Abstract: A method of conducting a survey, comprising: displaying a notification on a survey at a plurality of locations, the notification in each location including a unique code different from the codes of the other locations; receiving, by a survey server, requests to participate in the survey with the unique codes from a plurality of mobile stations; determining, by the survey server, for each received request, whether to allow a holder of the mobile station to participate in a survey; conducting a survey, by the survey server, through the mobile stations whose holders were determined to participate in a survey; analyzing by the survey server responses received in the survey, so as to generate survey results; and displaying the survey results of the plurality of locations, by the survey server.
POINT OF EXPERIENCE SURVEY

RELATED APPLICATIONS

The present application claims the benefit under 119(e) of US provisional application 60/904,786, filed March 5, 2007, with same inventors, the disclosure of which is incorporated herein by reference.

FIELD OF THE INVENTION

The present invention is related to the field of surveys and/or real time business insight, for example to surveys over cellular phones.

BACKGROUND OF THE INVENTION

Surveys are an important tool in collecting information for decisions in manufacture, advertisement and marketing, as well as other issues of dynamic firms. In performing a survey, it is important to select a relevant group of people to answer the survey. In addition, in many cases it is desired to receive the survey results quickly.

One classical method of surveying people is leaving questionnaires at a location of service or purchase and asking clients to fill out the questionnaire. In some cases, a prize delivered to one or more of the people replying to the survey, for example selected in a lottery, is promised to the people answering the questionnaire. This method of surveying, however, is relatively slow.

US patent 4,603,232 to Kurland et al., patented July 29, 1986, the disclosure of which is incorporated herein by reference, describes disseminating surveys electronically to a plurality of survey stations.

US patent publication 2002/0158896 to Ikeda et al., the disclosure of which is incorporated herein by reference, describes performing surveys at a dealer's shop.

Surveys can also be conducted over cellular phones of the participants.

US patent 6,873,688 to Aarnio, dated March 29, 2005, the disclosure of which is incorporated herein by reference, describes making a questionnaire based survey in a cellular system. The group of people receiving the questionnaire are selected according to the needs of the survey from previously registered individuals.

US patent publication 2004/034561 to Smith, titled "Interactive Marketing System", dated February 19, 2004, the disclosure of which is incorporated herein by reference, describes a system for receiving interactive feedback in SMS messages on an advertisement campaign. The advertisements include a request to send an SMS message to
a specific number in response to the advertisement. Accordingly the number of people
seeing the campaign is determined.

It has been suggested to use position tracking methods to determine locations of
respondents.

Korean patent publication 2002/0016120 describes a mobile survey method which
uses position checking of respondents.

US patent publication 2006/0111962 to Holsinger, the disclosure of which is
incorporated herein by reference, describes a method of conducting a survey over a cellular
phone of a consumer. The method includes providing location identification devices (e.g.,
RFID or GPS) to participants and tracking their location. When a survey is desired and
when a participant is in a location of interest, for example in a store, the participant is
called or surveyed by wireless email or text messaging. This method requires that the
participants register in advance and carry a location identification device.

PCT publication WO02/44829, published June 6, 2002, to Ran Erhard, the
disclosure of which is incorporated herein by reference, describes an automatic survey
method in which a group of participants in a specific location, determined using cellular
based position tracking methods, are transmitted messages of a short messaging service
(SMS) inviting them to answer a survey. Interested participants are asked to contact a
surveying system using a mobile phone and answering questions. In addition, open
questions may be provided to the participants.

The above methods require complex position determining apparatus in order to
determine the locations of the respondents. In addition, mobile tracking is not always
accurate.

The short messaging service (SMS) is widely used by owners of cellular
phones.

European patent publication 1361764 to Stratemann Henrik and Petry Klaus, the
disclosure of which is incorporated herein by reference, describes a system for conducting
free text dialogs using SMS messages.

US2002/0119793 to Hronek et al., published August 29, 2002, the disclosure of
which is incorporated herein by reference, describes a system of interactive SMS menus, in
which a user selects desired data by responding to SMS menus it receives. An appropriate
number of menu levels is up to five.
US patent publication 2007/0010266 to Chaudhuri, the disclosure of which is incorporated herein by reference, describes an SMS services node which provides telephone numbers requested in a sequence of SMS messages.

SUMMARY OF THE INVENTION

An aspect of some embodiments of the present invention relates to a method of recruiting respondents for a survey. An advertisement in a specific location invites individuals to participate in a survey by transmitting specific contact information unique to a limited location to a survey system. By requiring the use of unique information, only respondents in the desired location can contact the survey system, and thus filtering of relevant respondents is performed automatically. Sophisticated tracking methods to determine where respondents are located, are therefore not necessary.

 Optionally, the advertisement for participating in the survey is displayed in a plurality of different locations, in each location with a different unique contact information. In some embodiments of the invention, the results of the survey include a comparison between the data collected from the different locations. In some embodiments of the invention, a substantially same survey is carried out in more than 5, 50 or even more than 500 locations, each location optionally using a different unique contact information. The different locations may be in different neighborhoods or cities or may be in different buildings in a single area, in different rooms in a same building or in different departments in a same store or other establishment.

In some embodiments of the invention, the unique contact information changes frequently, for example at least once a day or even at least once an hour, such that it is possible to determine a time at which the participant saw the advertisement according to the unique contact information. Optionally, a time difference between seeing the advertisement and contacting the server is determined.

Alternatively or additionally, participants in the survey are provided with compensation at the location of the advertisement, possibly making it less attractive to respondents to contact the survey system from a remote location. In some embodiments of the invention, the compensation is provided only within a short period of time, from responding to the survey. For example, the compensation may be provided only on the same day of responding to the survey or within at most a predetermined interval from responding to the survey. The predetermined interval is for example, shorter than two hours, shorter than one hour or even shorter than 20 minutes. The compensation may be
predetermined to any respondent completing the survey or may depend on the answers given by the respondent.

Further alternatively or additionally, mobile tracking methods may be used to verify that the respondent is in the location of the advertisement, at least in a reasonable probability, in order to increase reliability in collecting responses from people at a point of contact with the product or service. Possibly, the verification is performed only for a sample of the respondents.

In some embodiments of the invention, the unique contact information is a relatively short sequence, for example a number of up to five digits, for ease of use. Alternatively, a relatively long and/or complex string is used as the unique contact information, in order to prevent people from memorizing the contact information and using it at a later time.

Alternatively or additionally, the respondent is required to answer one or more questions on the location of the survey, information generally not known to people not in the survey area.

In some embodiments of the invention, the participant transmits an initiation message indicating interest in participating in the survey to the survey system and if the participant matches a desired profile receives a series of SMS messages with the survey questions. Optionally, the responses from a plurality of respondents are analyzed automatically such that they can be presented within a short time from the beginning of the survey. In some embodiments of the invention, the address of the initiation SMS message serves as the unique contact information, and is different for different advertisement locations. Alternatively or additionally, the initiation SMS message includes the unique contact information as part of the message or the entire content of the message.

Optionally, the advertisement with the unique contact information is displayed electronically, such that it may be changed easily, possibly from a remote location.

In some embodiments of the invention, the advertisement is positioned in a location which is generally viewed only by people who intentionally came to the location of the advertisement. For example, within a store, the advertisement may be placed in a location in which people not coming to shop but simply passing by will generally not spot it, but people coming to shop will generally spot it.

An aspect of some embodiments of the present invention relates to carrying out a survey in a series of connectionless messages from a single communication device. Optionally, the survey is conducted via a mobile unit using SMS messages. Alternatively,
MMS messages or connectionless WAP is used. It is generally believed that the complexity, cost and/or time consumption of a series of SMSs is relatively high and therefore a series of SMS messages can be used only for cases in which the user is interested in receiving information. In contrast, surveys are believed to require simple and fast procedures which will cause sufficient participants to respond to the survey. Nonetheless, the inventors of the present invention have come to the conclusion that an SMS survey could be successful. In some embodiments of the invention, one or more complementary acts which counter the deficiencies are used with an SMS survey.

In some embodiments of the invention, a relatively high compensation is offered. Alternatively or additionally, intelligent answer analysis methods are used to minimize the cases in which wrong answers are identified as wrong. For example, in receiving a response to a multiple choice question in which the possibilities are 1, 2, 3 and 4, spelling out of one of the choices, even with typing errors, will be considered a valid answer. Further alternatively or additionally, even when an answer of a respondent is undecipherable, the respondent is not requested to repeat the response, in order not to discourage respondents.

Optionally, the SMS survey includes at least 8 or even at least 10 SMS messages, each including one or more questions. The respondent is optionally required to respond to each SMS message with a response SMS message, in order to prevent confusion between questions. Alternatively, to reduce costs, the respondent transmits a single SMS message responding to a plurality of SMS question messages.

In some embodiments of the invention, the questions sent to the respondent are selected responsive to previous answers provided by the respondent. Optionally, the questions provided to the respondent depend on attributes of the respondent, such as gender and age. Alternatively or additionally, the questions provided to the respondent depend on opinions expressed by the respondent in answers to previous questions.

An aspect of some embodiments of the present invention relates to a method of recruiting participants of a survey. An advertisement, for example displayed on a billboard, is preconfigured to change over time a code that is to be provided by respondents joining the survey, while the advertisement continues to invite participants to join the same survey.

In some embodiments of the invention, substantially only the code changes in the advertisement while the rest of the text does not change.

An aspect of some embodiments of the invention relates to conducting a survey including at least five, ten or fifteen questions with respondents via mobile stations of the
respondents. The method includes placing advertisements directed at a non-preselected group of people, which advertisements request respondents to contact a survey server from their mobile station. The advertisements are displayed on a location separate from the mobile stations.

Optionally, the respondents are requested to contact the survey server when they are at a specific location.

An aspect of some embodiments of the invention relates to a method of directing respondents to surveys, in which a plurality of surveys are managed concurrently and respondents are directed to one of the surveys according to the needs of the surveys.

There is therefore provided in accordance with an exemplary embodiment of the invention, a method of conducting a survey, comprising displaying a notification on a survey at a plurality of locations, the notification in each location including a unique code different from the codes of the other locations, receiving, by a survey server, requests to participate in the survey with the unique codes from a plurality of mobile stations, determining, by the survey server, for each received request, whether to allow a holder of the mobile station to participate in a survey, conducting a survey, by the survey server, through the mobile stations whose holders were determined to participate in a survey, analyzing by the survey server responses received in the survey, so as to generate survey results and displaying the survey results of the plurality of locations, by the survey server.

Optionally, receiving requests to participate in the survey comprises receiving requests addressed to the unique code. Alternatively, receiving requests to participate in the survey comprises receiving requests including the unique code in the body of the request. Optionally, determining whether to allow a holder of the mobile station to participate in a survey comprises determining responsive to one or more questions provided to the mobile stations.

Optionally, determining whether to allow a holder of the mobile station to participate in a survey comprises determining responsive to demographic information received from the mobile stations. Optionally, the method includes analyzing by the survey server the demographic information received from the mobile stations so as to provide a report on demographics of people in the locations. Optionally, conducting the survey comprises transmitting to the mobile station a sequence of at least three question SMS messages and receiving a response SMS message to each question SMS message. Optionally, the method includes providing a compensation which needs to be collected in the vicinity of the location of the displayed notification, to the respondents.
Optionally, providing the compensation comprises providing a right to collect a compensation, which right expires if the compensation is not collected within a predetermined period shorter than a day. Optionally, the method includes providing to the respondents a compensation which allows purchasing a product related to in one or more questions of the survey at a reduced price. Optionally, the method includes changing the unique code at least once a day. Optionally, the plurality of locations comprise at least 50 locations.

Alternatively or additionally, the plurality of locations comprise at least two locations in a same building. Optionally, conducting the survey comprises asking at least one question whose content is tailored to the specific location. Optionally, conducting the survey comprises asking at least one question on a detail of the specific location and verifying that the respondent gave a correct answer to the question. Optionally, analyzing responses received in the survey comprises automatically comparing the results of the survey from different locations. Optionally, displaying the survey results comprises displaying partial results while the survey is being carried out. Optionally, the method includes changing one or more questions or parameters of the survey by a human survey manager responsive to the displayed results, while the survey is being carried out.

Optionally, displaying the partial results comprises providing alerts on data rated in the analysis as interesting. Optionally, the method includes changing one or more questions or parameters of the survey automatically by the survey server, responsive to the analysis.

There is further provided in accordance with an exemplary embodiment of the invention, a survey system, comprising a plurality of signs displaying advertisements including unique codes, inviting people to participate in a survey, a survey server adapted to receive messages, including the unique codes, from respondents requesting to participate in the server, to determine whether to provide the survey to each requesting respondent and to conduct the survey with the determined respondents and an analysis unit adapted to analyze the responses of the surveys at least partially responsive to the unique codes provided in the received messages.

Optionally, the survey system includes an advertisement controller adapted to control display of advertisements on the plurality of signs from a single location. Optionally, the advertisement controller is adapted to change the unique codes according to a predetermined scheme. Optionally, the analysis unit is adapted to display a comparison between survey results from different locations. Optionally, the survey server comprises an
answer interpreter adapted to interpret a plurality of different responses to a multiple choice question as a single valid response.

There is further provided in accordance with an exemplary embodiment of the invention, a method of conducting a survey, comprising transmitting to a mobile unit, by a survey server, a sequence of at least eight SMS messages including questions, receiving answer SMS messages, by the survey server, including responses to the questions in the sequence, repeating the transmission of sequences of SMS messages and the receiving of SMS answer messages, for a plurality of mobile stations; and providing a report summarizing opinions expressed by holders of the mobile stations, responsive to the received answer messages. Optionally, transmitting a sequence of at least eight SMS messages including questions comprises transmitting the same sequences to the plurality of mobile stations.

Optionally, transmitting a sequence of at least eight SMS messages including questions comprises transmitting different sequences to different ones of the plurality of mobile stations. Alternatively or additionally, transmitting a sequence of at least eight SMS messages including questions comprises transmitting responsive to receiving an SMS message requesting to participate in a survey;

Optionally, each SMS question message is transmitted only after receiving an SMS message from the mobile unit. Optionally, the method includes interpreting the received answer messages in a manner which corrects errors in entering information. Optionally, interpreting the received answer messages comprises interpreting a plurality of different responses as relating to a single answer of a multiple choice question. Optionally, the method includes providing a compensation to the respondent.

In some embodiments of the invention, the sequence comprises at least 12 SMS messages. Optionally, at least some of the questions in the sequence are determined before the request message is received. Optionally, at least some of the questions in the sequence are selected responsive to answers received to previous questions in the sequence.

There is further provided in accordance with an exemplary embodiment of the invention, a method of questioning a person, comprising providing a plurality of survey sets of questions relating to different subjects, identifying a person willing to participate in a survey, selecting one of the plurality of survey question sets to be provided to the respondent and conducting a survey session with the person based on the selected survey question set.
Optionally, providing the plurality of sets of questions comprises providing sets which each includes at least five questions. Optionally, identifying a person willing to participate in a survey comprises receiving an SMS message from the person. Possibly, selecting one of the surveys comprises selecting according to a response of the person to one or more demographic questions. Optionally, selecting one of the surveys comprises selecting a survey having most particular requirements that the person meets.

**BRIEF DESCRIPTION OF THE FIGURES**

Particular, non-limiting embodiments of the invention will be described with reference to the following description of embodiments, in conjunction with the figures. The figures are generally not shown to scale and any measurements are only meant to be exemplary and not necessarily limiting. In the figures, identical structures, elements or parts which appear in more than one figure are optionally labeled with a same or similar number in all the figures in which they appear, in which:

Fig. 1 is a schematic illustration of a survey set up, in accordance with an exemplary embodiment of the invention;

Fig. 2 is a flowchart of acts performed in conducting a survey, in accordance with an exemplary embodiment of the invention; and

Fig. 3 is a schematic view of a screen snapshot of a survey control monitor, in accordance with an exemplary embodiment of the invention.

**DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS**

Fig. 1 is a schematic illustration of a survey set up, in accordance with an exemplary embodiment of the invention. In Fig. 1, a shop 102 includes one or more advertisement signs 110 (e.g., an interactive dashboard) which invite individuals 50 to participate in a survey, possibly for a compensation. The advertisement sign 110 displays a unique contact ID 112, which is used by participants in contacting a survey control station 150 and in identifying as being eligible to participate in the survey. The individual optionally uses a cellular phone 60 to participate in the survey. The compensation is optionally provided at a checkout point 120, within shop 102. It is noted that the reference to a shop is brought by way of example and sign 110 may be provided at substantially any other location, for example locations at which customers or other group of interest are expected to be located.

Survey control station 150 optionally includes an advertisement controller 156 which is used to set the language of the advertisement on sign 110. A survey SMS server 154 optionally automatically provides cellular phones 60 with survey questions and
receives answers from respondents. An analysis unit 152 optionally analyses the responses and prepares a report for display, for example on a monitor 158. Monitor 158 may be used also in generating the survey and the language of the advertisement on sign 110 and/or in real time control of the survey by a human operator.

In some embodiments of the invention, survey control station 150 is used to control surveys in a plurality of shops 102 and/or in other locations, where customers or other groups of interest are located and can be questioned for real time, immediate results of a survey. The respondents are questioned at a point at which there is a good chance that the respondents are currently thinking about the subject of the survey. Survey locations may include, for example, retail stores, restaurants, hotels, sporting events, halls and theaters. In some embodiments of the invention, the locations of the signs used are as close as possible to a place at which a service to which the questions relate is offered. For example, in asking about an airline, sign 110 may be presented at airports where potential respondents are currently getting off an airplane.

Survey control station 150 can be used in accordance with some embodiments of the invention to provide a real time method for collecting information from relevant respondents at the point of contact with the subject of the survey. Based on previously provided advertisement signs, a survey can be sent on its way within minutes and provide results within less than an hour. The previously provided advertisement signs are simply set with a relevant text or continuously invite people to participate in a survey and do not need setting at all. The respondents are optionally not required to be preselected or provided with any special apparatus. Survey control station 150 provides, in some embodiments of the invention, a complete environment for preparing and managing surveys, such that the entire process can be carried out by a single monitor without leaving an office.

Fig. 2 is a flowchart of acts performed in conducting a survey, in accordance with an exemplary embodiment of the invention. A survey is prepared (202) and provided to SMS server 154. In addition, an advertisement language for inviting participants to participate in the survey is provided to advertisement controller 156, which displays (204) the advertisement on sign 110. SMS server 154 receives (206) incoming messages from individuals interested in participating in the survey. For each incoming message, SMS server 154 determines whether (208) the individual should be allowed to participate, for example, according to a user profile of the individual and a group of interest defined for the survey. For each individual selected to become a respondent, SMS server 154 carries
out (210) the survey by transmitting a series of SMS messages to the mobile phone 60 of
the respondent and receiving responses to the questions in the SMS messages. The
responses from all the respondents are provided to analysis unit 152 which generates (212)
a survey report. In some embodiments of the invention, the displayed survey report is
continuously updated as the questions of the survey are provided to additional respondents.
An operator at monitor 158 can optionally control (214) one or more aspects of the survey,
responsive to intermediate results. Alternatively or additionally, based on the survey report,
an additional survey may be generated and carried out (216) in the same location or a
different location. The additional survey may be carried out on the following day or even
on the same day as the first survey.

Preparing survey

Substantially any method known in the art may be used for preparing the survey. In
some embodiments of the invention, the survey is prepared (202) by a company worker
without the aid of a survey expert, for example using an automatic survey generation tool,
such as any of the embodiments of above mentioned PCT publication WO02/44829.

Optionally, monitor 158 allows a human survey manager to define surveys by
generating their questions. In some embodiments of the invention, monitor 158 stores old
surveys which may be retrieved for reuse. Optionally, monitor 158 can be used to set in
advance a time at which a survey is to be carried out and the locations at which it is to be
carried out.

The questions of the survey may relate to a wide range of issues, including:
a) issues of preference and/or opinion, such as "which brand do you prefer?", "how was the
service?", "did you find what you wanted?", "was there sufficient variety?"
b) questions of fact, such as "what brands are on the shelves?", "are there posters on the
walls?".
c) questions for information about the respondents, such as age, gender, income level and
area of residence
d) explanations of the respondent's acts, such as the reason for being located near the
advertisement.
e) tasks that the respondent needs to perform, such as finding a specific product or sign and
providing information from the product or sign. For example, the respondent may be
requested to report the price on a specific product, a safety warning, a promotion campaign
or any other detail on the product or at the point of contact with costumers. The answers to
these questions are optionally used to verify that the respondent is actually near sign 110
and/or to check whether the management of shop 102 carried out instructions of a
management of a chain to with which shop 102 is affiliated. Alternatively or additionally,
the tasks are used to verify that the information is easily identified by the participants
and/or the time it takes to find the information. In some embodiments of the invention, the
respondents are requested to report the time it took them to find the information.
Alternatively or additionally, the time it took the respondent to answer the question,
possibly in comparison to other questions not involving tasks, is used to evaluate the ease
in finding the information by the respondent.

In some embodiments of the invention, a survey may include one or more questions
which are generally the tasks of inspectors and/or mystery shoppers and are of little interest
or no interest to the respondents. For example, respondents may be asked whether signs
which should have been hung are in place and/or whether workers are performing their
duties.

In some embodiments of the invention, the survey includes a plurality of questions
transmitted in separate survey SMS messages. Optionally, each survey SMS message
presents a single question. Alternatively, one or more survey SMS messages present two or
more questions. In some embodiments of the invention, the respondents reply to each
survey SMS message separately with a respondent SMS reply and the next survey SMS
message is not supplied until the response is received. Alternatively, respondents may
reply to a plurality of survey SMS messages together.

In an exemplary embodiment of the invention, a survey includes at least five or
even at least 10 survey SMS messages. Possibly, a survey includes more than 20 survey
SMS messages.

Optionally, the survey includes multiple choice questions. Alternatively, the survey
includes one or more open questions to which the respondents provide a text answer.

In some embodiments of the invention, one or more of the questions in the survey
include instructions or questions which are location specific according to a unique code
used in contacting survey server 154. For example, questions may indicate locations of
specific objects relative to sign 110 or may ask respondents if they recognize names from a
list of workers in the shop.

In addition to setting the questions, preparing (202) the survey optionally includes
defining the time periods in which the survey is to be carried out. For example, the survey
may be defined to be carried out on specific days and/or at specific hours, e.g., between 10-
12 and 16-18. In times at which the survey is not performed, the sign is optionally changed
and/or server 154 is configured to reply with a message that the respondent cannot participate in the survey.

In some embodiments of the invention, a survey may include conditional questions which are provided only to users answering in a specific manner to previous questions. For example, a first question may ask: "why did you come to the shop?" and a second question is different depending on whether the respondent came to browse or to buy. In some embodiments of the invention, a plurality of totally different surveys are managed based on a single advertisement on sign 110. The respondent is asked for the reason of being in the location of the sign and if the answer matches one of the surveys, the respondent is allowed to participate in the survey.

Alternatively or additionally to varying the questions provided to a respondent according to his/her answers, the questions of the survey may be defined to vary according to the accumulated responses received from all the respondents up to a given time point. For example, if a very large percentage of respondents answered that they did not identify a promotion campaign, the question may be replaced by another question until the reason is determined. Alternatively or additionally, predetermined parameters may be set for automatically stopping the survey.

In some embodiments of the invention, monitor 158 may be used to set operation parameters of analysis unit 152 and/or survey server 154 for the survey, such as any of the parameters discussed hereinbelow.

**Unique code**

Referring in more detail to displaying (204) the advertisement, in some embodiments of the invention, the advertisement indicates the unique code. Optionally, the unique code comprises a unique SMS number 112 (Fig. 1) to which participants are to transmit messages indicating willingness to participate in the survey. In an exemplary embodiment of the invention, the unique SMS number 112 comprises a 5 digit short code or a 10 digit long code. Alternatively or additionally, the unique code comprises a unique content code 113 which respondents are requested to include in the messages indicating willingness to participate in the survey.

In some embodiments of the invention, the unique code includes at least five, at least seven or even at least nine characters, in order to make it harder to memorize or guess the unique code, so as to reduce the chances that respondents will call when they are not in the location of sign 110 or will provide the unique code to friends not in the vicinity of sign 110. Optionally, the unique code includes only numerical digits. Alternatively, the unique
code includes alphabetic or alphanumeric characters, possibly in a manner making it harder to memorize.

The unique code is different for each location in which the survey is carried out. Optionally, different neighborhoods in the same city are considered different locations and use different codes. In some embodiments of the invention, different buildings on the same street are considered different locations and have different codes. Furthermore, different departments in the same store may use different codes for the same survey. Possibly, a same department or same room may have a plurality of advertisement signs 110 with different codes. For example, different codes may be used on signs in the direction of view of people coming from different directions. Alternatively, signs in adjacent locations (e.g., the same room, same building, same neighborhood) use the same codes.

The unique code (e.g., unique SMS number 112) is optionally unique to each survey provided, at least over a sufficiently long period (e.g., at least a week, at least a month or even at least a year) to prevent confusion. Alternatively, a single unique code may be used for different surveys at the same location. Optionally, the same unique code (e.g., SMS number 112) is used throughout the entire time span of the survey. Alternatively, the unique code is replaced occasionally, for example periodically, during the survey, in order to limit the time span in which respondents can participate in the survey after leaving shop 102. In some embodiments of the invention, each unique code is used for at most three hours, at most an hour or even at most 20 minutes. Optionally, SMS server 154 does not accept participants providing old unique codes. In some embodiments of the invention, a grace period of several minutes is allowed for using old codes.

When a unique code that does not match any location is received by survey server 154, the server optionally ignores the message. Alternatively, survey server 154 associates the message with a location having a closest code. In some embodiments of the invention, when an unidentified unique code is received, the respondent is provided with one or more questions on his/her location.

**Advertisement**

In some embodiments of the invention, the advertisement includes characteristics of desired respondents, such as illustrated by a field 114 (Fig. 1), for example age groups and/or gender. Alternatively or additionally, for example in order to prevent respondent's misrepresentation before survey station 150, desired values of one or more characteristics are not advertised. Optionally, the advertisement instructs respondents to transmit the value...
of the characteristic to SMS server 154 and accordingly they will be instructed whether they can participate in the survey.

Optionally, advertisement sign 110 is placed in a highly noticeable location, so as to maximize the number of people viewing the sign. Alternatively, in order to limit the number of irrelevant respondents requesting to participate in the survey, sign 110 is placed in a location noticeable only by people to which the survey is directed. For example, sign 110 may be located in a dressing room, in a corner of a store where a specific product is displayed or at a complaint counter.

In some embodiments of the invention, the location, text, style and/or other attributes of the advertisement is designed in a manner which attracts specific groups of people. Optionally, different advertisements having attributes directed at different groups of people are posted with different unique codes, possibly in the same location. For example, an advertisement directed at children may be posted at a lower height, may optionally include brighter colors and/or may promise a contribution more attractive to children. An advertisement for intellectuals may include a long text with small print and/or may promise compensation in the form of a coupon for purchasing books. Advertisements for young people may include blurry text which is hard for deciphering by elderly people.

Comparing the results received from the different advertisements, based on the different unique codes, may be used in evaluating the different desires of the different groups.

In some embodiments of the invention, the advertisement lists a plurality of unique codes together with respective groups to use each code. For example, the advertisement may state age groups and respective codes they are to use. Alternatively or additionally, the advertisement may include one or more questions that the respondent is to answer in the first message transmitted to survey server 154, in order to reduce the number of SMS messages required during the survey.

Alternatively or additionally to displaying the advertisement on sign 110, the advertisement may be provided to people on a purchase receipt, on a travel ticket or on any other context related medium provided to people. Optionally, the survey includes one or more questions on the purchase in the receipt or travel ticket, such as satisfaction from the purchase.

Further alternatively or additionally, advertisements inviting respondents to participate in the survey are displayed in different television programs and/or at different
web sites, using different unique codes. The results are then classified according to the
television program or website the respondents came from.

Compensation

In some embodiments of the invention, the advertisement promises compensation
for participating in the survey. Optionally, the compensation is receivable only in store
102, for example at checkout 120. Alternatively, the compensation may be received at any
location in shop 102 or near shop 102. Further alternatively or additionally, the
compensation is received in the respondent's mobile account, for example a PIN number to
be used in downloading a coupon. In some embodiments of the invention, the
compensation may be received and/or must be used within a short period from answering
the survey, so that only relevant respondents will join the survey.

While substantially any type of compensation may be used (e.g., free products), in
some embodiments of the invention, the compensation comprises a coupon or reduction to
be used in a shop in which sign 110 is located or which is otherwise related to the survey.
In an exemplary embodiment of the invention, the compensation comprises points of a
loyalty program. Linking the compensation to the survey possibly filters out respondents
who do not use the service or product to which the survey relates.

Optionally, the compensation is provided only to respondents who completed the
survey. Alternatively or additionally, a small compensation is provided to respondents who
were notified that they do not match the profile of the survey, for example if a person was
rejected twice.

In some embodiments of the invention, the compensation depends on the answers
of the respondent to one or more questions of the survey. For example, the compensation
can be linked (e.g., in the form of a coupon or other reduction in price) to a product which
the respondent identifies as being superior or expensive and therefore serves as an
incentive to purchase the product. In an exemplary embodiment of the invention, a
respondent answering that he/she came only to browse may be given a different
compensation than one stating that he/she came to buy. The compensation may be higher
for respondents giving information rated automatically by analysis unit 152 as more
interesting and/or for respondents spending more time on responding. Answers considered
more interesting may be defined, for example, as longer answers to free text questions
and/or series of answers which are not monotonous (e.g., all the same answer to a multiple
choice or rating question). Alternatively or additionally, some correspondents receive
compensation in cash while others receive the compensation as a voucher. In some
embodiments of the invention, the compensation given to a specific respondent is selected at least partially randomly.

In some embodiments of the invention, the extent of the compensation depends on the number of SMS messages the respondent transmitted, so as to compensate for their cost.

### Selecting participants

Referring in more detail to determining whether (208) the individual should be allowed to participate, in some embodiments of the invention, the determination is performed according to the unique code that the participant is required to provide. In these embodiments, the determination is optionally general and is based on whether sufficient responses were received for the outstanding surveys and whether there are any outstanding surveys at all.

In some embodiments of the invention, in determining whether the individual should be allowed to participate in the survey, the number of respondents already participating and/or that completed the survey is taken-into account. Optionally, in defining a survey, a total number of respondents and/or numbers of respondents having specific characteristics are indicated. When an individual having characteristics of a group for which sufficient responses were received the individual is possibly rejected from participating in the survey. In some embodiments of the invention, the advertisement is changed when sufficient responses from respondents having one or more characteristics were received.

Alternatively or additionally, the participant is requested to provide one or more personal details and the details are checked relative to a respondent profile of the specific survey. The personal details may be provided in the initiation message requesting to participate in the survey, for example following a request in the advertisement, or may be provided in a subsequent SMS message following a request in a message sent from SMS server 154. The personal details may include, for example, one or more of age, citizenship, residence, languages the respondent knows, gender, number of children, size of family and/or education.

Optionally, the determination of whether (208) the individual should be allowed to participate in the survey depends on the time of day. For example, it may be desired to survey only women in the morning and only men in the afternoon.

In some embodiments of the invention, the determination of whether to allow a person to participate in a survey depends on the telephone number from which the
initiation message was received. Optionally, survey server 154 manages for each telephone number a record on previous behavior. In some embodiments of the invention, a respondent is allowed to participate in the survey only once every predetermined amount of time, for example once a day, once a week or once a month. Optionally, the interval between surveys depends on the quality of answers provided in previous surveys. Respondents giving full answers, spending substantial time on responding, having a low error rate and/or giving responses that do not follow an absent minded pattern (e.g., giving the same choice for all questions) are optionally rated as high quality respondents and are allowed to participate more often. In contrast, respondent giving short (e.g., one word) responses to open questions and/or are otherwise rated as low quality respondents are allowed to participate only seldom.

In some embodiments of the invention, when a message with an old code is received, SMS server 154 responds with a message instructing the respondent to try again with the new code. Alternatively or additionally, individuals entering old codes are indicated in server 154 as unwanted in subsequent surveys. The refusal is optionally performed based on the telephone number of the individual and is optionally limited in duration. In some embodiments of the invention, the refusal is decided on only after a predetermined number of attempts to use an old code, e.g., more than five.

In some embodiments of the invention, one or more questions require human ability, for example reading the text in a picture, in order to prevent robots from participating in the survey.

**Plurality of surveys**

Survey server 154 may be configured to handle a plurality of surveys concurrently. Optionally, when a person sends an SMS requesting to participate in the survey, server 154 selects a survey that most suites the respondent. In some embodiments of the invention, the respondent is asked one or more classification questions which are used in determining which survey is to be given to the respondent. Optionally, when a respondent matches a plurality of surveys, the respondent is given the survey which has the least respondents so far and/or which is expected to have a lower rate of collecting respondents due to its more stringent requirements. For example, when there is a survey on a product that many people purchase frequently and another that is purchased rarely, respondents showing interest in the rarely purchased product are directed to the survey on the rarely purchase product.
Alternatively or additionally, the survey given to the respondent is selected partially randomly or the respondent is allowed to choose the survey topic or length.

In some embodiments of the invention, a general purpose survey, possibly with a low compensation is continuously carried out. When a specific survey is required, survey server 154 is instructed by a human manager of the survey, from monitor 158, to direct qualified respondents to the specific survey. In some embodiments of the invention, the specific survey is longer than the regular survey, including for example more than 10 or even more than 15 SMS messages, while the regular survey includes fewer than 8 or even fewer than 6 SMS messages. Optionally, the respondent is asked in advance if he/she is willing to respond to a longer survey having a larger compensation.

Survey

In some embodiments of the invention, survey server 154 is configured to minimize the cases in which respondents are requested to repeat or explain their answers. Possibly, survey server 154 ignores undecipherable answers, in order not to discourage respondents. Alternatively or additionally, survey server 154 is adapted to attempt to correct errors in the respondent's answers. For example, survey server 154 is optionally adapted to relate to a spelling out of one of the options of a closed question as a valid answer. Optionally, when an answer of more than three letters is received, the response is compared to all the options and the closest option is indicated as the respondent's answer, optionally provided that it has a minimal match level. In some embodiments of the invention, server 154 is adapted to convert letters into numbers and vice versa when necessary in order to interpret respondents' answers. Optionally, server 154 is adapted to spell out and/or convert abbreviations (e.g., 2, U of SMS language) and perform other text operations, such as dictionary based spell check and context analysis, which make the results more readable.

In some embodiments of the invention, server 154 performs keyword coding on open text answers, optionally grouping together answers with same keywords, highlighting most used keywords and/or highlighting answers with a large number of meaningful keywords (e.g., based on a predetermined list of keywords and/or keywords found to appear often).

In some embodiments of the invention, the questions are transmitted with help explanations. The help may be provided based on the location of the respondent as identified by the unique code. Alternatively or additionally, a user may send an SMS to the server 154 to request help. Responsive to the SMS, a person will call the user and aid in answering the questions or a person in the shop 102 is sent to aid the respondent in person.
Alternatively or additionally, responsive to a request for help, the respondent is called and
the survey is performed in IVR (interactive voice response) or by a person in real voice.

In some embodiments of the invention, when an answer which could not be
deciphered is received, a context related help SMS is transmitted to the respondent.

Optionally, questions for which an invalid answer was received are repeated at the end of
the survey, rather than being repeated during the survey, in order to allow the user time to
get used to the system.

Report

The report is optionally provided in the form of charts or other graphic
representations although text or table displays may also be used. In some embodiments of
the invention, the survey is performed in a plurality of different locations and the report
provides a comparison between the results in the different locations. Alternatively or
additionally, the survey is repeated a plurality of times, for example weekly or monthly,
and the results provide a comparison of the results over time. For example, the report may
indicate long term trends in customer satisfaction.

When the survey includes open questions, the report optionally summarizes the free
text answers using text analysis methods.

The human survey manager is optionally allowed to select the form of the report
displayed by monitor 158. For example, the user may be allowed to request a comparison
of results at different times of the day, different periods in the long term (when a survey is
repeated a plurality of times), different locations (when the same survey is provided in a
plurality of locations) and/or for people of different attributes (e.g., gender, age group). In
addition, the survey manager may optionally select which display type (e.g., graph, chart,
pie) is to be used.

In some embodiments of the invention, monitor 158 is equipped with easy sharing
tools which allow fast generation of charts and graphs and delivering them to other users,
for example over the Internet.

Fig. 3 is a schematic view of a screen snapshot 300 of monitor 158, in accordance
with an exemplary embodiment of the invention. A main area 302 of the screen optionally
displays the results of the survey in a graphic format, with each question having a separate
subsection 310. Each subsection 310 optionally displays in addition to the results of the
survey also the provided question and the number of respondents, the rate of errors and/or
any other question related information. The survey manager is optionally allowed to select
for each question the display format and/or the data filtering to be used. A key findings
area 304 is optionally used to store results considered important by the survey manager. Optionally, a simple mouse drag act is sufficient to move a graph from main area 302 to key findings area 304. In some embodiments of the invention, the survey manager is allowed to add a comment 314 to graphic representations moved to key findings area 304. A save report button 308 is optionally used to the graphic representations in key findings area 304 such that they can be easily transferred to colleagues for discussion.

Monitor 158 is optionally configured to draw the immediate attention of the survey manager, to results considered interesting that are based on a sufficient number of responses. Optionally, results of a question are considered interesting when they are below a norm (e.g., low satisfaction), are substantially different in different locations and/or are substantially different from a previous survey. In some embodiments of the invention, immediate attention of the survey manager is called when the group of respondents is unbalanced, for example when a large majority of the respondents are accumulated in a specific age group.

The immediate attention of the survey manager may be called by displaying a screen banner, by highlighting important data and/or by transmitting an SMS or other message to a mobile station of the survey manager.

The report is optionally continuously updated during the survey, such that the survey manager does not need to wait for the end of the survey for partial results. Optionally, the survey manager may stop a survey in the middle according to partial results and/or change questions of the survey based on trends or other gained insight. In some embodiments of the invention, the manager may change the attributes required from respondents and/or change the time of the survey, for example changing the hours in day the survey is applied or continuing it for a longer period. It is noted that the survey may be controlled differently in different locations. For example, the survey manager may define different hours for different stores according to their opening hours or may allow more lenient requirements from respondents in less busy stores.

**Evaluating customer traffic**

In some embodiments of the invention, in addition to receiving information from the survey questions, the number of people calling in to request to participate in the survey is determined and presented in the report. The number of people contacting may be used as an indication of how many people are currently in the location of the survey. In some embodiments of the invention, an indication of the relative people load is linked to the results of each survey and can be linked to the responses. For example, an indication of the
load can be linked to the answers to a question of the type: "did you receive fast service?". The report optionally indicates the percentage of people reporting slow and fast service for each category of people load.

In some embodiments of the invention, the relative load is used in determining whether to proceed in a survey, whether to change questions in a survey or as a trigger to begin a survey. For example, specific questions may be set aside to be asked when there is a large number of messages being received, which is an indication of load.

Optionally, in some cases, sign 110 may invite people to send SMS messages to server 154 at a time at which no survey is provided and the messages are used solely to evaluate the number of people passing.

**Network**

In some embodiments of the invention, the communications between cellular phones 60 and SMS server 154 is performed using standard cellular networks.

Alternatively to performing an SMS survey, the survey may be performed in a voice session either by hearing questions and pressing buttons (e.g., using IVR) or answering vocally in response.

Optionally, the survey may be performed using other transmission methods/protocols, such as WAP (wireless application protocol) or MMS (multimedia messaging service). Further alternatively or additionally, other communication methods, such as paging messages, email, IP, i-mode, HTML, Java, mobile applications, immediate messaging (e.g., ICQ or mobile IM) or other applets or any other communication method known in the art, are used.

In some embodiments a survey uses two-way messaging, chat and/or WAP push. In some embodiments, a survey uses a client side application (e.g., Java, Adobe Flash) and/or a server side application (e.g., using a browser).

It is noted that the pricing of some of the above methods may vary. However, in accordance with exemplary embodiments of the invention, even relative higher priced methods, with high set-up and/or data packet costs, may be utilized.

Alternatively or additionally to cellular phones, other mobile apparatus carried by individuals may be used, such as pagers, palm computers and portable computers. In some embodiments of the invention, the above described methods are performed using non-portable devices, such as home set top boxes or computers.

In an exemplary embodiment of the invention, an imager provided on the cellular telephone or other device is used to transmit a proof-of presence to a survey server, for
example an image of the point of survey and/or an image of a bar-code or other information.

In some embodiments of the invention, a plurality of surveys may be performed at the same location. When a first survey is completed, the next survey is immediately started, by displaying its unique code on advertisement sign 112. Alternatively or additionally, a plurality of advertisement signs 112 are used or a large sign which is suitable for a plurality of survey notifications is used. Further alternatively or additionally, a single advertisement is used for a plurality of surveys, with a list of specific surveys to which the advertisement relates and the unique ID code for each survey. Further alternatively or additionally, a single sign 112 displays intermittently notifications on two or more different surveys. For example, the display may change every minute or every ten minutes between the advertisements of the different surveys. In some embodiments of the invention, as discussed above, a single unique code is used for a plurality of surveys and survey server 154 selects the survey provided to each respondent.

SMS surveys are not necessarily performed with codes identifying locations. Rather, an SMS survey may be performed for a large range of people, invited to participate in the survey, for example on a television broadcast.

The respondents to the survey may be joined into a correspondent list (e.g., a brand community), optionally after asking for permission during the survey. In some embodiments of the invention, the respondents are contacted at later times for follow up surveys.

It will be appreciated that the above described apparatus may be varied in many ways, including, changing the layouts, materials, elements and structures used. It should also be appreciated that the above described description of methods and apparatus are to be interpreted as including apparatus for carrying out the methods and methods of using the apparatus.

The present invention has been described using non-limiting detailed descriptions of embodiments thereof that are provided by way of example and are not intended to limit the scope of the invention. It should be understood that features and/or steps described with respect to one embodiment may be used with other embodiments and that not all embodiments of the invention have all of the features and/or steps shown in a particular figure or described with respect to one of the embodiments. Variations of embodiments described will occur to persons of the art.
It is noted that some of the above described embodiments describe the best mode contemplated by the inventors and therefore include structure, acts or details of structures and acts that may not be essential to the invention and which are described as examples. Structure and acts described herein are replaceable by equivalents which perform the same function, even if the structure or acts are different, as known in the art. Therefore, the scope of the invention is limited only by the elements and limitations as used in the claims. When used in the following claims, the terms "comprise", "include", "have" and their conjugates mean "including but not limited to".
CLAIMS

1. A method of conducting a survey, comprising:
   displaying a notification on a survey at a plurality of locations, the notification in each location including a unique code different from the codes of the other locations;
   receiving, by a survey server, requests to participate in the survey with the unique codes from a plurality of mobile stations;
   determining, by the survey server, for each received request, whether to allow a holder of the mobile station to participate in a survey;
   conducting a survey, by the survey server, through the mobile stations whose holders were determined to participate in a survey;
   analyzing by the survey server responses received in the survey, so as to generate survey results; and
   displaying the survey results of the plurality of locations, by the survey server.

2. A method according to claim 1, wherein receiving requests to participate in the survey comprises receiving requests addressed to the unique code.

3. A method according to claim 1, wherein receiving requests to participate in the survey comprises receiving requests including the unique code in the body of the request.

4. A method according to claim 1, wherein determining whether to allow a holder of the mobile station to participate in a survey comprises determining responsive to one or more questions provided to the mobile stations.

5. A method according to claim 4, wherein determining whether to allow a holder of the mobile station to participate in a survey comprises determining responsive to demographic information received from the mobile stations.

6. A method according to claim 5, comprising analyzing by the survey server the demographic information received from the mobile stations, so as to provide a report on demographics of people in the locations.
7. A method according to claim 1, wherein conducting the survey comprises transmitting to the mobile station a sequence of at least three question SMS messages and receiving a response SMS message to each question SMS message.

8. A method according to claim 1, comprising providing a compensation which needs to be collected in the vicinity of the location of the displayed notification, to the respondents.

9. A method according to claim 8, wherein providing the compensation comprises providing a right to collect a compensation, which right expires if the compensation is not collected within a predetermined period shorter than a day.

10. A method according to claim 1, comprising providing to the respondents a compensation which allows purchasing a product related to in one or more questions of the survey at a reduced price.

11. A method according to claim 1, comprising changing the unique code at least once a day.

12. A method according to claim 1, wherein the plurality of locations comprise at least 50 locations.

13. A method according to claim 1, wherein the plurality of locations comprise at least two locations in a same building.

14. A method according to claim 1, wherein conducting the survey comprises asking at least one question whose content is tailored to the specific location.

15. A method according to claim 1, wherein conducting the survey comprises asking at least one question on a detail of the specific location and verifying that the respondent gave a correct answer to the question.

16. A method according to claim 1, wherein analyzing responses received in the survey comprises automatically comparing the results of the survey from different locations.
17. A method according to claim 1, wherein displaying the survey results comprises displaying partial results while the survey is being carried out.

18. A method according to claim 17, comprising changing one or more questions or parameters of the survey by a human survey manager responsive to the displayed results, while the survey is being carried out.

19. A method according to claim 17, wherein displaying the partial results comprises providing alerts on data rated in the analysis as interesting.

20. A method according to claim 1, comprising changing one or more questions or parameters of the survey automatically by the survey server, responsive to the analysis.

21. A survey system, comprising:
   a plurality of signs displaying advertisements including unique codes, inviting people to participate in a survey;
   a survey server adapted to receive messages, including the unique codes, from respondents requesting to participate in the server, to determine whether to provide the survey to each requesting respondent and to conduct the survey with the determined respondents; and
   an analysis unit adapted to analyze the responses of the surveys at least partially responsive to the unique codes provided in the received messages.

22. A survey server according to claim 21, comprising an advertisement controller adapted to control display of advertisements on the plurality of signs from a single location.

23. A survey server according to claim 21, wherein the advertisement controller is adapted to change the unique codes according to a predetermined scheme.

24. A survey server according to claim 21, wherein the analysis unit is adapted to display a comparison between survey results from different locations.
25. A survey server according to claim 21, wherein the survey server comprises an answer interpreter adapted to interpret a plurality of different responses to a multiple choice question as a single valid response.

26. A method of conducting a survey, comprising:
   transmitting to a mobile unit, by a survey server, a sequence of at least eight SMS messages including questions;
   receiving answer SMS messages, by the survey server, including responses to the questions in the sequence;
   repeating the transmission of sequences of SMS messages and the receiving of SMS answer messages, for a plurality of mobile stations; and
   providing a report summarizing opinions expressed by holders of the mobile stations, responsive to the received answer messages.

27. A method according to claim 26, wherein transmitting a sequence of at least eight SMS messages including questions comprises transmitting the same sequences to the plurality of mobile stations.

28. A method according to claim 26, wherein transmitting a sequence of at least eight SMS messages including questions comprises transmitting different sequences to different ones of the plurality of mobile stations.

29. A method according to claim 26, wherein transmitting a sequence of at least eight SMS messages including questions comprises transmitting responsive to receiving an SMS message requesting to participate in a survey.

30. A method according to claim 26, wherein each SMS question message is transmitted only after receiving an SMS message from the mobile unit.

31. A method according to claim 26, comprising interpreting the received answer messages in a manner which corrects errors in entering information.
32. A method according to claim 31, wherein interpreting the received answer messages comprises interpreting a plurality of different responses as relating to a single answer of a multiple choice question.

33. A method according to claim 26, comprising providing a compensation to the respondent.

34. A method according to claim 26, wherein the sequence comprises at least 12 SMS messages.

35. A method according to claim 26, wherein at least some of the questions in the sequence are determined before the request message is received.

36. A method according to claim 26, wherein at least some of the questions in the sequence are selected responsive to answers received to previous questions in the sequence.

37. A method of questioning a person, comprising:
   - providing a plurality of survey sets of questions relating to different subjects;
   - identifying a person willing to participate in a survey;
   - selecting one of the plurality of survey question sets to be provided to the respondent; and
   - conducting a survey session with the person based on the selected survey question set.

38. A method according to claim 37, wherein providing the plurality of sets of questions comprises providing sets which each includes at least five questions.

39. A method according to claim 37, wherein identifying a person willing to participate in a survey comprises receiving an SMS message from the person.

40. A method according to claim 37, wherein selecting one of the surveys comprises selecting according to a response of the person to one or more demographic questions.
41. A method according to claim 37, wherein selecting one of the surveys comprises selecting a survey having most particular requirements that the person meets.
Fig. 1

Survey SMS server

Analysis

Monitor

Advertisement controller

Answer survey SMS to 53732 with code 112ABC77 to get coupon at checkout

Checkout

Shop

Ages 40+

150, 154, 156

152

158

60

50
Fig. 2

1. Prepare survey
2. Display advertisement
3. Receive incoming messages
4. Allow user to participate?
   - Yes: Carry out survey
   - No: Repeat step 3
5. Generate report
6. Control survey
7. Carry out follow up survey
Fig. 3