



Population, Sample (Quantitative) and Selection of Participants/Key Informants (Qualitative)

Sukmawati¹, Salmia², Sudarmin^{3*}

Universitas Muhammadiyah Makassar

* Corresponding Author. E-mail: almia99@gmail.com

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Abstrak

Penelitian yang menggunakan populasi, sekiranya populasi ramai dan tidak mungkin pengkaji mengkaji semua yang terdapat dalam populasi, disebabkan oleh dana, tenaga kerja dan masa yang terhad, pengkaji boleh menggunakan sampel yang diambil daripada populasi yang mewakili. Sampel kajian adalah sebagian dari populasi yang diambil sebagai sumber data dan dapat mewakili seluruh populasi. Teknik Disproportionate Stratified Random Sampling Persampelan Kelompok (Area Sampling) Teknik persampelan kawasan yang digunakan untuk menentukan sampel apabila objek yang dikaji atau sumber data adalah sangat besar. Untuk menentukan objek yang digunakan sebagai sumber data, persampelan adalah berdasarkan kawasan populasi yang ditetapkan. Dalam kajian kualitatif, informan dibahagikan kepada tiga iaitu: informan kunci, informan utama, dan informan pendukung. Informan kunci ialah informan yang mempunyai maklumat yang komprehensif tentang isu yang dibangkitkan oleh penyelidik. Pemilihan informan dalam kajian kualitatif ditentukan sepenuhnya oleh pengkaji, justeru dinamakan persampelan bertujuan (purposive sampling) iaitu memilih kes bermaklumat (information-rich cases) berdasarkan strategi dan objektif yang ditetapkan oleh pengkaji yang bilangannya bergantung kepada objektif dan sumber belajar.

Kata Kunci: *populasi; sampel; informan*

Abstract (English-Indonesia)

Research using a population, if the population is large and it is impossible for the reviewer to examine everything in the population, due to limited funds, manpower and time, the reviewer may use samples taken from a representative population. The study sample is part of the population taken as a data source and can represent the entire population. Disproportionate Stratified Random Sampling Technique Group Sampling (Area Sampling) The area sampling technique is used to determine the sample when the object being studied or the data source is very large. To determine the object used as a data source, sampling is based on the specified population area. In a qualitative study, informants were divided into three, namely: key informants, main informants, and supporting informants. Key informants are informants who have comprehensive information about the issues raised by investigators. The selection of informants in a qualitative study is determined entirely by the

reviewer, which is why it is called purposive sampling, namely choosing information-rich cases based on the strategy and objectives set by the reviewer whose numbers depend on the objective and learning resources.

Keywords: *population; sample; informant*

Introduction (10%)

Every type of research has a starting point. Without research problems it is impossible. The point is that when you start thinking about research, you need to think about and formulate it clearly, concisely, and carefully. Indeed, all other elements of research are based on the formulation of the problem.

Every investigation, both quantitative and qualitative, is always rooted in a problem. However, there is a fundamental difference between "problems" in quantitative investigations and "problems" in qualitative investigations. Whereas in a quantitative investigation, the "problem" that the investigator wants to solve must be clear, precise and considered fixed, in a qualitative investigation, the "problem" raised by the investigator is still vague, even blurred, complex and dynamic. Therefore, the "problem" in a qualitative investigation is still temporary, an investigation and will develop or change when the investigator enters the field.

As previously mentioned, the selection of informants as data sources requires a method. The method or technique for selecting informants that is commonly used in qualitative research is based on the principle of the subject mastering the problem, having data, and being willing to provide complete and accurate information. Informants who act as sources of data and information must meet the requirements.

Qualitative research does not question the number of informants, but can depend on whether or not the selection of key informants is appropriate, and the complexity of the variety of social phenomena studied.

Thus, informants were determined using the snowball sampling technique, namely the process of determining informants based on previous informants without determining the exact number by digging up information related to the required research topic. The search for informants will be stopped after the research information is considered sufficient.

Data collection techniques are methods used by researchers to collect research data from data sources (subjects and research samples). Data collection techniques are an obligation, because these data collection techniques will later be used as the basis for compiling research instruments. The research instrument is a set of tools that will be used by researchers to collect research data (Kristanto, 2018). Data collection is a very important stage in a research.

Correct data collection techniques will produce data that has high credibility, and vice versa. Therefore, this stage cannot be wrong and must be carried out carefully according to the procedures and characteristics of qualitative research. This is because errors or imperfections in the data collection method will have fatal consequences, namely in the form of data that is not credible, so that the results of the research cannot be accounted for. In qualitative research, data collection is carried out in natural settings (natural conditions), primary data sources and data collection techniques involve more participant observation, in-depth interviews, and documentation (Sugiyono, 2019).

Basically the use of data (after being processed and analyzed) is as an objective basis in the process of making decisions/policies in order to solve problems by decision makers (Situmorang, 2010). For

example, if researchers want to obtain information about teachers' perceptions of the new curriculum, then the technique used is interviews, not observation. Meanwhile, if the researcher wants to know how the teacher creates a lively classroom atmosphere, then the technique used is observation. Likewise, if you want to know about student competence in certain subjects, the technique used is a test, or it could be a document in the form of exam results. Thus, the information you want to obtain determines the type of technique used (materials determine a means) (Kristanto, 2018). However, researchers still need the skills to use these techniques. Because it could be that if they are inexperienced or do not have adequate knowledge, the researcher is unable to dig up in-depth information, as is characteristic of data in qualitative research, because they are not competent in using the technique, even though the technique chosen is appropriate. The solution is to continue studying and reading the results of similar previous studies which will greatly help increase the skills of researchers.

Method (15%)

This research is a type of library research. What is called library research or often also called library research, is a series of activities related to how to collect library data, read and record and process research materials (Zed, 2008).

In this study, the authors apply the library research method because there are at least several underlying reasons. First, that data sources cannot only be obtained from the field. Sometimes data sources can only be obtained from libraries or other documents in written form, whether from journals, books or other literature. Second, literature study is needed as a way to understand new phenomena that occur that cannot be understood, then with this literature study you will be able to understand these symptoms. So that in dealing with a symptom that occurs, the author can formulate a concept to solve a problem that arises. The

third reason is that library data remains reliable to answer research questions (Zed, 2008). However, information or empirical data that has been collected by other people, whether in the form of books, scientific reports or research reports, can still be used by library researchers. Even in certain cases the field data is still not significant enough to answer the research questions to be conducted.

Tahapan-tahapan yang harus taken by the author in library research are as follows: a). Gather research materials. Because this research is library research, the material collected is in the form of information or empirical data sourced from books, journals, results of official and scientific research reports and other literature that supports the theme of this research. B). Reading for research purposes is not a passive occupation. Readers are asked to simply absorb all the "scientific" information in the reading material, but rather a "hunting" activity that requires the active and critical involvement of the reader in order to obtain maximum results. In reading research materials, readers must dig deeper into the reading material that allows them to find new ideas related to the research title. C). Make research notes. The activity of recording research materials is arguably the most important stage and perhaps also the toughest peak of the whole series of library research (Zed, 2008). Because in the end all the material that has been read must be concluded in the form of a report. d). Process research records. All material that has been read is then processed or analyzed to obtain a conclusion that is compiled in the form of a research report.

Content analysis or content review is a research methodology that utilizes a series of procedures to draw valid conclusions from a book or document. Meanwhile, Harold D. Lasswell stated that content analysis is research which is an in-depth discussion of the content of written or printed information in the mass media. From the explanation above, it can be concluded that content analysis is a research method with certain

stages to explore the essence of an idea or information and then draw a conclusion (Lexy, 2008). The author uses data analysis techniques in the form of content analysis because this type of research is a type of library research, where the data sources are in the form of books and documents as well as other forms of literature..

Results and Discussion (70%)

1) Kuantitatif

a. Populasi

The population is a general field consisting of subjects/objects with certain qualities and characteristics determined by the reviewer to be studied and then conclusions drawn (Sugiyono, 2019). Therefore, the population is not all people, but also objects and other objects. Population is not only the number of objects or subjects, but all the characteristics possessed by objects or subjects.

The population is divided into two parts (Sugiyono, 2019), namely:

1) The target population is the population that has been identified based on the research problem and conclusions will be drawn from the research results of the population.

2) The survey population is the population included in this study. The population consists of the elements that are sampled, namely the elements that are sampled. The sampling frame is a list of all the sample elements in the sample population. This sampling element is taken using a sampling frame.

b. Sample

The sample is a small part of the number and characteristics of the population. If the population is large and the researcher cannot study everything in the population due to budget, human and time constraints, the

researcher can use a sample taken from a representative population.

The sample is a small part of the population taken according to certain procedures to represent the population (Somantri, 2006). Some members of the population are called samples (Nazir, 2005). Part of the members of a group (subject group) as a basis for obtaining information (or drawing conclusions) about the group (group) (Pasaribu, 1975). (Sugiyono, 2019) argued that "a sample is a small part of the quantity and characteristics possessed by a population". (Arikunto, 2002) states that the sample is part of the population (part or representative of the population studied).

The research sample is some of the population taken as a data source that represents the entire population. Therefore, it can be concluded that the sample is part of the data that is the subject of the population being sampled.

How to determine a satisfactory sample: an ideal sampling technique (method) has the characteristics of being able to provide an accurate picture of the population, can be determined accurately, is easy to apply, can contain extensive information, is reliable, at a low cost. Precision is the standard error, the population size minus the sample mean.

c. Sampling Technique

The sampling technique is a sampling technique for determining the sample to be used in an investigation (Suharsaputra, 2012). The sampling technique is shown in Figure 1. From the figure it can be seen that basically the sampling techniques can be grouped into two, namely probability sampling and capacity non-deterministic sampling.

Probability samples were taken from simple random samples, stratified proportional random sampling, stratified unbalanced random sampling, and area random sampling. Non-probability sampling

includes systematic sampling, secondary quota, random sampling, purposive sampling, systematic saturation, and snowball sampling.

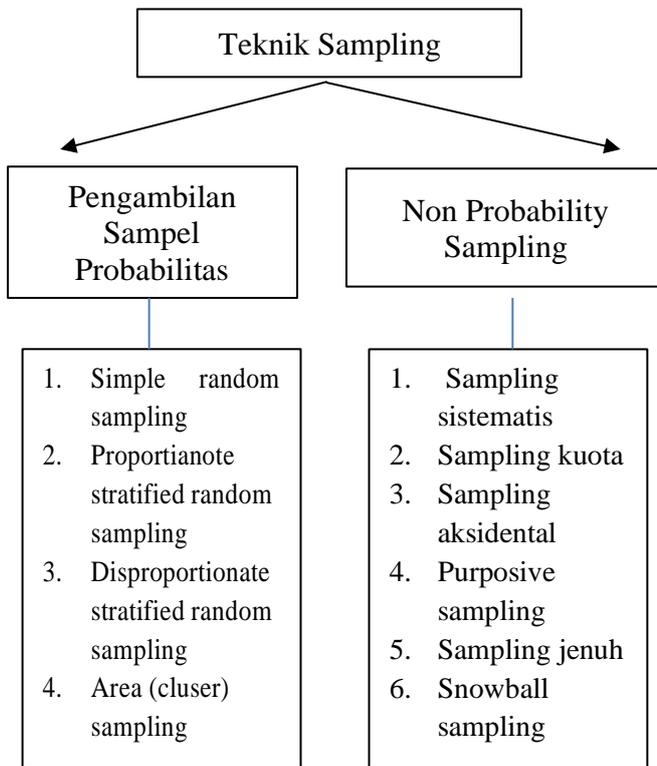
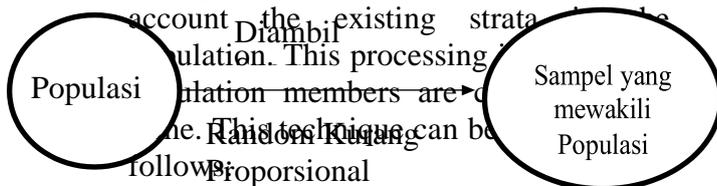


Figure 1. Sampling Technique

1) Probability Sampling

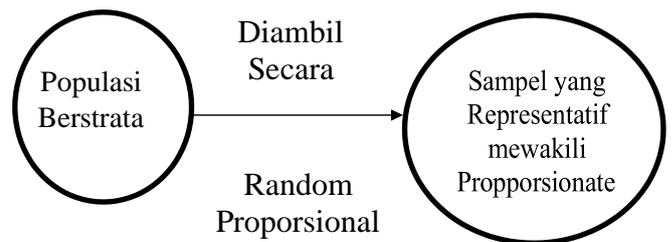
... sampling technique that provides equal opportunities for each element (expert) of the population to be selected as a sample expert (Azwar, 2009). These techniques include:

a) Simple random sampling Simply because the sampling of the population is carried out periodically without taking into account the existing strata in the population. This processing



b) Pengambilan sampel acak stratifikasi proporsional

Cara yang digunakan apabila populasi memiliki anggota/element yang heterogen dan terstratifikasi secara proporsional, misalnya jumlah pegawai dalam suatu organisasi memiliki formasi yang terstratifikasi secara proporsional seperti yang diilustrasikan pada Gambar 3 adalah sebagai berikut:



Gambar 3. Teknik Stratified Random Sampling

c) Unbalanced stratified random sampling

This method is used in determining the sample, if the population is stratified but not proportional. Identification of samples with this technique can be seen in Figure 4. Below:

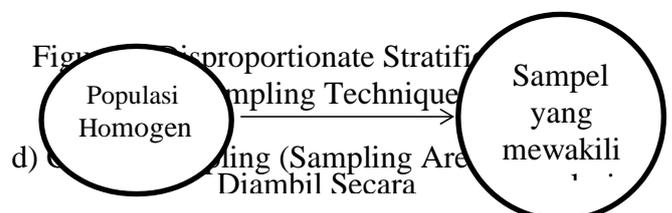


Figure 4. Disproportionate Stratified Sampling Technique

The regional sampling technique is used to determine the sample if the subject or data source is very large. For example, residents of a country, region or area. To determine the population to be used as a data source, the sample is based on a defined population area, for example Indonesia has 33 provinces, the sample uses 10 provinces, so 10 provinces are taken randomly. It should be remembered that regions in Indonesia are stratified, so that the sample is taken using a stratified random sampling technique as shown in Figure 5 below...

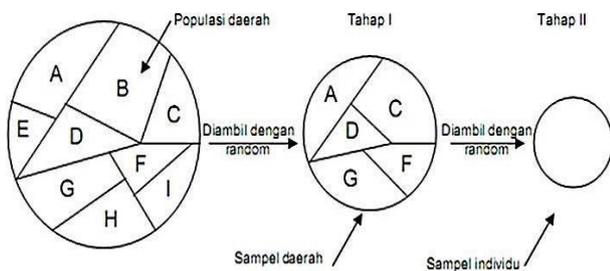


Figure 5. Cluster Random Sampling Technique

2) Nonprobability Sampling

A sampling technique that does not provide equal opportunities for each population expert to be selected as a sample expert (Creswell, 2016). Examples of this technique are:

a) Systematic sampling

The sampling technique is based on the arrangement of population experts given a serial number. For example, a population member is assigned a serial number consisting of 50 individuals from 1 to 50. The sample may be only odd or even or multiples of the given number.

b) Quota sampling

Quota sampling is a technique for determining a sample from a population that exhibits certain characteristics in a desired quantity (quota).

c) Random sampling

Probabilistic sampling is a sampling technique based on chance, meaning that anyone who happens to meet the investigator may be used as a sample, if the person met

by chance is deemed suitable as a data source.

d) Sampling with a purpose

It is a sampling technique with several considerations. For example a diet study, the data sample is a dietitian. This sample is more suitable for a qualitative study.

e) Saturation sampling

Saturation sampling is a sampling technique, when all members of the population are used as samples. This is usually done if the population is rather small, namely less than 30 people. Another term for a saturated sample is sissy, where all members of the population are sampled.

f) Example of a snowball

Snowball Sampling is a technique for identifying samples that are initially small in number and then increase in size.

d. Menentukan Ukuran Sampel

The number of sample experts is usually expressed in the number of samples. The closer the sample number is to the population, the smaller the probability of a generalization error, and conversely, the smaller the sample number, the further it is from the population, the greater (usually given) the generalization error. So basically no expert is the best match based on the desired error rate. The desired level of trust always depends on financial sources, time and effort (Sugiyono 2019). The formula for calculating a known sample size of a population is as follows:

$$S = \frac{\lambda^2 \cdot N \cdot P \cdot Q}{d^2 (N - 1) + \lambda^2 \cdot P \cdot Q}$$

λ^2 dengan dk = 1 Raraf kesalahan
1 % , 5%, 10%

$P = C3 = 0,5$ $d = 0,05$ $s =$
Jumlah Sampel

Example of determining population size

This study was carried out among employees of a company. Where workers are collected according to educational stages, namely pre-student = 50, pre-student = 300, SMK = 500, junior high school = 100, elementary school = 50 (population stratification). The total population = 1000 workers, the desired error rate is 5%, then the sample size = 258 people.

3) Qualitative, Selection of Participants/Key Informants

a. Definition and Types of Informants

The definition of an informant is a topic of study that may provide information about the phenomena/problems suggested in the investigation. In a qualitative study, informants were divided into three namely (Sugiyono 2012):

- 1) Main information giver
- 2) Main informant
- 3) Support provides information

Informants are informants who have complete information about the issues raised by investigators. The main informant not only knows the situation/phenomenon of society in general, but also understands information about the main informant. The selection of key informants depends on the unit of analysis being studied. For example, in an organizational unit, the main information giver is the head of the organization.

The main informant must be someone who is willing to share concepts and knowledge with the reviewer and who is often used by the reviewer to ask questions. Therefore, in collecting data, investigators must start from the main informants to get a complete and complete picture of the problem being considered. Therefore, there are four criteria for identifying key informants (Azwar, 2009):

Must be an active participant in an educated or cultured group, organization or culture

- 1) Must follow the culture being learned "now". Focusing on "now" is important, because the main informant does not forget the problem to be investigated.
- 2) There must be enough time. It is not enough for the main information giver to only have a will, but he is also allowed to provide information if necessary
- 3) Must deliver information in (natural) language. It is better to avoid informants who convey information in "analytic language" because the information produced is unreasonable.

The main informant in a qualitative investigation is similar to the "main actor" in one or more stories. Thus, the informant is someone who has technical and detailed knowledge of the study problem to be studied. For example, in studying teacher behavior in using teaching materials, the main informant is the teacher, while students are the main informant. A ^{sup} ^{pr} - Dengan metode snowball ^{complete} the ^{atau iklan} ^{ditative} invesugauon. Complementary information providers sometimes provide information that is not provided by the main or main information provider. For example, when assessing the application of safety culture among production workers in a manufacturing company, informants may be selected from positions that are not directly involved in the production process or are not directly involved in the production process. expenditure positions, for example warehouse positions. . While the main informants are production workers and the main informants are expenditure managers or HSE (K3) managers. Qualitative studies are not supposed to cover the three types of informants above, depending on the

context of the study problem. The use of the three types of informants above is for the purpose of cross-checking data validation. The investigator must collect information from these informants sequentially starting from the main informant, main informant, and supporting informant (see Figure 3 below)..

In some qualitative studies, only a key informant is needed if the real problem is unique to that person. The determination of the number of informants in a qualitative study is explained in the following chapter (Suyitno, 2006).

b. Number of informants

Qualitative investigations do not acknowledge the existence of a minimum sample size (sample size). In general, qualitative investigations use small sample sizes. Although in some cases only 1 informant was used. There are at least two conditions that need to be met to determine the number of informants, namely adequacy and relevance (Martha, 2016).

What is the minimum and maximum number of informants? Or what is the ideal number of selected informants? As explained above, to determine the number of informants as a marker of the level using information completeness requirements. The need for perfection is met by determining the number of informants who provide sufficient information, so that the benchmark for researchers is to determine the number of informants not representative of the region but the depth of information is sufficient or not. So, in a qualitative investigation, there are three conditions for determining the number of informants.

1) Penyelidik boleh menambah bilangan information giver if the information is thought to be insufficient. For example, this study was designed to involve three main informants. However, at the meeting there were still modifiers/instructions that had not been given sufficient information. So, in this

case the reviewer may add informants so that sufficient information is obtained.
2) The reviewer may reduce the number of informants if the information received is sufficient. For example, an investigation is designed with the participation of 5 informants. It turned out that 2 informants were enough to provide the necessary information. Thus, investigators may stop the data collection process with only 2 informants.

The reviewer may replace the informant (which is difficult to do in a quantitative study) if the informant does not cooperate in the chat meeting. For example, if an informant is dishonest in his answer and feels he is deliberately giving wrong information, then the reviewer may stop collecting data from that informant..

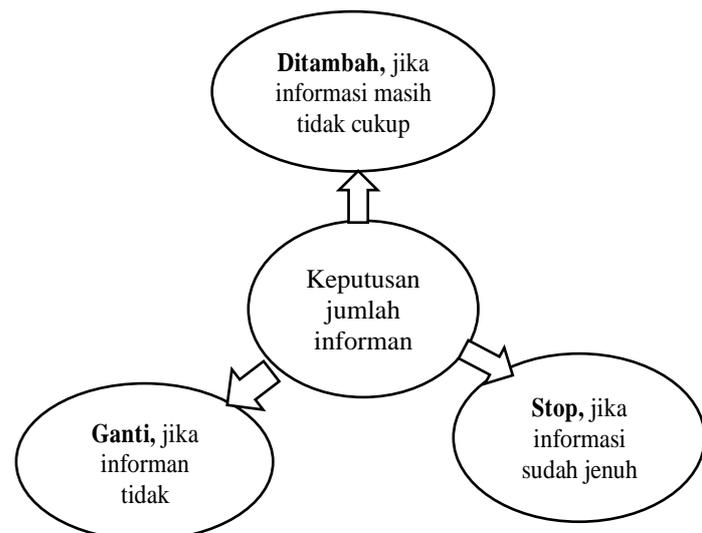


Figure 8. Decisions to Add, Reduce, and Replace Informants

c. Informant Selection Techniques

The selection of informants can be based on two aspects, namely theory and assumptions which are both based on the level of knowledge or experience of the respondent/reporter (and not the informant) based on random selection). Selection of informants based on theory or sampling theory is appropriate if the main purpose of data collection is to develop theory

substantively. The technique of selecting informants with assumptions (a priori sampling) commonly used in public health research is carried out by characterizing informants based on the problem and objective of the study. For example, if a qualitative study wants to explore the health and behavior of adolescents in a community, the study's informants will be taken from that community. (Robinson, 2014).

The selection of informants in a qualitative study is completely determined by the researcher, even (Patton, 1999) calls it purposive sampling which is the selection of cases with a lot of information (informative cases) according to the strategies and strategies that have been set. target. by researchers, that's the sum. depending on the purpose and source of the research. according to (Patton, 1999), there are 16 types of informant selection techniques with purposive sampling techniques.

d. Recruiting Informants

A further problem in designing informants for qualitative research is recruiting informants or determining who is willing to provide complete and relevant information. Basically, recruitment involving more than one research informant can follow the recruitment model with the conditions set by the researcher based on the objectives of the study. The steps are as follows (Salam, 2008):

1) Analyze the role of the informant

The role of the informant here means his position in collecting research data to produce relevant information. This position can act as a lead, lead or support informant. The information expected from the informant is information that is compatible with the theoretical framework and concepts used by the researcher. Therefore, the role of research informant can be determined based on two

conditions, namely: theory-based and problem-based research. Identification of theory-based roles used in research to strengthen or complement the theoretical foundations. While the determination of the informant's role according to the research problem is to provide information that is appropriate to the indicators of the problem found by the researcher. Usually used in qualitative studies to evaluate a program, find out someone's opinion, understand/study someone's behavior, etc.

2) Find information about the availability of suitable informants

The next stage, the researcher determines the "availability" of informants in the field. To obtain this information, the researcher can obtain information from people who are considered elderly/elderly in the social environment of the community such as: community leaders, organization leaders, traditional leaders, religious leaders and so on. In some cases, parents in the social order of the community can be used as key informants if they meet the criteria and are able to cooperate with the researcher.

3) Decision to accept/reject the information provider

However, it is up to the researcher to decide who is the right informant. This is to avoid misinformation if identification is only determined by a party outside the research team. This situation often occurs in research that aims to evaluate programs or organizational activities. Often the identification of informants is determined by the management of the program/organization to ensure that subjective decisions are based on the wishes of management.

In the middle of the qualitative research process, the researcher can make decisions to add, reject, or exclude selected informants from the study..

Conclusion (5%)

Basically, qualitative research does not accept the term population sampling because

this research does not aim to generalize the population, but uses in-depth information for the sample in qualitative research called people. Giving information.

Before determining the number of informants and selecting informants, the first step the researcher must take is to determine the research analysis unit that describes the research location and includes six aspects: people, structure, research perspective, viewing time, geography and activity.

The number of informants in qualitative research can be flexible depending on the conditions of adequacy and relevance. In half the cases, only one informant is required. Researchers can add, delete or replace informants during the research process depending on the completeness and relevance of the information. The "Sampling" method in qualitative research is not random, so it must be a non-probability method or determined by the researcher (purposeful sampling). This module explains that there are 16 types of sampling techniques in qualitative research. The recruitment of informants to participate in the research is completely determined by the researcher taking into account the contributions of several parties related to the research problem.

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