still difficulties in terms of branding and licensing. In terms of production, production activities are still carried out manually because of the high cost of production using modern machines. Waste should also be a concern because AMDAL is an activity that is highly monitored by local and city governments in granting business permits. We provide assistance in information technology to increase MSME income, although it is not optimal considering the Covid 19 pandemic. The solution we take is to collaborate with consumers so that MSME sales increase. For further service, assistance for marketing activities and the initiation of

collaboration is our main concern in carrying out further activities.

#### CONFESSION

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