



Mathematical Connections to the Demand and Supply Functions of MSME Products in Pelawi Utara Subdistrict

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Abstract. *This service aims to socialize the mathematical connection to the concept of Element (demand and supply for MSME products in North Pelawi Village, Babalan District, Langkat Regency. This service activity is carried out by a service team consisting of lecturers and students who aim to provide briefings in the form of socialization to the community of business actors and MSME owners where with this activity it is hoped that there will be awareness and motivation of business actors to relieve the importance of applying mathematical concepts in the context of the connection or tension between the amount of demand and supply. So to predict the amount of demand and the amount of supply at a certain price is not difficult. Because with the ability to predict and control the number of goods offered, the price will be able to be conditioned to be stable and still within reasonable limits. For this reason, the role of business actors has a great influence on the sustainability and development of the business carried out so that the goal of obtaining maximum profits for better MSME performance is obtained. This service was carried out in North Pelawi Village by previously recording business actors around North Pelawi Village with the aim that MSMEs that have been run so far can better apply an understanding of mathematical concepts that are connected to the demand and supply elements for products produced in a certain period or period of time.*

Keywords: *Connection, mathematics, demand, supply, North Pelawi MSMEs*

INTRODUCTION

MSMEs are businesses that have been popular and tested to be able to survive in the era of the covid 19 pandemic. The important role of MSMEs in supporting the economy can no longer be underestimated, this can be seen from the pandemic era which resulted in most of the middle and upper-scale udsaha experiencing failure in maintaining their businesses. Meanwhile, some MSMEs are able to survive very stably and can overcome the crisis in the pandemic era. For this reason, MSMEs in North Pelawi Village also experience conditions that are not much different from MSMEs in other regions, of course, experiencing business instability by looking at some businesses that are closed or unable to maintain their business, but most of them are still able to survive. For this

reason, the community service team is interested in providing training in the form of socialization related to the management of demand and supply for an MSME product in North Pelawi Village (Nurhapsari et al., 2022). The title of the service carried out by the community service team is as follows: "Socialization of Mathematical Connections on the Concept of Elements (Demand and Supply) for MSME Products in North Pelawi Village. The entire service team, both from lecturers and from students, hopes that this activity will improve and build the skills and knowledge of business actors in running a business as optimally as possible so that the target of a business is achieved for maximum profit.

Demand and supply management built on mathematical connections will certainly provide an overview of the number of demand for a product and the product offerings offered so that the number of MSME products produced can be effective and can indeed be conditioned for maximum results or profits.

LITERATURE REVIEW

Partner problems related to MSMEs in North Pelawai Village is the imprecise management of demand and supply of a product so that it causes an excessive amount of demand from the inventory of goods or the opposite condition the amount of supply that is too excessive of the amount of demand. Business actors often ignore this and tend to focus more on how the business can run even though the profits are only ordinary, there is no desire or motivation for the business to develop much better than before. The advantage is whether the achievement target that is to be achieved in a business for that should be in order to achieve the maximum target has been prepared, planned steps can be through a recording report on a list, whether it is to regulate the number of requests or the amount of supply that occurs in a period, it can be daily, monthly or yearly. The service activities carried out in North Pelawi Village have a target plan, namely business actors, be it in the form of culinary MSMEs, bakeries, drinking water depots, automotive, beauty and other types of MSMEs. The target to be achieved is to increase business development including: Training or socialization services to foster awareness for the management of demand for a product. Training or assistance services for the management of offers for a product produced or offered. Recognize MSME products that can be offered in quantities that are matched by the number of requests from consumers in a certain period (Fadilah et al., 2020).

RESEARCH METHOD(S)

In the approach of a service activity offered, it is in the form of steps that will be taken in order to obtain the goals or targets to be achieved from a service activity. The Work Procedures carried out can be detailed at the following points:

A. Observation

1. Observation activities in places or villages that are fostered by Pancabudi Development University. Namely North Pelawi Village by conducting a survey or data collection of approximately 30 MSMEs that are members of the culinary, education, automotive, beauty and so on businesses.
2. Application for a permit for community service activities to parties or staff in North Pelawi Village, Babalan District, Lalat Regency.
3. Administrative preparation (letters – correspondence)
4. Preparation of tools and materials as well as accommodation
5. Preparation of a place for the implementation of service activities in the form of a North Pelawi village hall, chairs and sound system. . Socialization activities (delivery of material to foster the awareness of partners, in this case business actors in implementing or managing good demand and supply from MSME products) Opening and introduction from the MC to convey the core material of the socialization carried out in North Pelawi Village, Babalan District, Langkat Regency



Figure 1. Presentation of the promotion of the Universitas Pembangunan Panca Budi (UNPAB)



Figure 2. Question and Answer Discussion Session for Consolidation Service



Figure 3. Discussion Session With MSME Actors

Preparation of a Report on Domestic National Cooperation Service Activities with the North Pelawi Village, Babalan District, Lalat Regency. North Pelawi Village has several potentials, including abundant natural resources and human resources who are useful and willing to learn new knowledge. The business potential that can be used as a source of livelihood for the surrounding residents is the food industry, handicraft industry, textile industry and agribusiness industry which can all develop rapidly. Good MSME management will certainly make these MSMEs develop and require quality human resources in their management, for which it is possible that the business will contribute to the opening of jobs to absorb unemployed workers who can be trained and utilized so that they become quality human resources. The problems faced by Micro, Small and Medium Enterprises (MSMEs), especially MSMEs in North Pelawi Village, are difficulties in digital marketing technology, limitations in varying a product tend to be

monotonous in taste and shape, and limitations in simple bookkeeping that contains recording demand and supply for a mathematically connected product. The concept of mathematics in managing the number of demand and supply for a product related to the application of mathematics in contexts outside mathematics (other fields of science in daily life) is often ignored by the community, especially MSME actors and managers (Malikhah et al., 2024) . The meaning of the application of mathematics can be a mathematics learning material obtained at the school level can be associated in daily life, this is in accordance with the concept of graduate competence where mathematics subject is a mathematical concept that can be applied in daily life.

Community service activities are in the form of socialization with the title "Socialization of Mathematical Connections on the Concept of Elements (Demand and Supply) for MSME Products in North Pelawi Village". It was carried out offline or face-to-face at the service location of North Pelawi Village, Babalan District, Langkat Regency. Partners consist of approximately 25 business actors or MSMEs spread across North Pelawi Village. The community in North Pelawai Village is very open and actively participates in supporting this activity and contributes to preparing and facilitating the place for the implementation of the activity, namely the North Pelawi Village hall and socialization materials that can be clearly and easily understood by MSME business actors.

FINDINGS AND DUSCUSSION

North Pelawi Village has several potentials, including abundant natural resources and human resources who are useful and willing to learn new knowledge. The business potential that can be used as a source of livelihood for the surrounding residents is the food industry, handicraft industry, textile industry and agribusiness industry which can all develop rapidly. Good MSME management will certainly make these MSMEs develop and require quality human resources in their management, for that it is possible that the business will contribute to the opening of jobs to absorb unemployed workers who can be trained and utilized so that they become quality human resources. The problems faced by Micro, Small and Medium Enterprises (MSMEs), especially MSMEs in North Pelawi Village, are difficulties in digital marketing technology (Rangkuty et al., 2022). Offerings for a product related to the application of mathematics in contexts outside mathematics (other fields of science in daily life) are often ignored by the community, especially

MSME actors and managers (Eko, Y, 2009). The meaning of the application of mathematics can be a mathematics learning material obtained at the school level can be associated in daily life, this is in accordance with the concept of graduate competence graduates where mathematics subjects are a mathematical concept that can be applied in daily life (Ministry of Education and Culture, 2016).

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CONCLUSION AND RECOMMENDATION

1. Community service activities regarding the Socialization of Mathematical Connections on the Concept of Elements (Demand and Supply) for MSME Products in North Pelawi Village went smoothly and well from the side of the community service team of the Pancabudi Development University (UNPAB) and partners, namely the community in North Pelawi Village, Babalan District, Langkat Regency.
2. The service activity which is a series of socialization and counseling on the service material entitled Managing the Number of Requests and the Number of Offers That

Are Mathematically Connected Provides Motivation to Partners to Carry Out Maximum Management of MSMEs This can be seen from the level of partner participation to be active in interactive discussions provided by the community service team so that new knowledge and answers to diving problems are obtained MSMEs.

3. The participants, in this case MSME owners and actors, hope that counseling will be carried out again to provide the latest information and the application of digitalization in MSME management so that the maximum profit target expected is obtained.

Service activities can be carried out in old locations or in different locations on a regular basis so that many partners gain new knowledge related to the optimal management of MSMEs. The application of mathematical concepts will be very helpful in storing the number of demand and the amount of supply of a product which can be recorded in a simple bookkeeping that is more systematic to estimate the number of demand and the number of offers in the next period so that the value of a product represented at the selling price can be accepted in the market as a reasonable price value according to the quality of the product or the value of the usefulness of a product. It should be done routinely and conceptually so as to provide wider benefits to partners or the community who are intended as participants in service activities.

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