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Quick-Scan Analysis of Multiple Case Studies¹



Leo Van Audenhove°, Dorien Baelden, Ilse Mariën

iMinds - SMIT - Vrije Universiteit Brussel & University of the Western Cape°

Version 1.0

1. DEFINITION

Case study research is well established in communication studies and media policy analysis. In the literature a distinction is often made between qualitative analysis on the basis of a single or a small number of in-depth case studies versus a cross-case analysis on the basis of a large amount of quantitative data.

Quick-scan analysis allows for cross-case analysis of a more extensive amount of smaller qualitative case studies (20-40 cases). It describes multiple small case studies on the basis of a limited set of variables. By mapping the variables and its indicators in a single matrix the analysis of similarities, differences and variances over the cases becomes possible.

A quick-scan analysis is often used as the first phase in a more comprehensive case study analysis. In the first phase, the quick-scan can be used to gauge the variances in a specific field. On the basis of a first cross-case analysis a number of cases is selected that are representative for the variance in the field. In the second phase a more limited set of cases is developed as in-depth case studies. This allows for a better understanding and for the uncovering of mechanisms of causality within and over the cases.

2. WHEN TO USE?

Quick-scan analysis is particularly useful when researching topics that are new and/or not well documented in scientific and other publications. It is useful to get to grips with areas in which variance is suspected and cross-case comparative analysis of a larger number of cases can reveal the scope of variance or the different types of cases/models present.

Advantages

- Quick way of getting to understand variance in a certain field
- Quick way of identifying tendencies, shared characteristics and emerging models within new fields
- Raising the amount of cases analysed over a limited amount of parameters is feasible

¹ I would like to thank Dr. Martijn Poel with whom we used the method at TNO-STB in the 1990s. Although not codified at that time, much of our work was based on what Martijn then called Quick-Scan Analysis.

- Easy to perform research as it mostly involves desk research/expert interviews/questionnaires/surveys
- For well established researchers or institutes collaboration of stakeholders is easier to secure

Disadvantages

- If a high number of cases is analysed this method can be resource/time consuming
- Exhaustivity is impossible which makes sampling an important issue
- Most often the sample is not representative

3. PROCEDURE

Literature review

It is best to start a quick-scan analysis by conducting a literature review, based on secondary sources, and desk research, before conducting the next steps. Even for those topics that are new or for which almost no literature exists, an initial review of the sources at hand will inform the approach to mapping and sampling. If variation in cases is not high a quick-scan might not be necessary. If variation among cases is high or if the purpose of the research is to analyse tendencies a literature review might already hint at possible clusters of cases or how to map cases.

Mapping

The mapping of potential case studies is the second step in carrying out a quick-scan analysis. Depending on the research question, decisions have to be taken in relation to the scope, the possible variance, the geographic area (national/European/international), etc. of the possible case studies.

Ways for mapping possible case-studies are:

- Internet searches using specific search strings
- Snow-ball approach starting with known cases and asking experts/stakeholders to list other cases
- Search and use existing databases/repositories listing institutions/initiatives/cases
- Ask umbrella organisations for cases in their field

In our study on Wireless City Networks we made use of an existing overview of US and EU cities that were in the process of contemplating, negotiating or establishing wireless networks. The overview was established by a consultancy company keeping track of developments in the US (and partly EU). It gave us an exhaustive overview of all cases in the US at that time. We added European cases on the basis of an extensive Internet search. In our study on Raising Public Support for Development Aid we used the official lists of Belgian NGOs involved in development aid. Sampling was the simple result of response on our survey.

Sampling

Depending on the amount of possible cases within the field one might opt for near exhaustivity in sampling or for a more purposive sampling approach. If the amount of cases is reasonable, let's say less than 30, it might be an option to develop all cases. If the amount of cases is higher sampling becomes necessary. Purposive sampling—also called judgmental sampling—is often the solution. In purposive sampling a sample is selected on the basis of the knowledge one has about the cases mapped and the field of study. It also takes into account the purpose of the study. More pragmatically it can also take into account the data available to develop the cases. An important criteria in the sampling of cases is *comparability* of cases. Are these cases and their context representative enough for the research question. Different geography, culture, legal context can make cases useless in terms of comparison and causal mechanisms. Decisions on comparability often depends on the judgement of the individual researcher.

The purpose of the study on Wireless City Networks was to come up with recommendations to the Brussels Capital Region on how to establish a public private partnership that would be able to finance, build and operate a wifi-network in the Brussels region. In the mapping exercise we identified 54 cases as potentially interesting, but in the end only sampled 17 for further analysis. In deciding on the cases we took into account 1) the position of cases on the triangle between public, private and community initiated initiatives, 2) the proximity of the cases to our Brussels case (mainly European cases, larger cities and capital cities).



Analytical framework & Data collection form

There are different ways—or a combination thereof—to develop an analytical framework that guides the further elaboration of the case studies. The main goal is to identify variables, characteristics and indicators that can be analysed across all cases. In a quick-scan we preferably work with quantifiable indicators (amounts, prices, time, etc.) and dichotomous indicators (yes/no indicators). The reason is that they can easily be integrated into a matrix which makes the cross-case analysis more easy. Different ways to develop a framework are:

- Relying on the literature review to identify the variables and/or indicators
- Progressively develop variables while constructing the case studies themselves
- Conduct expert interviews/expert panels geared at developing variables

Constructing the analytical framework and identifying variables and indicators will often overlap with the next stage of data collection and case study construction. Data collection for a specific case can reveal new variables and indicators that can be integrated into all other cases.

To make data collection and subsequent cross-case analysis easy the analytical framework is translated into a *data collection form* listing the variables as dichotomous indicators (yes/no), quantitative indicators (amounts, costs, speed, et.), lists of possible options (stages, collections, activities, objectives, etc.) and open fields for short comments. In the data collection forms the amount of written text is kept to a minimum and as much information possible is translated into different types of indicators.

Below is an example of part of the form describing the Wireless City Network initiative in Phoenix. Different cities had different ambitions in relation to where access to the network should be available. Instead of describing them in text for each city we listed the possible options and then checked the listed options for each city.

Data Collection Form: Phoenix Wireless City Plans 2004: Technology / Scope of the network			
<i>Start of the network</i>	May 2006		
<i>Current phase</i>	Early phase	Request for interest	
	Request for proposal	✓	Test phase
	Actual tender	Roll-out	
	Operational	Cancelled	
<i>Technology</i>	Wifi	✓	Wimax
<i>Type of network</i>	Meshnetwork	✓	Hub and spoke
<i>Mega Bits per second</i>	Not mentioned in current phase		
<i>Area</i>	CopperSquare	4 km2	
<i>Estimated amount of users</i>	26.000		
<i>Access in city</i>	Limited to public spaces	General coverage outside ✓	
	Gov. Public spaces inside	✓	Priv. Public spaces inside (pub, restaurant, etc.) ✓
	Private houses inside		
<i>Additional remarks</i>	At the moment the airport and libraries of Phoenix have full wifi-coverage. The goal is to extend the network to the whole city centre.		

Data collection

Data collection can be very diverse and largely depends on the topic researched and the information available. An important decision to take is whether data collected will just be used to fill in the data collection form or whether the description of a small case study is envisioned. Both are possible and legitimate. We often combine data collection forms with small case studies, because the narrative case study contains more contextual information than the data collection forms as such. If combining both a separate file can be constructed containing textual data to construct a written case study at a later stage.

Different data collection methods—and combinations—are possible:

- Desk research of existing reports, annual reports, etc.
- Analysis of websites, social media presence, etc.
- Surveys (written, online, telephone, etc.)
- Interviews and expert-interviews
- Analytical data of companies, online activities
- Statistical or other quantitative data
- Etc.

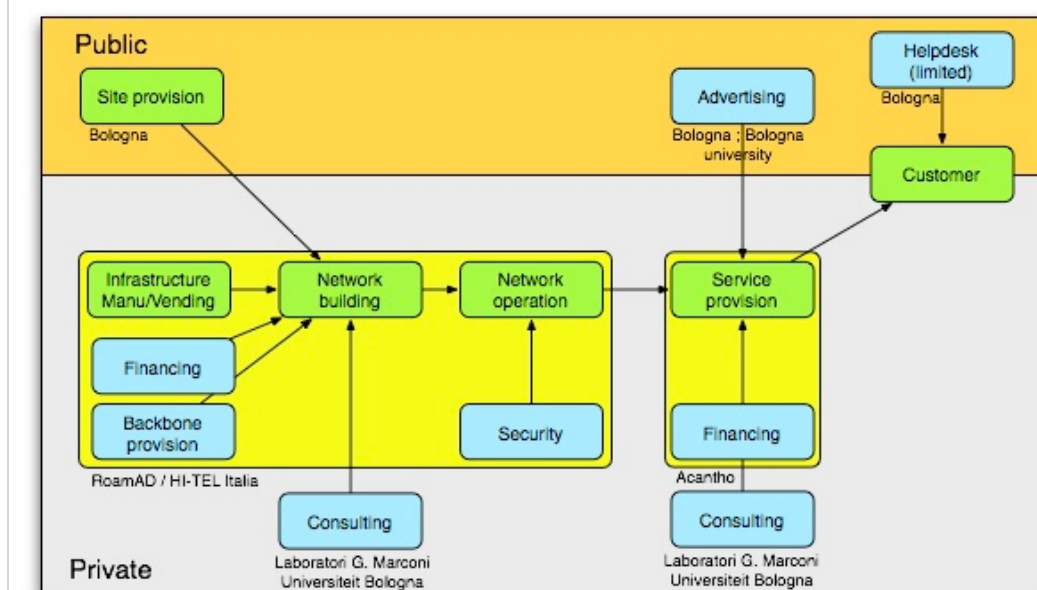
When more than one researcher is involved in data collection, data collection forms help standardise data collection. In this case however it is important to communicate what the indicator means, how data is collected and how data is processed.

Matrix construction and case-study development

Data collected can be processed in different ways. First, cross-case analysis on the basis of the data collection forms is made easy by integrating the indicators into a matrix of columns and rows. The cases are mapped in columns and the indicators are mapped in rows. An extra column can be introduced to count the amount of cases showing a certain variable or indicator. When lists were used when collecting the data—e.g. to grasp the different activities a company is engaged in—an extra row can be introduced to count the amount of topics a certain case shows. For some research questions the development and analysis of the matrix can be sufficient.

Quickscan Matrix – Raising public support for development cooperation (2015) – Question 3-4		Wereldmediaattheek (nu SAKADO)	Plan België	Kleur Bekennen	UCOS	Bevrijde Wereld	CARITAS	Damianactie	Vredesclanden	CUNIA	TRIAS	Rode Kruis	Broederlijk Delen	AIJSEC VUB	11.11.11	Miel Maya Honing	Wereldsolidariteit	VIA Don Bosco	The Association of Service Civil	Dokters van de Wereld	Geneeskunde voor de derde wereld	SOLIDARITÉ AFGHANISTAN BELGIQUE	Service Laïque de Coopération au	Louvain Coopération	FUCID	Défi Belgique Afrique (DBA)	AADC	TOTAL
3) Use of Web 2.0 and social media	Know social media but do not use it																											1
	Have a website and interactive platforms, but could use these more					✓		✓			✓	✓	✓			✓	✓	✓	✓			✓		✓	✓	✓	✓	13
	Do invest substantial resources on new media, are happy about the network, but could do more in terms of interaction	✓			✓		✓								✓					✓	✓			✓				7
	Use different interactive platforms and are happy about the amount of interaction								✓	✓				✓														3
4) How are web 2.0 and social media mainly used	As a platform to bring together supporters/public to stimulated debate...																✓		✓									2
	As a platform to support our goals and to spread information				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20

Second, the information in open fields cannot be reduced to variables or indicators. Neither can written information in a separate file or document. If this information is important each case can be developed as a small case study. E.g. the history of the case, the business model used, the position of the case in relation to other cases, etc. The methods to develop these cases and to describe the characteristics are those of case study research. The example below shows the proposed business model for a wifi network in Bologna which was part of a more narrative case study on wireless city networks.



Data analysis on the basis of the matrix

The matrix is an easy tool to cross-analyse the cases. A first level of analysis is a horizontal analysis of the different variables over the cases. What indicators score high? What indicators low? What could be the reason? For lists of options: Which options score high? Which options low? And why? Can this be explained on the basis of what is learned from the case studies? Can it be explained on the basis of the literature review? Does it confirm what was found in the literature review? Does it enhance or contradict findings?

In our study on Raising Public Support for Development Aid. The role of Web 2.0 and social media we asked Belgian NGOs to list the reasons why they did not optimally use web 2.0 and social media in their communication and marketing. In the international literature, financial resources were often put forward as the most important explanation. Our research for Belgium showed that a lack of social media skills of staff and the lack of appropriate options for staff training were more mentioned as factors for non use than financial resources.

It is important to mention here that although the matrix counts the occurrence of a certain indicator, these figures do not have any statistical value. The multiple cases used in a quick-scan are seldom exhaustive. The samples used are not representative. So figures used do only illustrate tendencies and variances. They should therefore not be represented as percentages of the amount of cases, nor should any statistical validity be claimed. This being said, we do hold that, especially in areas where variance is present studying multiple cases has the merit of better grasping the variance across cases and is able to grasp the tendencies present in a certain field.

A second level of analysis is combining a horizontal analysis with a more vertical in-case analysis. Do certain variables often combine with other variables? Can this be explained? Do groups of cases boost the same outcome for a specific variable? Can it lead to hypothesising models/typical cases? This analysis is done by a visual analysis of the matrix. We do not use statistical programmes or other techniques to look for correlations. However, on the basis of a sound literature review, in depth knowledge on the cases themselves, researchers often can hypothesise causes and causal relations on the basis of the matrix.

*In our study on Wireless City Networks we observed that the policy goal of bridging the digital divide was an important goal in **all** US cases. This goal was much less prominent in European cases. The explanation was not far to search. Telecom legislation in the US and the EU is different, putting more universal access obligations for broadband on EU operators than on US operators. US cities in the early 2000 still had large urban areas lacking broadband networks. An important driver for US cities to develop urban broadband wifi networks was to 1) provide access to disadvantaged communities, 2) force traditional operators to invest in less attractive areas.*

A third level of analysis is asking the question why certain variables or indicators are absent. This is probably the most difficult exercise and requires a good literature review and—preferably—a general background in the specific field and in communication or social science research generally. This being said, just being aware that this might be an important question to ask can lead to interesting observations.

SMIT is currently conducting research into media literacy competence models. We have analysed 25 models and mapped competences into a matrix. When asking the question what is missing two things stand out. First, in all older models skills related to privacy are only weakly developed. Only in newer models more attention is paid to competences helping people to manage their online identity and to protect their privacy. An explanation is not difficult to come up with. Second, none of the competence models pays attention to the role of media as entertainment. The reason is that all models start from the philosophy that media need to lead to economic progress, political participation and citizenship, and social advancement.

4. RESOURCES

The resources needed to perform a quick-scan analysis largely depend on the amount of cases analysed, the breadth of the predefined forms/topic lists and the type of research used to collect data. If the data collection is limited to desk research—which it often is—the resources needed are limited. If face-to-face interviews or surveys are used for data collection resources can rise substantially.

A quick-scan comprising 15-20 cases combining both data collection forms and narrative case studies can be human resource intensive and can take several months of research. For larger quick-scan analysis we often involve several researchers in the data collection phase. Good communication about the research, the concepts used, the variables and indicators used, is essential.

5. USED IN SMIT RESEARCH

Using digital media to strengthen social participation. Strategies used by social organisations.

This research, commissioned by the Flemish Government, aimed to identify international good practices concerning the use of digital media to support and stimulate social participation of citizens that are at risk of being socially excluded. 22 international initiatives (developed by actors coming from various sectors, such as government agencies, non-profit organisations, commercial companies, academia, etc.) were identified and systematically analysed, looking at the location of the initiative, number and types of partners involved in developing the initiative, target groups, digital goals (e.g. providing access, improving digital skills, etc.), social goals (e.g. employment, expanding social networks, improving health, stimulating citizenship, etc.), number of citizens participating, implementation level (i.e. local, regional, national, international), evaluation methods, results, and challenges. An important conclusion of the research was that the involvement of a broad range of

partners in the development of an initiative increased the chances of success of having a positive social impact. Involving a variety of partners facilitates processes related to fundraising, scalability, and getting sufficient media coverage, which often results in a rise in public support, even more partners and more financial means and thus more opportunities to create meaningful initiatives. The main challenges multi-partner initiatives experienced were the lack of a unified vision and of a professional communication planning and strategy. The quick scan analysis also showed that the use of co-creation methods to involve citizens in the early stages of the development of initiatives enables developers to take into account the needs, wishes and limitations of the target group. While such an approach proves to be efficient in terms of time and budget, it is still often neglected in projects that aim to use digital media to increase social participation.

Mariën, I., Baelden, D., Bens, J., Schurmans, D., Van Audenhove, L., Smukste, K., Pierson, J., Lemal, M. & Goubin, E. (2013) Van digitale naar maatschappelijke participatie: Opportuniteiten en uitdagingen. In: Callens, M., Noppe, J. & Vanderleyden, L. (eds.) *De sociale staat van Vlaanderen 2013*. Brussel, Vlaamse overheid (Josée Lemaître), pp. 227-272. ISBN 9789040303500. DOI: 10.13140/2.1.1660.6080

Increasing public support for development aid. The role of Web 2.0 and social media.

As part of a larger project funded by the Belgian donor authority on increasing the public support for development aid, SMIT conducted a study on the role web 2.0 and social media can play in this regard. At the time of conducting this research almost no literature was available on this issue. The main assumption held by donors and other relevant actors in the field (e.g. government) was that web 2.0 and social media allow for a more interactive approach to engage with young people and thus may assist in increasing their support for and engagement with issues related to development aid. After mapping the literature on political, civic and social engagement via web 2.0 applications and social media tools we developed an online survey on the use of these tools and applications by Belgian NGOs. The survey was sent to 110 NGOs of which only 26 answered all questions. Nevertheless, almost all larger NGOs and especially the ones with a focus on youth were present in the sample. The results of the survey were completed with an analysis of the websites of the participating organisations and the combination of these results was integrated into a matrix and analysed. One of the main findings is that NGOs do not use web 2.0 and social media extensively and that if they use these tools, they rarely use them in an interactive way. Not so much financial resources, but a lack of technical, web 2.0 and social media skills among the personnel, seems to be the main explanatory factor for non-use. The NGOs seem to be aware of this issue, but indicate that (a lack of) opportunities for ICT-schooling for the sector is a major issue.

Baelden, D., Van Audenhove, L. (2015) Draagvlakversterking voor ontwikkelingssamenwerking. Web 2.0 en sociale media als heilige graal. In: *Tijdschrift voor Communicatiewetenschappen*, 43(3), 234-256.

Wireless City Networks.

In 2006 the Brussel Capital Region commissioned a study on wireless city networks. Different cities in the United States and Europe were at that time developing or were considering developing wifi- and wimax-based networks to cover inner cities or even larger areas within cities. The research question was 1) whether developing a wireless city network in Brussels would be an option, 2) how a public private partnership could be developed to finance and develop the network. As most initiatives and the whole industry was still in it's infancy and as the whole debate was very hyped we decided to conduct a comparative research on the basis of a quick scan analysis. After identifying over 54 cases we selected 17 for analysis—11 European and 6

American. We first developed a predefined form listing questions on the technology envisioned, the geography of the network envisioned, the goals envisioned, prices and services, the cost of building the network, etc. The data collection was carried out by 4 researchers on the basis of a combination of document analysis and telephone interviews with stakeholders. Apart from the predefined form we drew a business model for each initiative. All information was integrated into a matrix for further analysis. On the basis of the analysis of the matrix we described 6 emerging/possible models for wireless city networks. On the basis of this we developed policy recommendations for the Brussels Capital Region.

Van Audenhove, L., Ballon, P., Poel, M., Staelens, T. (2007) 'Government Policy and Wireless City Networks. A comparative analysis of motivations, goals, services and their relation to network structure', *The Southern African Journal on Information and Communication*, Issue 8, pp.108-135.

Ballon, P., Van Audenhove, L., Poel, M., Staelens, T. (2009) 'Business Models for Wireless City Networks in the EU and the US. Public Inputs and Public Leverage', Preissl, B., Haucap, J., Curwen, P. (Ed.) *Telecommunication Markets. Drivers and Impediments*. Heidelberg, Physica Verlag Springer, pp.325-340.

Media Literacy Competence Models

SMIT is currently conducting research on media literacy competence models. It selected 25 often used models and mapped the competences used within models and specific characteristics of the model in a comprehensive matrix as the basis for a comparative analysis. Some of the findings were highlighted in the textbook on data analysis.

Mariën, I., Baelden, D., Van Audenhove, L., Mathé, J. (2015) *Reconsidering Media Literacy in Practice. A quick-scan analysis of 25 competence models*. IAMCR Conference, Montreal, June.

6. REFERENCES

Quick-scan analysis as such is not described in literature. It is a method that was developed and refined by researchers from iMinds-SMIT. Quick-scan has some affinity with Multiple Case Study Analysis. For further information we refer to literature on methodology and more specifically on case study research. For communication studies some of the literature on comparative communication research can be helpful for the part on data analysis.

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Yin, R.K. (2009) *Case Study Research. Design and Methods*. (4th Edition). Sage, Los Angeles.