

Banner Recruitment in Mobile Surveys

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Mobile Market Research



Abstract

Mobile phones have grown to become a permanent companion and personal device for most people in the last few years. For the market research industry it is vital to take advantage of the opportunities that mobile phones and mobile communication technologies provide. Mobile market research is the generic term for research methods using the functions of mobile phones with and beyond voice telephony. One crucial benefit of the use of mobile phones in research is the better availability of people who are difficult to reach by fixed-line phones, face-to-face or by post. The most relevant advantage of mobile methods refers to the nature of context-sensitivity i.e. to get immediate feedback from people about their situations and activities as they occur. International authors, amongst others from the US and UK, present state-of-the-art viewpoints about mobile phones as research instruments.

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Banner Recruitment in Mobile Surveys

1. Background

Up to date, there are two common ways of recruitment for mobile surveys. In the first one, a banner appears on the mobile web site directing the respondents to the questionnaire. The second one invites¹ the interviewees by SMS or MMS. This paper covers the first solution by implementing banners on a content site of the mobile Internet. As there is only limited information about mobile banners, but wide scientific knowledge about classical web banners that might be widely transferable to mobile banners, a review of the classical web banner is provided at this point.

Scientific communication about web banners was started in 1996 by Hoffman/Novak. They introduced banners as an opportunity for customer interaction in the hypermedia CME (Computer Mediated Environments). Only a short time later, Briggs/Hollis (1997) were able to show that web banners are a powerful tool to attract users. »Our results tell us, simply and unequivocally, that it works« (BRIGGS/HOLLIS 1997: 44).

Web banners are used as a form of advertisement on the Internet. Typically, the advertisement contains a flash animation or an image and attempts to attract the visitors of the banner containing website to see the website of the advertiser or a survey page. In order to simplify the booking and implementation process, there are standard sizes for web banners, e.g. 468 x 60 pixels. Li/Bukovac (1999) found that the size of a web banner has an influence on the number of clicks the banner generates for the advertiser

1 This solution also includes invitations from existing mobile panels for market research.

or the researcher. Also, the positioning of the web banner has a direct influence on the click rate of the banner. Cho (1999) found that web banners at the bottom of Internet sites resulted in lower response rates than those on top of a page. The author also showed that animated banners and bright colours lead to higher attraction than plain colours without animation.

This discussion was then followed by a series of papers to improve the effectivity of web banners (e.g. DAHLEN/EKBORN/MÖRNER 2000; CHO/LEE/THARP 2001; BROWN 2002). All researchers came to the conclusion that web banners were an effective way to attract people's attention on the Internet. Web banners were a widely used and efficient form to invite visitors to a survey website, a product website or any another content.

For survey research, not only recognition, but also action is necessary to succeed. Dahlen/Ekborn/Mörner (2000) found that involvement is an important variable, when action to a web banner, actually clicking on it, is needed. It seems natural that a web banner for survey research is more likely to recruit people with high involvement to either the survey topic or the content of the website the survey is about.

Tuten/Bosnjak/Bandilla (2000) explicitly used web banners for survey recruitment and confirm these thoughts. While web banners work for advertisement even when not clicked on, web banners used as survey invitations necessarily need to be clicked on. A very important result the authors came to is that a financial incentive is not always necessary in order to attract respondents. Concluding their findings, nonresponse is a critical barrier of web surveys recruited by banners. Finally, click rates of banners are usually reported between one and two percent (e.g. BROWN 2002; TUTEN/BOSNJAK/BANDILLA 2000; HOFACKER/MURPHY 1998).

In the typology of web surveys specified by Couper (2005) the recruitment via web banner is a subgroup of the non-probability samples. The respondents of banner recruited samples are self selected, e.g. by their involvement on the website or the survey topic. Also the number of returning visits a potential respondent pays is important for the willingness to take part in the survey.

Responses to a web banner survey are therefore not assumed to be representative for the general population or even for the website visitors. Respondents recruited via web banners are assumed to represent a group of visitors who are greatly involved in either the topic of the survey or the topics of the website. The likelihood to take part in the survey also increases for regular visitors. Therefore web banner recruited surveys are more likely to

sample the core visitors of the website who are interested in the essence of the brand and respectively the website.

Banner recruitment was the common sampling method for onsite CAWI (Computer Aided Web Interviews). But Dahlen/Rasch/Rosengren (2003) claimed that the click rates of web banners decreased over time as the users of the Internet got more and more experienced with web banners and also new technologies were introduced. Web banners are still an important advertising tool on the Internet, but new methods for survey sampling evolved from technical innovations like JavaScript, AJAX, etc. Nowadays overlay survey invitations or flash popups are more popular for the static Internet than banner recruitment.

Hence, as there is no possibility to use these innovative techniques on the mobile Internet yet, mobile banners are currently the best method to recruit respondents for onsite surveys on the mobile Internet.

The following case study will show results which confirm that banner recruitment on the mobile Internet is a feasible approach to draw a sample on the mobile Internet. As there is actually no adequate alternative for onsite sampling on the mobile Internet, recruitment via mobile banners is the best practice approach right now. The results will also underline that there are new phenomena on the mobile Internet that need to be controlled by the researcher.

2. The Case Study

2.1 *Objectives*

The case study this paper is about was set up in November 2007. The aim of the survey was to measure the user profile of mobile websites in terms of sociodemographics (age, sex, education, etc.) and usage behaviour (motivations, usage frequency, etc.).

Two mobile websites were integrated into this survey. Each website was representing a generic type of content or service a website usually offers on the static web: a news portal providing up to date and free news to the visitor, and a directory assistance portal (DA portal) allowing the user to search for phone numbers or address details.

The decision for a news portal and a DA portal was purposely as we wanted to not only gain insights of the mobile user in general but also to

examine the user profile of two generically different websites which were supposed to attract different target groups.

2.2 *Project Design*

The questionnaire was programmed on a common online survey software and hosted within the server system that is used for online surveys as well. The important difference compared to static web surveys was that the questionnaire was run over an interface adapting the questionnaire to the display parameters (resolution and size) of each single mobile device (see also PFERDEKÄMPER/BATINIC in this volume [chapter III]). The length of the questionnaire was approx. 7 minutes.

All respondents were recruited onsite by mobile banners. On both examined websites, the banners were posted on the upper part of the entry site. The survey started with an ad view interval of four, meaning that the recruitment banner was displayed each fourth visit.² In course of the survey, however, this interval varied in order to control for the response rates and to ensure the achievement of the desired number of interviews. To increase the click rate on the recruitment banner an incentive for participation in the survey was offered to the respondents.

The banners were animated and consisted of three different pics, each carrying one or two of the following messages to the visitor and potential respondent: The announcement of a survey taking place on the mobile Internet, the brand of the initiator (the brand of the website), the brand of the market research agency assigning for the survey and the incentive offered to the respondent. The colours on the banner were chosen in the way that the banner was clearly distinctive from the websites' main background colour.

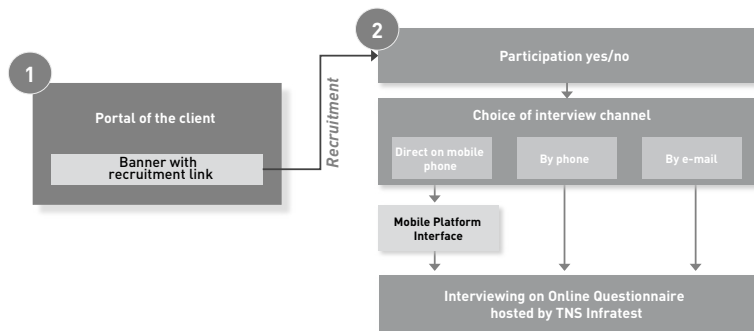
2.3 *Questionnaire Structure*

The questionnaire was structured mainly into three parts as outlined in figure 1. The welcome part introduced the objectives of the survey and offered the respondent three modes to complete the interviews: 1) direct-

² This approach is known as n-vis sampling method (vgl. PFELEIDERER 2001; HOFMANN 2003) and reduces the self selection bias.

ly on the mobile via mobile Internet, 2) on the static Internet where an e-mail address of the respondent was required to send out an e-mail invitation including the direct link to the online questionnaire or 3) by telephone where a call centre agent would call the respondent by phone.

FIGURE 1
Project Design



Source: TNSInfratest

The second and main part of the questionnaire contained questions to identify the socio-demographical profile of the user as well as questions examining the usage behaviour of the respondent on the mobile web.

In the third part, a number of client-customized questions were asked, followed by requests for contact details which were required in the context of the incentive lottery.

2.4 Project Parameters

The fieldwork for both portals started on 6th November 2007 and was terminated on 9th December 2007 for the news portal. The fieldwork period resulted in $n=200$ interviews on the news portal. The fielding period on the DA portal was extended by another four weeks. Then, a total of $n=60$ interviews were achieved on the DA portal, less than the number of intended interviews, but enough to conduct further analysis on this mobile website.

The average length of the interview was 6 minutes on the news portal and 7 minutes on the DA portal.

3. Operational Issues of Mobile Surveys

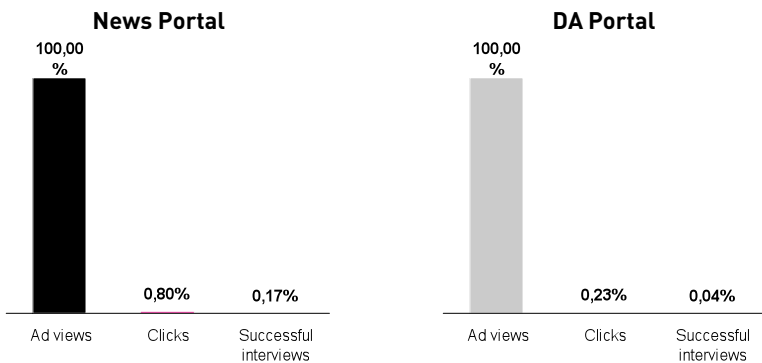
3.1 *Response Rate Analysis*

One of the first questions that come into mind when designing a mobile Internet survey is how many ad views are necessary to achieve the desired number of interviews.

The number of required ad views is important in several respects. First, it provides the project manager with a rough estimation of what has to be invested in terms of advertisement expenses. Secondly, it helps to estimate the anticipated time of the fieldwork period, as the number of ad views to be displayed highly correlates with the number of page impressions. The higher the traffic on the website, the shorter the fieldwork period as the required number of ad views is delivered faster.

Figure 2 shows the response rates of the pilot survey. The target number of interviews for both portals was $n=200$. The fieldwork period was scheduled for four (news portal) respectively eight weeks (DA portal).

FIGURE 2
Response Rate (in %)



Basis: Adviews News Portal $n=116.870$ / DA Portal $n=98.733$
Source: TNSInfratest

After the fieldwork period had ended, two different response rates could be observed on the two portals.

On the news portal the target number of interviews of $n=200$ was completely achieved. On the DA portal, however, a serious deflection of the target number was encountered. Overall $n=60$ interviews were achieved, even though a higher number of ad views had been applied on this site compared to the news portal.

It emerged that the click rate of the recruitment banner on the DA portal was much lower than on the news portal. The click rate relation between news portal and DA portal was approximately 4:1.

3.2 Dropout Analysis

In the context of the response rate analysis a deeper look into the dropout rate was undertaken in order to detect behaviour patterns. These might be related to the target groups of the website, the content or service offered by the website or any other project parameter like length of the questionnaire.

The total number of interview dropouts for both portals was relatively small. An interview dropout in this context was defined as an interview that was started properly but left unfinished. A total of $n=55$ dropouts on the news portal (5.9% of all banner clicks) and $n=28$ dropouts on the DA portal (12.2%) was observed.

FIGURE 3
Dropout Analysis

	Abortion Total	Dropout during the interview			
		Warming Up	Socio- demographics	Evaluation/usage of mobile internet page	Client specific ad hoc questions
News Portal (n=55)	100%	36%	33%	14%	16%
DA Portal (n=28)	100%	63%	20%	13%	4%

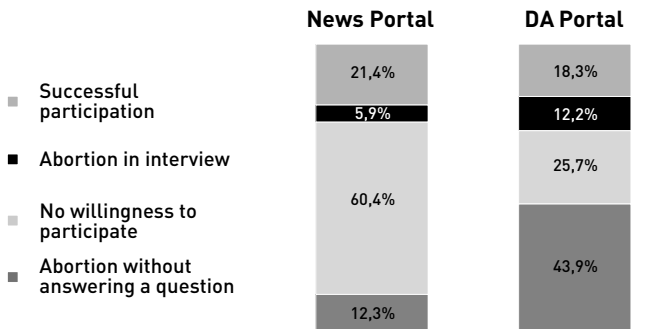
Base: Dropout during interview: News Portal $n=55$ / DA Portal $n=28$

Source: TNSInfratest

While visitors of the news portal dropped out of the interview rather in the middle and final part of the questionnaire, the DA visitors tended to discontinue the interview at an early stage of the survey. 63% of the DA portal dropouts took place in the warm up section, whereas only 36% of the news portal visitors dropped out (see figure 3).

Looking at the total number of clicks on the recruitment banner, it emerges that approximately 20% of those who clicked on the recruitment banner successfully took part in the survey and completed the entire interview (see figure 4).

FIGURE 4
Willingness to Participate



Base: Mobile users who clicked on the recruitment banner: News Portal n=934 / DA Portal n=230

Source: TNSInfratest

3.3 Mode of Interview – Preferred Interview Channels

At the beginning of the mobile online interview, the respondent had the choice between three modes of running the interview: 1) directly on the mobile via mobile Internet, 2) on the static Internet after indicating an e-mail address to which an e-mail invitation including the link to a conventional online questionnaire would be sent, and 3) by telephone where an interviewer would call the respondent on the mobile.

Of all successful participants, only a minority (6%) chose the offered option to complete the interview on the static Internet. This option was offered as alternative interview channel in order to allow the respond-

ent to complete the interview at a time and place that better suits him/her. The third option to complete the interview by telephone where the respondent would be called by an interviewer was chosen by just 2 people. This shows that a great majority of the recruited respondents preferred the interview on the mobile.

3.4 *New Sources of Errors*

Two main sources of new errors were identified. Without careful control these new phenomena will lead to biases in the survey data: Offline readers and static Internet visitors.

Offline readers are programmes that automatically download mail, other files or, as in our context, whole websites from the Internet in order to enable the user to read or process these files at his/her convenience when offline.

Offline readers may cause increased click rates resulting in systematic interview dropouts and may lead to a false interpretation in the course of response rate analysis.

Static Internet visitors on mobile websites were identified as another potential new cause for systematic response rate biases, as it is obvious that these users do not belong to the target groups that are explicitly addressed by mobile Internet surveys.

Based on our pilot survey, the share of offline reader clicks and static Internet visitors varies depending on the content of the site. 62% of all clicks on the news portal recruitment banner can be attributed to offline readers. Regarding the DA portal, offline readers accounted for only 2% of all clicks.








While most of the monitored offline reader clicks were observed on the news portal, almost all of the static Internet visitors that were identified were observed on the DA portal.

A visitor of a mobile website via the static Internet can be identified by the web browser he/she is using.

In our case, the number of visitors using a Mozilla browser was significantly higher on the DA portal than on the news portal. No Mozilla browser call was recorded on the news portal log file protocol, while approximately 40% of all clicks on the DA portal were attributed to Mozilla browser calls (see figure 5). This indicates a high share of static web

visitors on the mobile portal of the DA operator. Further analysis of this observation, especially log file analysis, confirmed the hypothesis that the high number of Mozilla calls is due to traffic on the mobile Internet site coming from the static Internet.

FIGURE 5
Technical Based Click Rate Bias

	News Portal	DA Portal
eNews Creator	 28%	0%
iSiloX	 5%	0%
J Pluck	 30%	0%
Mozilla	0%	 96%
Opera	0%	 4%
Plucker/Ply	 15%	0%
Sunrise/Sunrise XP	 22%	0%

Basis: Offline Reader / Mozilla clicks: News Portal n=1.793 / DA Portal n=168
Source: TNSInfratest

However, in order to obtain a methodologically proper defined universe, offline readers as well as static web visitors need to be excluded from the sample universe of mobile Internet surveys. The exclusion of these user groups has to be implemented by the technical service provider of the mobile website.

In our case study, all identified offline readers and static web visitors were subsequently excluded from the analysed data.

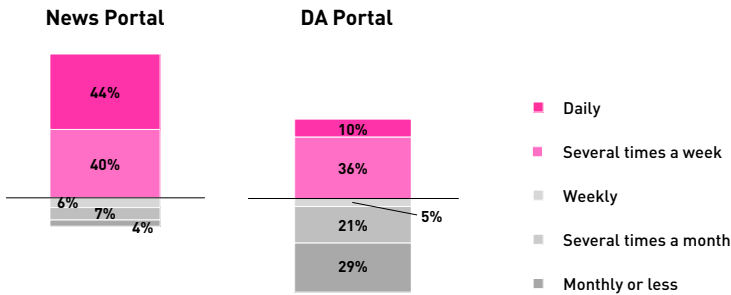
4. Substantial Survey Results

Comparing the demographic variables of the respondents for the two portals, no huge differences were found. The users of both portals own sociodemographic profiles that are similar to those of the static Internet in its early stage and are often referred to as being typical for early

adopters of new media or technologies. Compared to the general population, these user groups tend to be younger, better educated, with a higher share of males and an above average net income at their disposal. The mean age for the DA portal was 39.5 years compared to the mean age of 36.5 years for the news portal. Regarding the differences between the sexes, in both cases over 85% of the respondents were male users.

The interesting results of the banner recruited survey were found in the usage behaviour and in the psychographic variables. The results for both portals showed a very high substantial validity. The differences in the psychographic variables clearly matched the target groups of both mobile portals. Also the frequency of using the website differentiates between the two mobile content portals. Figure 6 shows that the frequency of users returning to the news portal is higher than the frequency of those returning to the DA portal. As the news portal provides actual news every day, the daily frequency is chosen most. In contrast, users of the DA site return to the website when they request specific information. The search service is a classical pull application which serves requests. Therefore it is used when a request occurs, in our case mostly several times a week.

FIGURE 6
Frequency of Usage



Question: How often, on average, do you use the mobile Internet page of ...? Basis: News Portal n=200 / DA Portal n=60
Source: TNSInfratest

5. Summary and Discussion

Four main conclusions can be drawn from the analysis.

First, we can attest that banner recruitment on the mobile Internet works. As this mode of recruitment is relatively new and on topic literature is rarely available, it was important to verify whether the required number of survey participants can be attracted. Fortunately, the solution described delivered sufficient data for statistical analyses and turned out substantial valid results for both mobile portals. As the provided solution is feasible and there are no adequate alternative solutions presently, banner recruitment is the best practice approach for onsite surveys on the mobile Internet at the time.

Secondly, we can even derive a first rule of thumb for the number of ad views that are necessary to achieve the desired number of interviews. In our pilot survey, approximately 100,000 ad views were necessary to achieve at least a minimum of cases needed for further analysis of a website.

A third main conclusion concerns the observed differences in the response behaviour to the two analysed mobile websites. The response rates of the different target groups attracted by each website varied widely. Or, in other words, the response rates differ depending on the content of the mobile website and its users.

And fourthly, new sources of errors resulting in misinterpretation of the response rate or leading to sampling biases were identified that are directly related to mobile web surveys as a new type of methodological approach. When offline readers are not screened out, they increase the click and dropout rate. This results in wrong conclusions regarding the response willingness and the estimation of the required ad views to achieve the desired number of interviews. Sampling biases may be caused by visitors using the static Internet to call for the mobile website. It is highly recommended to control these new phenomena to achieve the defined sample universe and to ensure the quality of the sample.

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