The Utilization of Mobile Technology and Approaches in Commercial Market Research

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Abstract

This chapter provides an overview of how mobile devices, technology, and approaches are currently being utilized by commercial market research. The chapter defines what it means by 'mobile' and highlights the difference between the 'visible' (projects where the use of mobile is seen as a core part of the project) and the 'less visible' (for example mobile devices being used to take part in online surveys designed for PCs). In commercial research the visible mobile projects get most of the attention in the media and at conferences, but the less visible is much larger in terms of the amount of data collected and the money spent.

The chapter then goes on to review the key uses of mobile, for example: web surveys, CATI, CAPI, mobile apps, passive data collection, in-the-moment research, and location-based research. The chapter next looks at the issues facing the use of mobile market research, such as the impact on the results, ethical issues, and the balance between the use of web-based and app-based approaches. The chapter concludes by looking at the near future.

Keywords

Commercial market research, market adoption, CATI, mCAPI, location-based research, in-the-moment

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Mobile, finally the 'next big thing'

Market researchers have been talking about 'mobile' as the next big thing for over a decade, but following several false dawns the delay in it arriving was beginning to seem endless (Baker 2011). However, by 2014 it was widely agreed that in the world of commercial market research mobile approaches had arrived in widespread and important ways (Poynter 2014).

In reviewing the role of mobile approaches in the domain of commercial research the analogy of an iceberg is useful. The visible part is interesting, but the substantial part is below the surface, and both parts are addressed in this review. This review outlines the current utilization of mobile approaches in commercial market research, highlights the key issues, and sets out some of the likely developments in the near future.

Defining 'mobile'

In the context of commercial market research the term 'mobile' encompasses the following types of devices:

- Mobile phones, which are often subdivided into smartphones and feature phones. Feature phones are sometimes further subdivided into those which have some form of internet capability (e.g. a browser and a mobile connection) and those that can only utilize voice and/or text based systems such as SMS.
- Tablets, for example iPads, which are in turn subdivided by size and whether they are connected to the mobile phone network or whether they rely solely on Wi-Fi.
- Wearable devices such as smart watches and Google Glass.

The demarcation between these devices is not always clear. The so-called 'phablet' is a smartphone that is larger than a typical mobile phone, but smaller than most tablets, combining the benefits of both. The term 'phablet' is a combination of the words 'PHone' and 'tABLET'. At the other end of the scale many of the wearables, such as Google Glass, require a mobile phone in order to be useful; in essence the wearable is a peripheral device to the smartphone.

The technology of mobile tends to be utilized by researchers in two ways: active and passive. Active use is when the user, the research participant, uses their phone to take part in the research; for example, they complete a survey on their tablet or use their mobile phone to take pictures or capture videos. Passive use is where researchers gather information about research participants automatically, using data collected from the mobile device, for example using GPS to track the movement of the phone or apps to monitor media consumption.

The visible and the less visible

The visible profile of mobile approaches in commercial market research includes: conferences devoted to mobile market research (for example Merlien's MRMW series of conferences and ESOMAR's Digital Dimensions conferences), courses in mobile market research (for example the University of Georgia's Principles of Mobile Market Research course , and the workshops held by a variety of organizations, such as ESOMAR and the UK's MRS), the growth in products facilitating mobile market research (for example mobile optimized surveys from companies like Confirmit and Decipher), and the growth in dedicated services (such as the global mobile solutions provided by Jana.com and OnDevice).

In August 2014, the visible aspect of the mobile revolution was brought into sharp definition by the publication by Wiley of *The Handbook of Mobile Market Research*, written by Poynter, Williams and York and supported by ESOMAR, creating the standard reference for the market research industry.

The less visible aspect of mobile market research relates to the large amount of commercial work that is already being conducted via mobile devices. For example, something like 25–30% of online surveys in 2014 are being attempted by people using mobile devices; a large proportion of CATI interviews are being completed via mobile phones; there has been substantial growth in the use of mobiles with CAPI ('mCAPI'); and new versions of traditional research are being invented, for example mobile auto-ethnography (Poynter, Williams & York 2014). The figure of 25–30% is in accord with figures reporting on overall mobile internet usage in the general worldwide population, which is also about 25% (Revilla et al. 2014).

This dichotomy of visible and less visible approaches has led to the slightly surreal paradox of some people talking about mobile as a purely theoretical phenomenon, whilst others are engaged in large-scale mobile projects. This contrast highlights potential problems for legislators and regulators in terms of updating laws, rules, and guidelines in a world where practice is moving ahead of considered theory.

The potential problems created by the dichotomy of visible and invisible approaches are well illustrated by the use of mobiles by respondents taking part in online surveys. The term 'unintentional mobile' has been coined to describe the situation where surveys that were not designed or intended for mobile are being taken by people using tablets or mobile phones (Peterson 2012). Whilst it appears that 25% to 30% of survey attempts are from people using mobiles, it would appear only about 2% of surveys have been optimized for mobile (Chadwick 2014). The topic of optimizing for mobile highlights the dilemma that failing to optimize for mobile could result in unwanted impacts on the data and on the relationship with respondents, but optimizing for mobile could also have an impact on the results. For example, failing to optimize for mobile could

lead to more respondents finding the survey burdensome, and therefore more of them may break off from the survey. Other respondents might persevere with the survey but not be able to see the items in the way intended, leading to changes in the data and data quality issues. However, optimizing for mobile (for example shortening questions or changing the question types) might result in mode effects.

Current utilization of mobile technologies in market research

Mobile technologies are being used in commercial market research in the following ways:

- Taking part in online surveys via web browsers on mobile devices. In developed economies this category is largely restricted to smartphones; in the developing economies the use of feature phones with web access is often an important element.
- Taking part in telephone surveys (CATI) from mobile phones. In the developed markets this has been a gradual trend; in the developing markets mobile phones have outnumbered landlines for many years.
- Mobile devices being used by interviewers, moving from CAPI to mCAPI.
- Taking part in surveys via apps on mobile devices.
- Taking part in the collection of diary and ethnographic data using mobile devices.
- The collection of passive data, such as device usage and location.

Web surveys

According to ESOMAR (2014), online surveys is the most widely used data collection mode in terms of spend. Online research is typically conducted on people who are using the internet via a browser. Originally this tended to mean that online surveys were associated with PCs. However, recent reports suggest that about 25–30% of online surveys are being attempted by people using mobile devices. This means that it is important that researchers tackle the issue of device heterogeneity, dealing with PCs, tablets, and mobile phones.

The hot topic in commercial market research is around the need to be device agnostic, the aim being to allow the research participants to be free to use whatever device suits them, to increase response rates, broaden the pool of who is surveyed, and increase engagement. Note, there is a widespread belief in commercial market research circles that increasing engagement is a good thing. However, there are those who consider the benefits of engagement to

be overstated and the problems (for example mode effects) to be understated (Downes-Le Guin et al. 2012).

CATI and mobiles

In the developed markets, CATI, and in particular RDD, was developed in the context of landlines. This assumption of landline use had several advantages, including cost (ringing landlines tends to be cheaper than ringing mobile phones) and the ability to target calls by geographic region. However, there has been a major growth in the number of people who do not have a landline. For example, the US CDC estimated that in 2013 over 40% of US homes were wireless only (Blumberg & Luke 2014). This growth in wireless-only homes has resulted in CATI having to deal with mobile phones, which has raised several issues, including:

- The extra costs of calling mobiles.
- The difficulties in targeting mobiles by geographic regions.
- The problems in combining a sample frame of landlines with a sample frame of mobile devices.
- Legal restrictions in how mobiles can be contacted (for example, many countries ban the use of auto-dialers and predictive dialers for mobiles).
- Potential mode effects; for example, will people be less likely to respond on mobile, will surveys need to be shorter, will the context within which people are answering the mobile phone impact the data (e.g. will a survey at home elicit a different response from a survey on a bus), and will the quality of the connection impact the experience and/or the results?

In the developing markets mobile devices have been key to telephone interviewing for longer than in the developed markets. This has been due to the relative scarcity of landlines in the least developed markets, and the relative abundance of mobile phones.

mCAPI

Computer-assisted personal interviewing (CAPI) has been in decline for many years, largely because of the growth in online surveys. However, mobile devices (both mobile phones and tablets) are giving it new life. In the developed markets tablets are being used to conduct location-based satisfaction surveys, utilizing the device as a multi-faceted aid to the interviewer, as well as a data collection device.

In the less developed markets mobiles (both phones and tablets) are facilitating a move away from paper questionnaires, a change that online surveys had

not yet been able to achieve, because of issues around access to the internet, internet reliability, and in some cases literacy.

Mobile apps

The term 'mobile apps' refers to software that resides on a mobile device, occasionally pre-loaded, sometimes downloaded from a website, but typically downloaded from an app store, such as Apple's App Store or Android's Google Play.

Apps can be used in the context of online surveys, but they open up several other possibilities too, such as:

- Surveys when the internet is not available.
- Surveys which can access the features of the device, such as location or usage.
- Passive data collection.
- Push activities, where the activity (e.g. a survey) is initiated by the phone rather than relying on a message (e.g. an email or SMS) from the researcher.

It is likely to be some time before researchers come to a settled view on the merits of apps versus online solutions, with changes in technology and changes in utilization both impacting the final outcome.

Passive data collection

Passive data collection is where the device, for example a smartphone, is collecting information about the user without the user having to specifically enter information. In general, passive data can measure where the phone has been, what environmental factors (e.g. sound, other devices, or light) were detected, and what the phone has been used for. Combinations of these three elements can then be used to make inferences about the owner of the device.

In the world of commercial market research this process is predicated on informed consent from the research participant – this is less true of some other commercial uses of passive data collection, as was highlighted by some of the problems faced by Apple and Google about their tracking and collection of passive data.

Passive data collection is usually based on the use of apps. The research opportunities range from ad hoc qualitative projects through to large-scale projects, for example the steps being taken by Nielsen to measure media consumption.

'In-the-moment' research

Whilst the largest uses of mobile at the moment are online surveys, telephone surveys, and mCAPI, the biggest field of interest appears to be in the area of 'in-the-moment' research.

In-the-moment research relates to collecting research participants' views and reactions at the time they experience something, for example capturing responses during a shopping trip, whilst on a journey, or when entering a specific location.

The key driver for in-the-moment research relates to the growing awareness and acceptance that people's memories are unreliable. Surveys that ask people to remember which brands of soft drink they have consumed over the last 30 days, or why they chose that specific toothpaste, or how they felt when the train was late are collecting post-rationalized reasons about badly remembered events that the respondents were barely aware of at the time they happened.

It is widely felt that in-the-moment research can collect more accurate information by collecting it at the time when the event happens. It can be more accurate because it is contemporaneous and it can be more accurate because it can collect some of the information automatically (such as date, time, location etc.)

However, most in-the-moment research also represents a major change in the research paradigm. A traditional survey is a relatively controlled research experiment; the researcher creates the instrument, and the respondent completes it. However, in most forms of in-the-moment research the respondent is, to a greater or lesser extent, a collaborator in the research. The respondent carries the research medium with them, often in the form of an app downloaded onto their phone. The respondent is responsible for entering the responses. If photos or videos are included, the respondent is responsible for choosing the subject, the angle, the lighting, and numerous other factors that will impact the interpretation of the data.

Location-based research

Location-based research uses the location of the respondent as part of the data and as a method of triggering research exercises, such as surveys. The two key elements of location-based research are:

- Geo-tracking, i.e. identifying the routes taken by research respondents.
- Geofencing, or creating a boundary around a location (such as a specific retailer), recording when a respondent crosses the boundary (either entering or leaving the specified location), and triggering a research activity (such as a survey).

Most of the early interest in location-based research centered on GPS. GPS uses satellites to locate the mobile phone. However, GPS has several disadvantages, including the need for GPS to be enabled on the phone, the need to locate satellites (which tends to mean it does not work indoors), and the limited accuracy of phone-based GPS systems (which typically means that location systems cannot tell which specific store somebody entered).

Most of the current interest in location-based techniques is focused on beacons, and in particularly the Apple iBeacon. A beacon is placed in a specific location, such as a store or even a specific location within a store, and emits a signal (for example using Bluetooth LE). Beacons work by linking a smartphone to a location, recording when the phone arrives near the beacon and when the phone moves away from the beacon.

Another location-based approach is to identify where people are from the cell towers used to connect mobile phones to the phone network. This system is only available via the phone operators and is the source of several privacy concerns, but companies such as WEVE in the UK (a joint venture of three major mobile phone operators: EE, O2, and Vodafone) are making this route commercially available.

Key issues around mobile market research

Mobile market research is growing rapidly (GRIT 2014), taking a growing share of current approaches, and creating new opportunities. However, the changes are creating and highlighting a number of issues that need to be resolved, some by research-on-research and some by philosophical review and discussion.

Key issues include:

- Do the new approaches impact the results? And, if a new method changes the results, are they better, worse, or just different (and if different, what are the differences)?
- The drift in the use of mobile research is towards devices running Android and Apple iOS (i.e. towards smartphones and tablets) – this raises concerns that owners of older phones will be disregarded and discounted, in turn raising concerns about how to ensure that research is inclusive.
- Informed consent, which divides into two key questions: 1) How do we ensure that people are genuinely aware of what they are consenting to, especially in the area of passive data collection and where data is linked across multiple sources? 2) What about the rights of third-parties, for example people captured in photos and videos?
- What should the balance be between web surveys, app-based surveys, qualitative approaches, and passive data collection?
- How should methods be adapted to make best use of mobile technologies? For example, do surveys need to be shorter, do questions need to be simpler, and how best to use a smaller screen?
- How do the choices made impact the comparability of the results compared with research via more traditional devices?

Researchers should be aware that the field of mobile market research is highly dynamic, which means that the picture is continually evolving. Opportunities

and challenges arise from changes in technology, legislation, commerce, and society. Researchers working with mobile research need to keep themselves up to date.

The near future

The rate of change in the utilization of mobile devices in market research shows no sign of diminishing. Key developments over the next few years are likely to include:

- A growth in the number of ways that potential research participants can be contacted, with the focus being specifically mobile, for example more mobile panels and new river sampling options*.
- More use of in-the-moment research, which means shifting the balance from administered research to participant research.
- More location-based approaches, such as geofencing, geo-tracking, and geo-tagging.
- Greater use of passive data collection.
- More integration of mobile data into a broader big data framework.

* River sampling refers to samples that are created dynamically from online populations using methods such as banners and online promotions (Oliver 2011).

Researchers need to be aware of the opportunities being created by the changes taking place in and around the mobile ecosystem, but they also need to be aware of the need to conduct empirical research into the consequences of the changes. Mobile research holds out the prospect of reaching people who may have been harder to reach through other means and the opportunity to reach people in new and varied situations. However, the impact on the data in terms of sample frame differences and mode effects need to be carefully assessed and measured.

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