THE BIG DATA UTILIZATION IN IMPROVING THE MICRO, SMALL AND MEDIUM BUSINESS INNOVATION IN THE PANDEMIC TIME COVID-19

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ABSTRACT

The present study aims to identify the use of big data by businessmen in several villages in Gorontalo Regency in an effort to increase innovation for small and medium enterprises (MSMEs) during the COVID-19 pandemic.

The research method is carried out with a qualitative approach through in-depth interviews with a number of businessmen affected by the COVID-19 pandemic. The stages related to the research method are data reduction, presentation of information and drawing grounded conclusions by checking the validity of data through credibility, transferability, dependability, and confirmability which increase trust. Data transferability, dependability and certainty can be presented objectively and can be justified.

The results show that businessmen in Bone Bolango Regency are trying to make optimal use of big data after the COVID-19 pandemic can increase MSME innovation through three stages, namely surviving which means trying to survive in difficult conditions then making recovery related to businesses that can be saved through restructuring by optimizing the big data infrastructure as a media for information distribution, and increasing business gradually based on sharing content and information online.

Keywords: big data, MSMEs, Covid-19 pandemic

INTRODUCTION

In the digital era, everything will be connected in real time via the internet, including data on Micro, Small and Medium Enterprises (MSMEs). All data is encapsulated in it and can be quickly processed. Digital data is not a sheet that is just a pile of papers in government agencies and only certain people can access it. Modernization in terms of building a connected database.

Even though in this global era, big data has a very important role in business. Less understanding and information about big data is what so the functions and benefits of big data are not widely known. Big data itself is a study or research that refers to data that has been successfully collected and then processed for business development. The digital era, as it is today, has produced a large amount of data. This data comes from the use of the internet, as it is often searched, what is seen, and what is read on the internet will all be read and then a useful data set and used to make decisions called big data [4].

The information obtained from big data can trigger the businessmen to understand the behavior of each individual internet user through the content or volume of the available data, the speed (velocity) of data in moving, the variety of various data, the accuracy of internet users published, and the value and benefits obtained by the businessmen. In the application of big data, the main focus is

the device, network, and the applications [5]. Device means that users are literate and use smartphones to access all cooperative as well as operate the business activities. The network is supported by an adequate network to remote areas, moreover, the applications are presented as a medium for accessing various products produced by SMEs. Innovation is an important requirement for MSMEs so that their role as the main pillar of the community's economy is truly realized. The innovation is a renewal of various resources so that these resources have better benefits for businessmen. The innovation process is greatly influenced by advances in technology and science because these two things can make it easier to produce something new and different.

Basically, the benefit of innovation is to improve or enhance the function of the utilization of a product or resource so that businessmen get more benefits.

Innovations are made because there are certain goals that humans want to achieve. The goals of innovation are as follows;

1. Improve Quality
   In general, the goal of innovation in various fields is to improve the quality and value of something that already exists, be it a product or a service. As is the latest innovations, it is hoped that these products will have advantages and benefits that are more valuable than before.
2. Reducing Costs
   Innovation also aims to help reduce costs, particularly labor costs. For example, today many machines or equipment are created that can replace human labor in the production process. With these machines and equipment, labor costs for production will decrease. In addition, the use of machines and equipment in the production process of certain goods / services will result in better performance.
3. Creating New Markets
   With products that are of higher value as a result of innovation, this will create new markets in society.
4. Expanding Product Range
   One example can be seen from the e-commerce business as it is today. Entrepreneurs are expanding the reach of their products by utilizing the internet which can be accessed by more potential customers.
5. Changing Products / Services
   Innovation also aims to replace products or services that are considered less effective / efficient. One of them we can see the innovations that have occurred in motorcycle engines which are now more fuel efficient.
6. Reducing Energy Consumption
   Humans always want to save energy use, which is why there are so many innovations that humans have made. One of them is the existence of renewable energy sources that utilize nature, for example solar power, wind and water, as a source of electrical energy.

Not all ideas or ideas can be categorized as innovations. The characteristics of innovation are as follows:
- It has a characteristic, in other words an idea can be categorized as innovation if it has specific characteristics.
- It is a new idea, which is an idea that has never been published or expressed by others before.
- It is done in a planned manner, an idea can be categorized as an innovation if it is done deliberately and planned in its development.
- It has a goal, still in touch with the previous point, innovation is an idea that is executed deliberately and with a planned purpose.

This innovation process occurs continuously in the activities of businessmen because of the desire to do something easier and faster. One example of innova-

tion is the development of telephones which change and become more sophisticated over time. In the past, telephones used cables, now cell phones can be carried anywhere with very complete features and can even be used for internet access [6].

RESEARCH METHODOLOGY

This study uses a qualitative research approach. In this study, researchers observed people in their living environment interacting with them, trying to understand their language and their interpretation of their surrounding activities, approaching or interacting with people related to the research focus in order to try to understand, explore their views and experiences to obtain information or data. required. In this study, the researcher acts as a key instrument in collecting and interpreting data. The data collection tools used were direct observation, in-depth interviews, and document study. While the validity and reliability of the data used triangulation with the inductive method, which understands and interprets the various phenomena currently occurring that have something to do with MSMEs during the COVID-19 pandemic.

Researchers as the main instrument in this study have taken concrete steps to go directly to the research location by doing the following:

1. Conducting unstructured direct observations and in-depth interviews which are deemed more feasible, on the grounds that it is possible to provide higher data accuracy and be more accessible to researchers.

2. Looking for meaning in every behavior or action of the object of research, so that an original understanding of problems and contextual situations can be found. This method is used in an effort to understand informants 'behavior in a broader and holistic context in terms of the informants' thoughts and feelings

3. Triangulation, data or information from an informant is checked for correctness by obtaining information from other informants or other sources with the aim of comparing information about the same thing obtained from various parties in order to guarantee the level of trustworthiness.

4. Using an emic perspective in the sense of comparing the views of respondents in interpreting the situation the current COVID-19 pandemic from a standpoint of its own. Researchers do not provide views on what exists, do not generalize when in the research location, even as if they do not know anything that is happening to the current situation and life of MSMEs, thus, informants can put an understanding of the concepts they have.

5. Verification, is carried out through conflicting cases to obtain more reliable results. Researchers look for various cases that are different or contradict those that have been found, with the intention of getting a more accurate result of the level of confidence and covering a wider situation that allows him to integrate the various existing cases.

6. Purposive sampling in this qualitative approach does not use random sampling, nor does it use a large population and sample. The selection of informants was based on the perspective of their repre-sentation of the aims of this research.

7. Conduct analysis from beginning to end of the study. The analysis is meant to interpret the data obtained, as a manifes-tation that all descriptive methods and descriptions contain interpretations. It's just that a distinction is made between descriptive data and analytical or interpretive data.

8. In this research, the phenomenological approach is very dominant. This appro-

ach is carried out through the Verstehen method, namely that every step taken in conducting research cannot be separated from the subjectivity aspect of the informant's behavior.

In connection with this research focuses on utilization big data in increasing MSME innovation during the COVID-19 pandemic, in detail the subjects (informants) in the study were the top 10 micro, small and medium businessmen registered at the Office of Industry and Trade Cooperatives in Bone Bolango Regency.

The stages of the research were systematically and carefully planned to be carried out purposively in which the first informant was asked to be developed to the next informant who could provide different information. Then, the informant is also asked to appoint other informants, and so on, snowballing until the level of completeness is achieved, meaning that the required informant is sufficient and it is stated that there is sufficient data.

Data collection was done in a concrete manner through observation techniques, in-depth unstructured interviews and documentation. In this study, data analysis was carried out continuously from the beginning to the end of the study, both at the research location and in other places using the following techniques:

a. Data reduction, namely making abstracts of all data obtained from all field notes from interview observations and document review. This data reduction is a form of data analysis that sharpens, expects important things, classify redirect, discard unneeded and organize the data so that it is systematic and can make a meaningful conclusion. So, the data obtained through observation, interviews and document review are collected, selected, and grouped and then concluded without eliminating the value of the data itself.

b. Data presentation is done by collecting structured information that gives the possibility of drawing conclusions in taking action. The process of presenting this data reveals the whole set of data obtained so that it is easy to read and understand in the form of a narrative text. This data provides information related to the use of big data in increasing MSME innovation during the COVID-19 pandemic. c. Conclusions and verification are carried out after the data have been arranged in such a way (patterned, focused, arranged systematically). However, these conclusions are only provisional and general. To get a "grounded" conclusion, another new data search was conducted to test the tentative conclusions regarding the use of big data in increasing MSME innovation during the COVID-19 pandemic. The technique of checking the validity of the data is carried out through credibility, transferability, dependability, and confirmability. It is expected that the level of trust, transferability, dependability and certainty of data can be presented objectively and can be justified.

RESEARCH FINDINGS

Bone Bolango Regency is one of the districts of the five districts/cities in Gorontalo Province. Bone Bolango Regency consists of 18 districts with 160 villages and 5 sub-districts.

The growth of MSMEs in Bone Bolango Regency has increased quite sharply from year to year. The high interest in doing business in the community cannot be separated from the existence of government regulations areas that give space and opportunities for the community to develop their business.

Based on data from the Industry and Trade Cooperative Office of Bone Bolango Regency, in 2020 there were 5,492 micros, small and medium enterprises in Bone Bolango Regency. Generally, these businessmen are home-based businesses that are developed independently by the com-

munity. However, some of them run their business around tourism objects, for example businessmen in Botubarani Village. Botubarani Beach has a sea with very clear water. Local people usually rent their boats to tourists and provide food to the whale sharks in the form of shrimp waste as bait to attract the whale sharks to approach the boat. Apart from Botubarani Village, there are also many businessmen in the vicinity of Olele Marine Park, Botutonuo Beach, Pioneer Lake, Meranti Baths, and other tourist areas.

However, since March 2020 businessmen have experienced a very drastic decrease in income and not even a few of them have closed their businesses due to the COVID-19 pandemic and an imbalance between operating costs and the income they get. And some of these businessmen try to survive by utilizing big data. There are several benefits that have been obtained by businessmen in Bone Bolango Regency by utilizing this big data in increasing their innovation, namely:

1. Profit increases
   The reach of consumers is no longer limited to the surrounding community and people visiting the area but because of big usage data so that businessmen are able to reach even more target markets so as to increase sales turnover.
2. More cost efficient
   Some businessmen deliver their products for sale in Gorontalo City or hire people to carry these products, but with big data, businessmen can easily find potential buyers and some of them are willing to pick up their products at their homes or places of business respectively.
3. Faster performance
   The performance of businessmen has increased with the existence of big data, information distribution can be done easily regarding products provided by businessmen and distributed at any time and without having to leave the house

and look for buyers in Gorontalo City or other areas.
4. Loyalty increases
   In just a short time, businessmen can get feedback from consumers and positive feedback certainly gives hope regarding increased consumer loyalty.

Based on the results of in-depth interviews with several businessmen that generally they experienced difficulties when they first used internet media as part of the big data application in marketing their products, there are some businessmen who feel confused and don't know where to start and the stages that are should be done. However, efforts continue to be made and directions from other businessmen so that they are able to create informative content online. There is a desire of businessmen to survive in the middle.

The COVID-19 pandemic emerged since early April 2020, which is a month before Large-Scale Social Distancing (PSBB) were implemented in Gorontalo Province. At that time, businessmen already felt the lack of income but expenditures did not decrease. Survive is a strategy to adapt to the environment in order to be able to try to survive amid the limitations caused by the COVID-19 pandemic. However, not all businessmen can survive, there are some who permanently close their businesses and return to farming activities such as activities carried out before becoming businessmen. businessmen who have made good use of big data have been able to make recoveries related to the businesses currently engaged. Recovery is a process of restoring the activities of businessmen that have worsened due to the COVID-19 pandemic. This activity recovery is carried out by optimizing the use of big data in managing its business, which previously relied more on offline activities. Furthermore, businessmen try to develop their business again (growth) through new business adaptations, namely the optimal use of big data in all online channels that are able

to provide adequate information to consumers and potential consumers so that businessmen can innovate by utilizing big data.

The innovation process carried out by businessmen in Bone Bolango Regency is strongly influenced by technological advances and science which are very rapidly developing today because these two things can make it easier to produce something new and different from existing products and of course have an appeal. separately for consumers, especially in Bone Bolango and its surroundings.

DISCUSSION

The strategies of businessmen in Bone Bolango Regency in developing its business by utilizing big data to increase innovation is carried out with a three-stage approach, namely:

1. Survive

   The initial stage carried out by businessmen is surviving. In line with the opinion of Alves, Jose C., et.al. (2020: 12) that the crisis forces businessmen to survive [1]. The survival strategy undertaken by businessmen is to minimize expenditure and reduce labor and make efficiency in the use of raw materials. This strategy makes businessmen able to survive. Then businessmen shift the distribution of their products which were previously based offline and then lead to distribution and promotion of products online, but not all of these products can be converted directly from offline to offline basis so that businessmen need to recover various products that allow sales to be made. based online.

2. Recovery

   Recovery is the next stage after businessmen have managed to survive due to the COVID-19 pandemic. Recovery is a business continuity strategy that is structured and systematic [2]. The role of big data is very important for businessmen in implementing recovery strategies. Businessmen have made new adaptations to online-based sales management. Some products that are produced and cannot be marketed online have reduced production and even many from businessmen choose other efforts that can be done online. They realize that online transactions provide convenience, especially in utilizing big data which is capable of tracking and tracing customers online. These efforts are carried out consistently and continuously resulting in an increase in sales and business growth carried out by businessmen in Gorontalo District.

3. Growth

   Growth is the end of efforts that are expected by businessmen to optimize their business. According to Hongwei He & Lloyd Harris (2020: 180) that consumer decision making has shifted due to a pandemic where organizations will succeed in achieving growth if they are able to understand the direction of consumer decisions [3]. Several businessmen have successfully utilized big data in attracting consumer interest and conducting online sales transactions. The existence of a database that is available is unlimited and can be accessed anytime and anywhere provides opportunities for businessmen to select, obtain and distribute their products in target markets. Some of the successful efforts to make use of big data in neutralizing these activities include the South Huntu Village Rice Field Tour. This bridge tour over rice fields is located in Huntu Selatan Village, South Bulango District. Unmitigated, the bridge made of a combination of wood and bamboo has a length of 250 meters. Apart from displaying natural panoramas, this tourist destination also has a number of selfie spots. Not to forget also works of art in the form of three-dimensional (3D) images also decorate the bridge over the fields of South Huntu Village.

Figure 1. Rice Field Tourism

In addition, the tourist attraction in Bone Bolango which is currently viral is the Citizen Art Market in Huntu Selatan Village, Bulango Selatan District, Gorontalo Regency. The Citizen Art Market is a market that sells a variety of local processed culinary delights and local food ingredients for the people of Huntu Selatan Village (and its surroundings) - Bone Bolango.

Figure 2. Art market tourism

In this market, only banana leaves and other natural packaging are used as food containers, and do not provide packaging in the form of single-use plastic bags, mica, Styrofoam, aluminum foil and so on. And visitors are required to bring their own food and beverage packaging containers, provide bags or bags made of cloth (tote bag) to carry groceries. In addition, in this market, transactions are carried out not using money as a transaction tool, but using shell coins. So, the visitors who want to shop, have provided a special counter for cash exchange for shell coins (which have been soaked in water and soap to keep them clean), and in the market visitors can exchange these coins for various foods

according to the price given by the seller or printed on the board price info. The viral activities of these villagers cannot be separated from the existence of big data as a medium in providing general information to replenish energy from the village and participate in enlivening the activities of the villagers by always maintaining health protocols, using masks, washing hands with water and soap and maintaining a safe distance between visitors.

CONCLUSION

The strategies used by MSME businessmen in utilizing big data to deal with the COVID-19 pandemic period consists of three stages. They are:

a. Survive, is done by minimizing operational costs including labor, fixed costs and others. UMKM tries to collect capital resources optimally in order to restructure or recover activities that are currently being carried out.

b. Recovery, is a form of business recovery by identifying business opportunities that are able to adapt to the COVID-19 pandemic situation. Of course, activities that can be carried out online or with strict health protocols.

c. Growth is carried out by expanding the information and communication network to consumers and potential consumers by providing relevant and interesting content so that internet users are willing to advocate or share regarding content published by MSMEs.

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