Community based case study: establishing geographical boundaries

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Abstract:

Aim: To discuss using local communities to establish geographical boundaries in a case study approach.

Background: Case study is widely used in the social sciences to explore complex phenomena within a real-life setting. Applying case boundaries is vital to ensure cases are easily identifiable and similar enough to be treated as instances of the same phenomenon.

Discussion: Post codes can be used to define geographical boundaries. A broad range of statistical data is collected from these populations including demographic information, which can assist in identifying communities that have issues or characteristics which may benefit from further research. Data collection from communities allows researchers to access appropriate populations.

Conclusion: Using local communities to identify case boundaries helps to provide a clear periphery to the case, and generate local solutions to local problems.

Implications for research/practice: Researchers using this approach benefit from being able to immerse themselves in the local community. This close engagement helps to ensure local community engagement with research projects and findings.

Introduction

Case study research is well established within social sciences as an appropriate method for in-depth research investigation (Feagin et al 1991; Yin 2014). It is used to obtain and explore complex problems in real-life natural settings. A case study approach provides flexibility as it allows the research question to be refined during the study and multiple data collection techniques to be used (Stake 1995). However, cases are required to be 'bounded' to maintain the focus and scope of the case and avoid blurring of information (Stake 1995). By establishing a defined case boundary, the scope and nature of the case is clear. Examples of defined case boundaries include social groups (teachers or students), geographical areas (districts) or time parameters (Yin 2009, Crowe et al 2013).

The aim of this paper is to discuss the benefits of using established geographically defined local communities as case boundaries. The definition of case study, the identification and application of boundaries and their importance will be discussed.

Definition of case study

Case study is defined as being an empirical inquiry, used to investigate a contemporary phenomenon in a real-life setting, when the researchers explore in-depth an event, activity, or process (Yin 2014). It is particularly useful when little is known about the issue being explored (Appleton 2002) and it is designed to use multiple sources of data to explore a topic. This may enable new research questions

to evolve as new data emerges (Stake 1995) and provides flexibility for the selected methodology and data collection procedures (Luck et al 2006). Stake (1994) proposed case study is defined by interest in individual cases, not by the methods of inquiry used: whereas, Yin (2003) placed more emphasis on the method and the techniques that constitute a case study. Stake (1994) advocates a more qualitative approach with a naturalistic emphasis, and stresses the importance of contextual description (Zucker 2009). This approach involves gaining an understanding of individual perspectives and shared social experiences within a defined community, which is the approach used in this paper.

Determining the Type of Case Study

In research, the question generally defines a study design, however a case can also be used to inform and determine the study and the research question (Hyett, Kenny and Dickson-Swift, 2014). The case may be selected either because it is representative of other cases, or because of its uniqueness, depending on the genuine interest of the researchers (Crowe et al 2013). The case is dominant and of the highest importance (Stake 1995).

Case study has been described as either explanatory, exploratory or descriptive (Yin 2009). An explanatory case study aims to address the 'how' and 'why' questions, and is used to obtain in-depth, causal information (Yin 2009). Conversely, an exploratory approach is often used to formulate a hypothesis or study question, whilst determining the feasibility of the research topic (Yin 2014). Descriptive cases provide an in-depth and detailed insight of a particularly unique or revelatory case in its own context (Yin 2014).

Depending on the focus of the research, case study can also be described as intrinsic, instrumental, or collective (Stake 1995). Intrinsic case study is used to explore the details of a single unique case, rather than what it represents, and where there is limited transferability. The uniqueness of the phenomenon and how it is distinguished from everything else needs to be clearly identified. In an instrumental case study, the issues remain dominant, and the case provides insight into a defined event or phenomenon or refines a theory (Stake 1995). The instrumental case study uses a particular case to gain a broader appreciation of an issue or phenomenon. Collective cases use an instrumental case study approach, which enables multiple cases to be sequentially or simultaneously studied as a means of broadening exploration of a specific issue or phenomenon (Appleton 2002). Each case is studied holistically and remains a single entity (Stake, 1995, 1998). This is to ensure comparison, testing of theories or replication of findings, can be made across the multiple case studies (Stake 1998). Both Yin (2014) and Stake (2014) emphasise the importance of using multiple data sources to study the phenomena in its natural environment; however the approaches taken by them are not mutually exclusive and are influenced by the researcher's philosophical viewpoint (Appleton 2002).

Selecting a case

Defining the case is an important concept. The case is a specific, complex, recognisable and integrated system where the case is the object of the study not the process (Stake 1995). The case needs to be easily identifiable (Dempsey & Dempsey 2000) and similar enough to be treated as instances of the same phenomenon (Ragin 1992).

However, careful consideration needs to occur when deciding and defining what a case is, including theoretical issues, awareness of existing literature and knowledge of setting (Stake 1995, George & Bennett 2005).

Firstly, access to the selected case is a key consideration. The case needs to be able to provide the researcher with access to appropriate study participants, who can address or help inform the research questions (Crowe et al 2011). The case also needs to be able to provide support for the research to take place and the researcher will need to work collaboratively with the community leaders, to make these connections and links (Stake 1995). This immersion in the case setting, enables the researcher to explore in-depth the complexities of the research case (Appleton 2002).

The nature of the research and the burden and risks to the potential participants must also be addressed by the researcher and include ethical considerations, confidentiality and anonymity. It is important to ensure the demands of the case study can be met by potential participant organisations and individual participants. If the disruption to the participants' time, resources and the individual emotional burden is deemed too high, this may discourage participation (Crowe et al 2011).

Selecting a case boundary

A case may be purposefully selected either because it is typical or atypical of the phenomenon of interest. It is important to study a case in its context as this provides several advantages (Lincoln and Guba 1985). These include the belief that by studying a phenomenon in context, more rich and complete data is obtained. This information can provide a more detailed insight of the phenomena and therefore increase the potential relevance of the study results. To select an appropriate case

for study, there must be a clear boundary, which defines the nature and scope of the case. However, it may not be easy, to distinguish the case from the context, and it is important is to ensure the boundaries of the case are readily distinguishable from events, behaviour or actions that are outside the case boundaries (Stake 2005).

To address this, both Yin (2003) and Stake (1995) suggest using boundaries to contain the case and ensure the study's scope remains reasonable. It is possible the nature and focus of the case may change over time as the study progresses; however, specific time boundaries are required to identify the beginning and end of a case (Yin 2009).

The case is a system bounded by time, which can be established using local culture description, group process or institution (Stake 1995). It is also important that the case boundaries correspond with and are unambiguous regarding the research question being explored and the data collection methods used (Holloway & Wheeler 1996).

A case may be either empirical or theoretical. It can be bounded by different factors including specific time, geography, place, and events (Ragin and Becker 1992). A good example of an implicit boundary would be a hospital ward or unit, which could be bounded by location, place and time depending on the research question (Dempsey & Dempsey 2000). Another example is Appleton and Cowley's (2008) study, which explored health visitor decision making across three community healthcare trusts. These trusts were selected as all provided health visitor services, but used different guidelines to assist health visitor's decision making for identifying families requiring additional support. By setting case boundaries, a comparison of findings with similar studies can be made (Yin 2009).

Local communities as boundaries

When setting and identifying a case it is important to ensure the boundary applied supports the research question. As discussed there are several suggested criteria to setting a case boundary, however using local defined communities provides an easily accessible and defined boundary. These established communities often yield useful demographic and contextual data which can be used to describe and explain the nature of the case.

Many countries throughout the world use post codes to identify geographical areas. Whilst initially they were introduced to facilitate postal delivery, they have been widely extended in some countries to link a range of administrative, health, and statistical information and services. The demographic data, regarding the population living within these defined areas is collected centrally by national government departments and therefore it is possible to compare and review population demographics. Therefore, when setting case study boundaries, post codes can be useful in identifying a defined population, who can be easily bounded for study inclusion. An example of this, is a mixed methods case study by Jackson et al (2017a, 2017b), into pressure injury within a community setting. This study sought to understand the burden of pressure injury in a real-life community and so used a single post code district to provide data on patients living with pressure injuries, including patient demographics and pressure injury incidence. By using communities, case study researchers can clearly identify an appropriate population to study, accessing contextual data from a multitude of sources, thereby informing the case.

An advantage of using established and verified information is it reinforces the validity of the data and allows different populations and communities across geographical

areas to be explored. The data can include information that analyse and disseminate statistics about the economy, society and population using post code defined areas. Data also contains detailed information of socio- economic status, types of housing, household characteristics, health inequality data, child health, health conditions, mortality, employment rate, cultural identity, and education. An advantage of using this information is the accessibility and availability. It is published via established public health and national statistics databases, which allows researchers to utilise population characteristics and demographics to inform the context of the case study. By using post codes as a geographical boundary, community demographic information can be studied, which may be diverse and varied. This provides statistical data for in-depth analysis of a profile population, assisting the researcher to contextualise and understand the properties of the case. Also, by using defined communities with similar demographic properties, populations can be used to explore specific research questions and compare findings. An example of this approach can be seen in an international study exploring the experience of child-to-mother violence, when Australian National Census information was used to identify appropriate participant populations (Edenborough et al 2008).

Thereby, using post codes as boundaries can provide population data, which reflects the research community and contributes to the depth and breadth of the existing knowledge of that population. By using these defined sources, data is also accepted as reliable and accurate, adding to the validity and robustness of the study method.

However, as discussed, the importance of establishing local community contacts should be acknowledged. Some challenges associated with using post code boundaries arise where there is little or no in depth knowledge of the community. By creating appropriate community contacts with local government bodies, including the

identification of local community leaders, the researcher can begin to engage with communities to overcome these issues.

Conclusion

Using local communities as boundaries in case study, provide researchers with a clearly defined accessible, identifiable population, which offers manageable amounts of rich and broad data from a defined geographical or bounded research population. Local communities are connected by sharing and accessing local services and therefore may share similar experiences, whilst maintaining varying demographic characteristics or features. By using post codes as case boundaries, researchers are able to access wide ranging information about local communities, ensuring local relevance in research design and findings.

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