

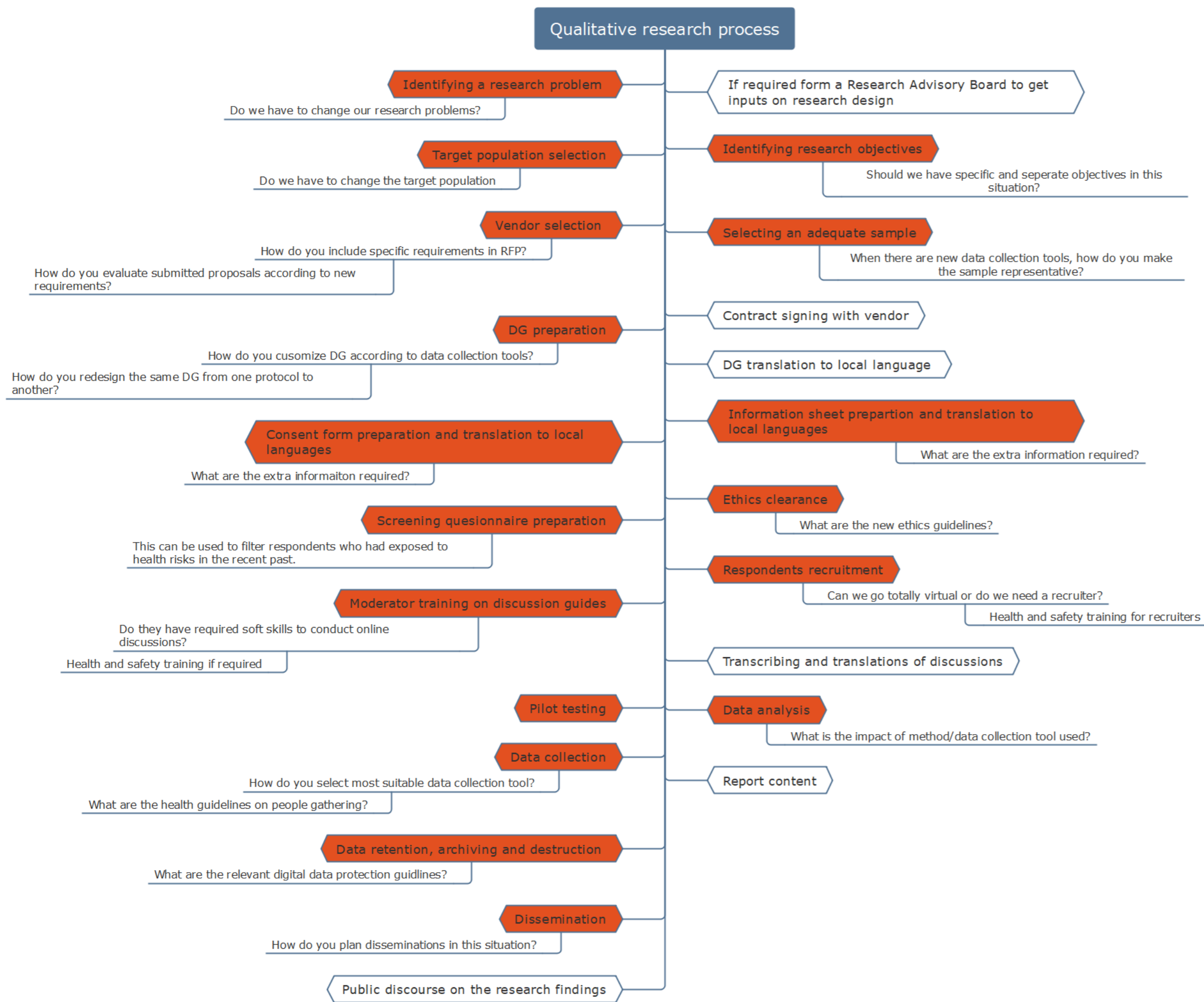
Research Methods in a Pandemic

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Qualitative methods



LIRNEasia follows these steps when doing qualitative research.

This pandemic will have an impact on most of our research steps. Those steps are highlighted and possible challenges are described under each step.

New ideas are needed on how to do fieldwork in a pandemic

COVID 19 pandemic forced social science researchers from around the globe to come-up with alternative research methods due to social distancing measures.

At this moment social science researchers are thinking;

1. How to turn fieldwork that was initially planned as face to face methods into a more 'hands-off' mode?
2. In the future how to design research projects with more emphasis on online tools?
3. In the future, do we have to design research projects relying on content generated on the internet by online interactions?

This is an important moment to bring more interactive and creative research methods. Further, it is important to build a process on how to do quantitative and qualitative research online. The reflections need to be on what kind of research can move online and what can't. Do we have to wait for certain research methods? How to minimize health risks when collecting field data in a pandemic situation? All methodologies can not be changed to suit the pandemic situation . Can social research protect its characteristics in this pandemic?

Revisit your research problems and research objectives

- The pandemic situation has made the already existing disparities in the society even more visible including access to basic necessities, health, education and trustworthy information.
- Those who have better access to digital technology and relevant skills will be able to claim more opportunities and advantages than people who do not have access. Hence, digital inequalities will be prominent in the society.
- If this 'new nature' is becoming a new norm of reality, it could lead to the emergence of new social classes. These new disparities will have overlaps with the former, but the new circumstances will lead to new power negotiations.
- Since LA focuses on bottom of the pyramid (BOP) and marginalized communities, 'new nature' will have an impact on our research problems and objectives.
- Sensitive topics such as health and sexual behaviour can be particularly well-suited for online data collection tools (online¹ focus groups, in-depth interviews or one on one quantitative interviews).
- Online focus groups can help facilitate a more honest, open discussion of such topics – and therefore improve data quality – because participants cannot see each other and therefore some anonymity is maintained.
- The nature of the discussion topic should be considered if we are to conduct online discussions or other online data collection tools.

1. Online – this can be voice calls or video calls using any forms platforms

Access to target population and respondent recruitment is difficult for demand side research

- Recruitment of BOP and marginalised individuals for research during social distancing is difficult.
- Access to BOP and marginalized communities happens in different levels. Firstly, researcher may have to get in touch with responsible institutions, meeting individuals more than one time might be needed, then visit their chosen spaces to meet (where they feel safe and conformable) and then only the possibility to recruit participants might open.
- Developing trust with communities and individuals is significant for qualitative researchers.
- Marginalized communities and individuals are highly difficult to be connected through ICT for quantitative or qualitative data collection, especially for demand side research projects.
- Certain groups such as persons with disabilities and persons with chronic diseases respond less to online, mailed and telephone interviews¹.
- Therefore, access to internet, voice call, familiarity with online communication and having digital literacy affect the recruitment process.
- However, online recruitments offer an opportunity to recruit respondents without influences or manipulation from external parties.
- Population characteristics including respondent locations, availability of technology and costs incurred should be considered when implementing online data collection.

1. <https://bmcpubhealth.biomedcentral.com/articles/10.1186/s12889-020-8241-8>

An adequate sample is needed; even though data are collected online

- Sometimes the only way to reach certain marginalised groups is face to face interviews. Can we exclude these groups, just because they do not have access to ICT?
- Individuals with different personality traits (such as introversion and extroversion) respond differently in this situation. Their responses for online recruitments and discussions might be different.
- Even with tech savvy young people (digital natives) different levels of anxiety are seen in internet-based computer-delivered exams, showing invisible issues and barriers that people have¹.
- A study with LGBTQ youth has shown better opportunities with online data collection as higher levels of safety and anonymity is available online. This can also be relevant to other marginalised or hard-to-access communities².
- However, in certain situations a field recruiter may be needed. In certain situations field recruiter can take digital device/s to the field and connect with the moderator remotely.
- The online focus group format is well-suited for a variety of populations, especially those who are “hard-to-recruit” or geographically dispersed. Some of these respondents (for example, parents of young children or busy professionals) are tied up by substantial time commitments which make it difficult to devote time to travel to a facility and participate in a discussion. The online format gives such individuals fewer barriers to participation by eliminating the need for travel³.

1. https://www.researchgate.net/publication/329988501_Constraining_issues_in_face-to-face_and_Internet-based_language_testing

2. https://www.researchgate.net/publication/303373346_Perspectives_of_LGBTQ_emerging_adults_on_the_depiction_and_impact_of_LGBTQ_media_representation

3. <https://researchdesignreview.com/2020/03/16/focus-groups-moving-online-face-to-face-mode/>

Online data collection tools promote mix method (quantitative + qualitative)

- Should we consider more flexibility and innovation in research methodologies in general? Is mix method more important than other methods?
- Online data collection has been quite popular for quantitative research.
- Alternative data collection tools and a broader range of research methodologies will provide more grounded and inside-out understanding of the respondents. Both online and offline approaches can be planned in protocols, to be able to allow changes and exceptions; bearing in mind, the impact.
- This moment can shed light into future research protocols and allow researchers to build different creative research methods, without losing the essence of research. (Mobile diaries, Voice elicitation, Story completion method, Autoethnography, e-ethnography, Photojournalism)
- Ethnographic research depends a lot on the physical interactions. The use of online tools to collect data means that data can mean something in one context and another thing in another context, especially in text-based messaging, twitter, blog, forum and email form.
- Ethnographic researcher faces the new reality of needing to use collaborative ways and tools to achieve their aims in the research, as they are not just collecting data, but also negotiating the access to participants and data.
- e-Ethno provides real-time observation of real life. Mobile diary encourages sharing of texts, photos or videos about habits, media behaviours, interactions throughout day.

Online tools change researcher-respondent relationship

Consent form and information sheet preparation

- The need to obtain permission from the respondent to use the content of the interview, photos or any digital data in research report. For online interviews it can be verbal consent.
- How good are the respondents in understanding the concept of digital data?

Ethics clearance

- When remote data collection do not work for marginalized communities, should social sciences come up with new ethical considerations where it allows researchers to go to the field with necessary safety precautions and protective gears (for both quantitative and qualitative research)?
- Should social sciences limit its operation to online methods during pandemics?
- Sharing empathy and emotions with a participant in a vulnerable situation can be carried out when there is a physical presence, while it might take a different shape in online space.
- How to comply with all the general data protection regulations that is necessary with our participants in virtual spaces?

Moderator | Enumerator training on digital tools

- Face-to-face encounter is important to build trust. People take time to tell their stories, to share their experiences, to get involved with research. How to build that on the internet? Is it possible to build that trust at all with some groups or individuals when the encounter is remote?

Limitations of the tools should be emphasized in the findings

Data analysis

- How do you eliminate the impact of the data collection tool?
- Are there enough research done about barriers and impacts of qualitative online data collection tools?

Data retention, archiving and destruction¹

- How are data being managed, stored, and represented?
- What method is being used to secure and manage potentially sensitive data?
- What unanticipated breaches might occur during or after the collection and storage of data or the production of reports? (For example, if an audience member recorded and posted sensitive material presented during an in-house research presentation, what harms might result?)
- If the researcher is required to deposit research data into a repository for future use by other researchers (or wishes to do so), what potential risks might arise?
- What steps should be taken to ensure adequate anonymity of data or to unlink this data from individuals? What are the potential ethical consequences of stripping data of personally identifiable information?
- How might the removal of selected information from a dataset distort it such that it no longer represents what it was intended to represent?

1. Internet Research: ethics guidelines 3.0 <https://aoir.org/reports/ethics3.pdf>

RFP, vendor evaluation scheme and the contract should be changed accordingly

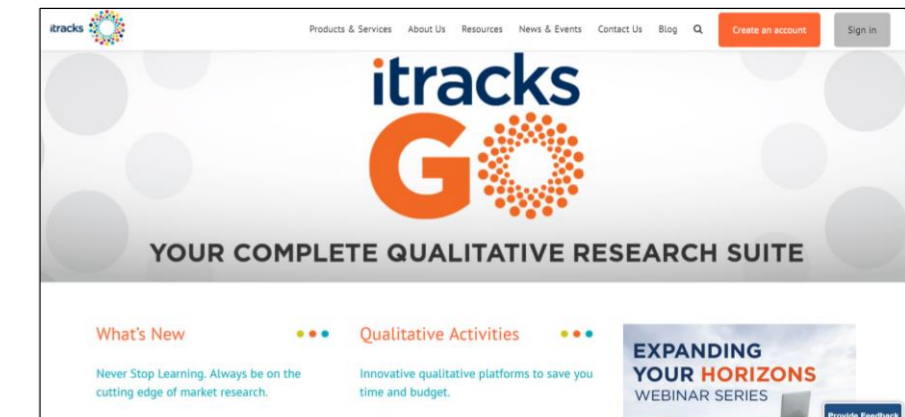
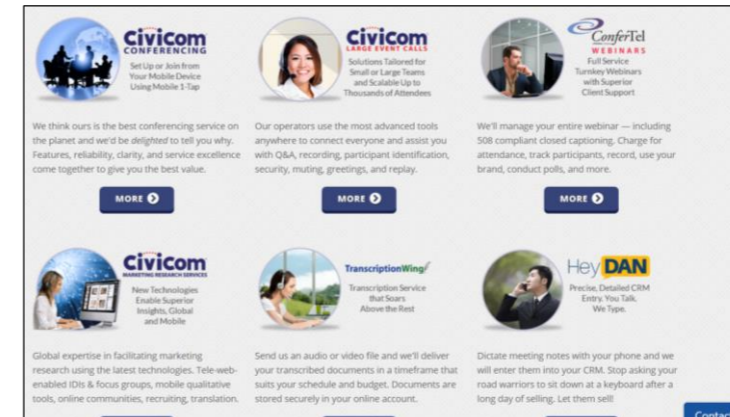
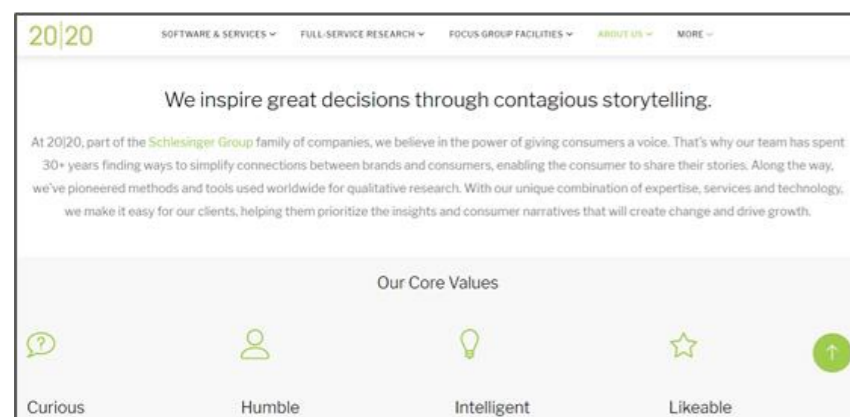
- Public health guidelines to be included in the RFP.
- Request budget options for online and offline data collection.
- Include clauses to provide guidelines on how to react to unexpected situations (eg: having to cancel or postpone research/fieldwork due to lockdowns).
- Measures taken to minimise health risks should be explained by the vendor at the proposal stage. Field recruiter may have to keep records of all persons met in the process to ensure contact traceability.
- Vendor should explain the capacity to carry out online discussions/collect quantitative data online.
- Vendor's familiarity with other digital data collection tools will be an advantage.

RFP, vendor evaluation scheme and the contract should be changed accordingly (cont.)

- Vendor should have the capacity to analyse digital data; especially qualitative data.
- NDAs should be signed with everyone who has access to data (moderators, transcribers etc..).
Clauses in the NDA should address privacy and security issues of digital data.
- Number of FGDs, number of participants per FGD, number of IDIs and timeline might need to be flexible due to prevailing conditions.
- Online platforms that vendor is planning to use must be checked out.
- Vendor evaluation scheme should be amended based on new requirements.
- Vendor contracts should be drafted with provisions for mutually agreeable decisions in facing unexpected situations.

Qualitative data collection tools available

- WhatsApp groups, Facebook groups, Zoom, Webex, GoToMeeting, Skype, Google Meet, Google forms, Microsoft forms, Wearable camera (These tools are designed for general use. Video calling, file and location sharing options and chat facilities are available for data collection).
- 20|20 research, Civicom, Discuss.io, itracks (These tools include features such as participant recruitment, community dashboard, aiding in question development, an observation room for co-researchers or transcribers, and in-discussion elements like having participants do illustrations or create collages, marking up images, analytical functions such as image tagging as well as keyword and sentiment analysis. Service providers have developed backends to meet clients' requirements).



Bandwidth requirements comparison (I)¹

Digital tool	1:1 calling – low res	1:1 calling – HD video 720p	Group-lowest	Group – HD video 720p	Group-HD 1080p
Whatsapp	0.06				
Zoom - Computer	0.6 up/0.6 dw	1.2 up/1.2 dw	0.8 up/1 dw	1.5 up/1.5 dw	2.5 up/3 dw
Zoom – Mobile	0.6 up/0.6 dw	1.2 up/1.2 dw	0.6 up/1.2 dw	1.5 up/1.5 dw	
Google Meet	0.3 up/0.3 dw	3.2 up/2.6 dw	2.6 up/2.6dw	3.2 up/3.2 dw	3.2 up/3.2 dw
Microsoft Teams	0.5 up/0.5 dw	1.2 up/1.2 dw	0.5 up/1 dw	1 up/2dw	
Skype	0.4 up/0.4 dw	1.5 up/1.5 dw	0.5 up/0.13dw	2 up/0.5 dw	4 up/0.5 dw

Note: All values are in Mbps

1. <https://www.businessinsider.co.za/heres-why-your-video-conference-app-keeps-acting-up-recommended-bandwidth-speeds-of-zoom-microsoft-teams-skype-google-hangouts-met-and-whatsapp-2020-4>

Bandwidth requirement comparison (II)

Call type	Minimum/average dw/up speed			Recommended dw/up speed	
	Skype ¹	Google Meet ²	Zoom ³	Skype ¹	Google Meet ²
Calling	30kbps/30kbps	12kbps/18kbps	60-80kbps	100kbps/100kbps	
Video calling/Screen sharing	128kbps/128kbps			300kbps/300kbps	
Screen sharing only			150-300kbps		
Video calling (high-quality)	400kbps/400kbps	3.2Mbs/1.8Mbs		500kbps/500kbps	
Video calling (HD)	1.2Mbps/1.2Mbps			1.5Mbps/1.5Mbps	3.2Mbps/2.6Mbps
Dual screen			2Mbps/4Mbps		
Group video (3 people)/Triple screen	512kbps/128kbps		2Mbps/6Mbps	2Mbps/512kbps	3.2Mbps/3.2Mbps
Group video (5 people)	2Mbps/128kbps			4Mbps/512kbps	
Group video (7+ people)	4Mbps/128kbps			8Mbps/512kbps	

Skype- Microsoft® Teams replaces Skype for Business Online as Microsoft’s professional online meeting solution. Teams combines instant messaging, video conferencing, calling, and document collaboration into a single, integrated app – and enables exciting new ways of working. Microsoft 365 Business Premium costs USD 20.00 user/month with annual commitment.

Google Meet – G suit enterprise essentials USD 20.00 per active user/month.

Zoom- Pro package is USD 14.99 per month.

1. <https://support.skype.com/en/faq/FA1417/how-much-bandwidth-does-skype-need>

2. <https://support.google.com/a/answer/1279090?hl=en>

3. https://support.zoom.us/hc/en-us/articles/204003179-System-Requirements-for-Zoom-Rooms#h_b48c2bfd-7da0-4290-aae8-784270d3ab3f

Comparison of Qualitative data collection platforms

	20 20 research	Civicom	Discuss. Io	Itracks
Based in	Nashville, USA	Greenwich, UK	Seattle, USA	Saskatoon, Canada
Services are available in	95 countries, 30+ languages	New York, San Diego Denver, Kansas City, London, Manila, Cebu	95 countries	USA, Canada
Tools available	<p>Bulletin Boards – Asynchronous online group discussions</p> <p>Virtual online interviews – Real – time “face to face” interactions with individuals or groups</p> <p>Online chats – Live, one-on-one text based chats</p>	<p>Cyber-facility IDIs and FGs</p> <p>Glide Central – Video Curation Tools</p> <p>Civicom Chatterbox – Online community platform</p> <p>Online Mock Jury Trials</p> <p>Mobile research</p> <p>ThoughtLight – Mobile insights App</p> <p>Front Row – Mobile ethnography platform</p> <p>See Me Navigating – Mobile Web and App usability</p>	Online interviewing	<p>Phone IDI- Telephone interviews with scheduling, media sharing, & data collection,</p> <p>Video IDI - A flash-free video robust solution built for market research interviews,</p> <p>Chat - Text based online focus groups in real time with polling and rich media capabilities.</p> <p>Video Chat - Video-based focus groups and interviews hosted with an easy-to-use management portal.</p> <p>Board- Integrated online and mobile discussion groups with video capabilities.</p> <p>Community - Integrated online and mobile mini communities with video capabilities, leaderboards.</p>

Assessment of digital tools

Pros	Cons
Anonymity	Inability to get quick responses for text messages
Privacy	The need to destroy all digital data after the research
Ability to collect data from larger samples	Difficulties in control interactions among participants
Eliminate the roll of the gatekeeper when recruiting	Sampling biases
Higher participant engagement when conducting on WhatsApp, Facebook etc..	Demographic details might be missing
Flexibility for participants and researchers	Engagement varies with the size of the group
Thick data (when participants are familiar with social etiquettes of engaging with others on social media)	'Groupthink' can affect the respondent
Lots of data formats	Quality of data
Compelling findings due to multiple data formats	Ethical concerns

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Quantitative methods

Quantitative research process



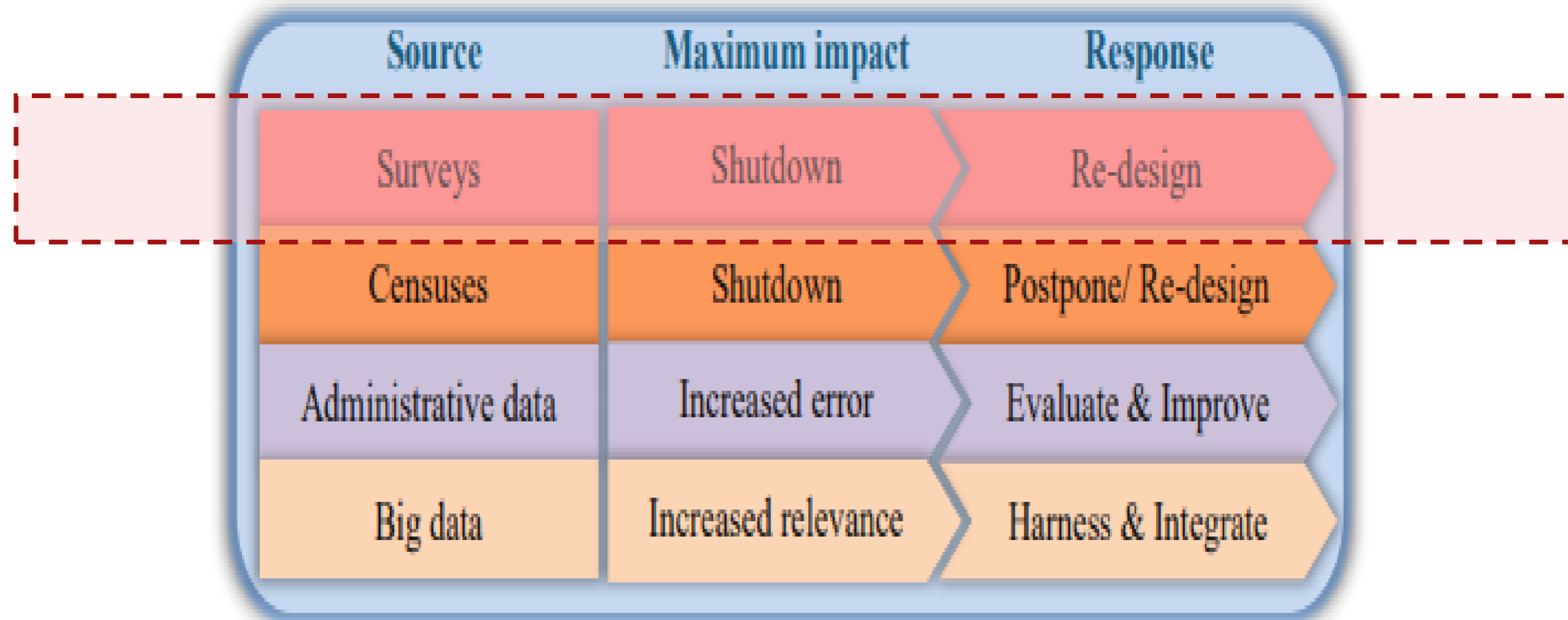
LIRNEasia follows these steps when doing quantitative research.

This pandemic will have an impact on most of our research steps.

For years, the statistical community has discussed new modalities for data collection to replace or complement direct, face to-face measurements and to improve the efficiency and timeliness of statistical processes and products. Nevertheless, the practice of innovative data collection methods for major, nationwide operations are sparse, with face-to-face interviews remaining the primary modality in most statistical systems for censuses and large household surveys. We now have an unprecedented opportunity to think differently and make decisions that can transform our statistical operations for the future.

Surveys Under Lockdown; a pandemic lesson - UN ESCAP

The lockdown situation impacts data collection procedures differently and each requires a different response/solution



Source: Surveys Under Lockdown; a pandemic lesson - UN ESCAP

Five things to consider conducting a survey during a pandemic

- Maybe don't field a survey at all
 - "Is this a survey that people will have the bandwidth to respond to right now? Is there existing data we can consult instead?" Is it safe to assume that the individuals we are seeking to survey are already burdened by other professional and personal concerns at the moment?
- Recognize humanity
 - At the outset of a survey, it is critical to disclose certain information – what the survey covers, how long it will take to complete, how the data will be used, and how respondents can consent to participate. Now, however, additional steps need to be taken to acknowledge the very difficult circumstances that many individuals are facing, both professionally and personally.
- Make it easy
 - An important principle of survey design is ensuring that those who are taking the survey consistently understand what is being asked of them – both in terms of the survey questions themselves and also the commitment involved in completing the survey. This is especially important during a crisis. This is not the time for overly complicated, theoretical, or perhaps even open-ended survey questions. We need to think critically about what is best suited for a survey (and what is not) and examine every question to assess the ease of responding.
- Make it actionable
 - Need to aim to ensure that our surveys are actionable. Asking questions that are "interesting" or "nice to know" is a luxury right now that we cannot afford.
- Focus on equity
 - Certain groups have already and are likely to continue to be disproportionately affected by the pandemic.

Two combined modes of data collection are commonly applied for sample surveys

- Standard interviews (mobile, telephone, and computer assisted interviewing (face-to-face, telephone or mobile))
 - CATI (Computer Assisted Telephone Interview)
 - CAWI (Computer Assisted Web Interviewing)
 - Telephone interviews conducted without the assistance of computers
 - Interactive Voice Response Surveys (IVR surveys)
- Self-administered questionnaires (mobile based, web-based or postal)
 - Face-to-face interviews are also possible at times with strict adherence to health and safety procedures.

There is a general set of pros and cons in collecting survey data using non face-to-face interviews. Those are applicable not only during a pandemic but whenever we use these methods.

Almost all the time, these methods are fast and less expensive than conducting a face-to-face survey

Telephone interviews

- | | |
|------|---|
| Pros | <ul style="list-style-type: none"> • Able to use computer-assisted interview software (CATI) to help with prompts and survey navigation • Can explore options with respondents • Can assist respondents with unfamiliar words or questions • Fast method less prone to errors |
| Cons | <ul style="list-style-type: none"> • Survey needs to be short • Difficult to ask sensitive and personal questions and have interviewer bias • Non-response may be high if there is no obvious benefit from participation • Sales calls often masquerade as "research" calls • Need trained interviewers • Is the respondent reachable by phone? • If using computer-assisted interviews, will need technical knowledge |

Interactive Voice Response Surveys (IVR)

- | | |
|------|---|
| Pros | <ul style="list-style-type: none"> • Low cost and no interviewer bias • Convenient for respondent to dial in anytime at his convenience • Used in transactional surveys, IVR provides fastest feedback after interaction with an agent/company |
| Cons | <ul style="list-style-type: none"> • Survey needs to be very short, 5 minutes or less • Low initial cooperation rates and high break-off rates • No clarification of questions and probing for reasons by interviewer |

Mail surveys

- | | |
|------|--|
| Pros | <ul style="list-style-type: none"> • Can reach a large geographical area • People are used to completing paper-and-pencil surveys • Can take the survey with you and complete it anywhere and anytime • Great for sensitive issues • Less expensive |
| Cons | <ul style="list-style-type: none"> • No clarification available during completion. • Need a motivated population to return the survey (people have too much to do) • Respondents must be able to read, see, and write |

Online Surveys

- | | |
|------|--|
| Pros | <ul style="list-style-type: none"> • The cost of online is less expensive than a CATI survey overall • Time collecting data is greatly reduced since data is automatically entered in a database and can be exported to other programs • Online surveys are as powerful as CATI, cover international population, and can display many different media types |
| Cons | <ul style="list-style-type: none"> • Coverage that is representative of the population is still inferior to telephone sampling • Email invites can end-up in junk mail boxes and people are paying less attention to emails as they used to. • Respondents must be able to use a computer, a mouse, and/or keyboard or a smartphone |



Data collection is still relatively easy during a pandemic compared to designing a good survey

- The above mentioned data collection techniques can be used to collect data even in a full lockdown situation in a country.
- Using these techniques require less resources, time, money and effort compared to designing and conducting a representative face to face survey.
- Three key technical areas need to be considered designing a survey.

The options to conduct the survey depend on three key areas

- **Type of survey questions:** not every mode is suitable for all types of questions. For instance, telephone may be applicable for a price survey, but not suitable for expenditure surveys. One may consider mobile assisted web-based questionnaire or other internet-based survey for expenditure surveys.
- **Sample frame information:** mode of survey depends on the information available in sampling frame. For instance, postal questionnaire requires address, whereas telephone survey needs telephone number. This is critical to design a representative survey of the target population.
- **Public access to technology:** this is especially important when NSOs (**and LIRNEasia**) wish to consider internet or mobile surveys. When internet penetration rate is very low, it will create a significant bias in the results. More importantly, many disadvantaged population groups are likely to be missed from the sampling frame when such modes are applied.

Need to make sure we ask right, relevant and really important questions

Apart from the general guidelines for developing a questionnaire, researchers need to focus on some additional aspects when designing a questionnaire for surveys conducted during a pandemic

- Need to stick to the right, relevant and really important questions
- If it is necessary to administer a lengthy questionnaire, question modules can be administered on randomly
 - eg. – Assume a questionnaire has 25 questions, and 10 questions are mandatory. The remaining 15 questions can be divided into modules of five questions (module 1,2 and 3). These three modules can be administered randomly on the respondents while making sure every 1/3rd of the sample will get one extra module additional to the 10 mandatory questions.
- Need to stick to close ended questions, stay away from open ended questions
- Need to use simple words/language
- Allow for respondents to respond to questions with “not applicable / unsure” responses to avoid them feeling pressured to guess and biasing the survey results
- The survey should not ask questions outside of the (likely) area of knowledge of the respondent – for example, detailed questions about viral transmission mechanisms are likely outside the area of knowledge for most of the population

Panel based studies are popular during the pandemic

Both standard interviews and self-administered questionnaires can be conducted on respondent/household panels or using ad-hoc surveys

Panel based surveys

Household panels

Phone survey panels

Online panels

Other panels (retail, SME etc)

Ad-hoc surveys

Contacting respondents through contact list

Predictive dialing method

Contacting (phone or email) respondents from previous surveys

Existing household panels – probably the best way to conduct a survey during pandemic

Household panels

- There are market research companies specialised in household panels. These panels are not designed to collect information during a pandemic. These are designed with a very specific goal in mind.
- One key element is that most of the time these panels are not designed to collect information using non face-to-face methods.
- Few commonly used household panels,
 - Household consumer panels to measure market share and consumption volume Eg. Kantar LMRB's household consumer panel
 - Household panels for audience (TV, Radio or even websites use) measurement
 - Household panels used for run waves of surveys such as opinion polls
 - Household panels maintained by NSOs (for measure income/expenditure etc.)
- Researchers can somehow run surveys on these panels (called rider studies) with minimum effect on the main objective of the household panel.

Household panels are designed to represent all households in a country (most of the time)

Household panels

- Pros
 - Most of the time, these household panels represent entire households in a country. These panels include both digitally connected and not connected households. So, even in a partial lockdown situation reaching these households is possible.
 - Since the representativeness of these panels, it is very useful to study research questions that affect to the wider population.
 - Most of the time, These panels are purpose made to represent many aspects of the population (SEC, ethnicity and religion etc) and generally have a large sample size. Hence even selecting a sub sample with some adjustments is possible. Eg. In India Kantar worldpanel has a household panel consist of more than 80,000 households.
 - Information about family members, income and other economic variables is also available.
 - If these are established panels, the respondents (households) have a good relationship with the company that handle the panel.
 - Collecting somewhat lengthy questionnaire is possible post pandemic as enumerators regularly visit the households for their regular data collection.
 - Less expensive than a face-to-face survey. But it is still expensive.
 - Since these are established panels, there is a good level of quality control done by theses company to maintain the data quality to attract clients.
- Cons
 - Very limited information (maximum 15 questions per round) can be obtained.
 - Great for obtaining household level information but not for individual level information as respondent selection within the household is difficult.
 - Non-sample error can be high due to household respondents getting more and more rider questioners during the pandemic.
 - Not suitable for studying certain population groups Eg.- migrated population
 - Sometimes people are claiming to have household panels, but in reality those are just the contact information taken from a previously conducted survey. Sometime people will call back on the contact information gave for quality control purposes to ask questions for a different survey.

Household panels are designed to represent all households in a country (most of the time)

Phone survey panels

Online panels

Other panels (retail, SME etc)

- **Pros**

- Fits well if the target is to study mobile/phone using or internet using population
- Fast
- Can use different media to get opinions if it is an online panel
- Generally these panels have a large number of respondents
- Great for test some ideas, existence of issues especially during a pandemic but not so great for do the estimations (due to lack of representativeness)

- **Cons**

- All the cons discussed earlier under phone and online surveys
- Main issue is with the representativeness of sample. Need to be careful on how the panel is set up in the first place. There are many panels that claim to be representative of a certain population but in reality, it is just a set of respondents put together to form a panel. With no scientific/random way of selecting respondents
- Some panels pay respondents to participate in surveys, hence respondents might even give false information to participate to the survey
- Some online panels only cover urban population centers
- Quality control is difficult

Ad-hoc surveys are also possible with some limitations

Contacting respondents through contact list

Predictive dialing method

Contacting (phone or email) respondents from previous surveys

Some market research companies keep contact information of the respondents who participated to the previous surveys with their consent to be contacted again. These lists will serve as sample frames for design sample on ad-hoc basis. Some companies manage to keep large contact lists.

- Pros

- These lists can be used to design samples with great level of coverage (geographical, socio economic etc), but representativeness is the concern. If representativeness is not a major requirement (but the coverage is) using these type of method is suitable.
- There can be cases where the contact information of the target group can be obtained. (Eg. – Contact information of school teachers in a certain educational region) in that case it is possible to design a representative sample.

- Cons

- These types of studies will not provide precise estimates on research questions.
- Non-phone (mobile or fixed) or internet users will have to be excluded from the target population.
- Ethical concerns on predictive dialing techniques.
- Quality control is difficult.

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Thank You