

Methodology and research results essay examples

[Business](#), [Industries](#)



This study aims to answer the research question “ How can we identify, effectively manage, and communicate realistic expectations associated with perceived benefits and challenges derived from a newly-installed electronic medical record (EMR).” The most appropriate means for data collection for this research is the survey, and the method for data analysis is the chi-square statistic.

Sample

The survey method was utilized to collect primary data from the health-care industry population. These are individuals who are involved in the healthcare industry. The sample comes from two kinds of respondents; the industry participants and the non-industry participants. A total of 50 individuals answered the questionnaires; 30 from the health-care industry and 20 from the non- health care industry sector. They were randomly chosen by the researcher, and they filled out the questionnaire by clicking on the Survey Monkey link

Variables

This research makes use of categorical variables. The variables of the study, represented in each of the ten questions in the survey, are as follows: (a) industry participant; (b) non-industry participant; (c) familiar with EMR; (d) observed PHC use of electronic device; (e) proactive; (f) has access to internet; (g) comfortable with technology; (h) reduced interest; (i) willing to pay; and (j) believes EMR is secure.

Survey design

The survey questionnaire was designed by the researcher using a Survey Monkey template. The formulated questions resulted from a preliminary research about what influences acceptance of newly-installed mechanisms, such as EMR. Issues of security, privacy, and access to patient's personal records were also considered. The final document contains 10 closed-ended questions that are answerable by Yes or No. There are also spaces for additional information that the respondent may want to share. Respondents have to answer the questions online at the Survey Monkey site in chronological order.

The pros and cons of EMR are built into the questions. For example, question no. 5 asks

“ If you had access to your medical records in an electronic format would you be more

proactive in managing your personal health?”. Here, there is already a suggestion that EMR can contribute to the person being proactive. The negative side of the EMR is hinted at in question no. 10 when the question “ Do you think your personal information is secure if maintained within an Electronic Medical Record System?” is being asked. The negative aspect would be threat to one's security and privacy. More details about the contents of the survey questionnaire are discussed below.

Respondents' category. The first two questions are on employment status. These items identify whether the participants belong to the healthcare industry or not. Respondents who answered Yes to the question “ Are you employed within the healthcare industry?” are considered industry

participants. Those who answered Yes to the second question “ Are you otherwise compensated for your participation within the healthcare industry” are labeled as non-industry. Those who are contractors, temporary service provider, consultant product sales fall under the non-industry group. The survey uses these variables (industry and non-industry) as the main categories.

Benefits of the EMR. The next four questions (Questions nos. 3-6) in the survey focus on the benefits of the EMR. Familiarity, ease of use, and easy access are the usual advantages of digitized products and digitize devices. This researcher wants to investigate whether participants have the same experience and perceptions about the EMR. Question no. 3 asks Are you familiar with the term Electronic Medical Record. This question is meant to establish the focus; that the document being discussed is specific to the EMR and not any other document. The researcher is aware that respondents may have seen or even used the EMR but were not aware that such document was called an EMR. The question is included in the benefits question because awareness about a document is necessary before such document can be assessed.

The fourth question Have you observed if your primary health care provider currently utilizes a computer or other electronic device such as a tablet (ipad or similar device) to input data specific to your medical complaints during your visits focuses on the respondents knowledge about the capacity of other users to utilize digital gadgets. This question is meant to establish that the use of digital devices is already very common. If health providers are already using digital devices then they would not have a difficulty using the

EMR. Since the primary health care providers are already using gadgets as an aid during patients' consultations then using the EMR would only transfer that practice to a formal health system record.

The fifth question If you had access to your medical records in an electronic format would you be more proactive in managing your personal health?

looks into the effect of the EMR into the respondents' health management.

An answer of yes to this question will confirm that the EMR can facilitate an individual's better management of his/her health. The word proactive is included in this question to show that the EMR can make it possible for the patient to have a hands-on participation in his/her health management. In asking this question, the researcher wants to know if respondents have this kind of perception towards the EMR.

The sixth question is about access to the internet while the seventh asks the respondents if they were comfortable in using technology. These questions are meant to identify the status of respondents in relation to technology. The seventh question Are you comfortable using technology such as computers, smart phones and tables is both a benefits question and a challenge question.

Challenges to the EMR. The last four questions are aimed at getting the respondents perspectives about the common issues of EMR. These issues refer to acceptability, skills requirement, fees, and security. Security of personal information has often been a major concern with records, thus transforming these into digital form may make it susceptible to hackers and theft. However, placing these in digital form can also make it more secure since access is limited to those with corresponding clearances only. The fact

that the issue on security would always have convincing arguments on both sides makes the researcher include Question no. 10, Do you think your personal information is secure if maintained within an EMR system?, to determine the respondents' perspectives.

The acceptability of any new method often would look into the aspects of resources and time. How willing are the respondents to spend resources and time for the EMR? The ninth question asks the respondents: Would you pay an additional out of pocket fee to maintain access to your personal medical record in an electronic format? The eighth question asks: Would a prerequisite educational requirement, such as an online tutorial reduce your interest in electronically accessing your information? The respondents' answers to the last four questions in the survey instrument will provide data to the researcher about the challenges facing the implementation of an electronic medical record system.

Data Analysis

Once respondents have submitted the filled-out questionnaire, the researcher proceeded to the next step. This was analyzing the quality of the available data. Finding the chi-statistic is appropriate to the analysis of categorical variables, thus this was used. A Chi Square Statistic provides an objective comparison between the different variables. It makes use of the frequencies or the tallies for each of the question in every category. In this study there are two categories, thus the comparison would be how frequent do respondents belong to a certain category answer yes to the questions in the survey instrument.

The function of the chi-square statistic in quantitative studies is to determine

whether there are relations existing between the nominal variables. The symbol for the chi-square statistic is χ^2 and the formula is the following: It is actually a way of comparing the expected (E) frequencies and the observed (O) frequencies. The expected frequencies results from a calculation while the observed frequencies are the figures from the raw tables in the survey. When the differences between the E and the O become bigger, then it means that the data collected may be non-random. Before the chi-square is calculated, it is assumed that the figures are derived from random sampling.

A 2 x 2 contingency table is presented for each of the 8 variables namely (a) familiar with EMR; (b) observed PHC use of electronic device; (c) enables being proactive; (d) has access to internet; (e) comfortable with technology; (h) willing to spend time for tutorial; (i) willing to pay additional fees; and (j) believes that EMR is secure. Information for each table is specified in this sample.

Category 1 is Industry. This refers to those who answered Yes to Question 1 and no to Question no. 2. They are the ones who are employed in the health care industry. There are 30 respondents who belong to Category 1. The term Category 2 means Non-Industry. This refers to respondents who answered Yes to Question no. 2 and No to Question no. 1. There are 20 respondents who consider themselves not employed in the health care industry.

The purpose of the chi square is to compare the different variables. At the simplest, it compares the two data types in the two categories, thus, the 2 x 2 table. To calculate the chi square statistic in the 2x2 table, the following formula is used.

Results

A contingency 2x2 table for each of the variables in questions 2-10 is presented below.

The answers to this question were not limited to a yes or a no. Ten percent from the non-industry group and another 10% from the industry group either did not know the answer or expressed that they did not observe their primary health care provider. Thus, a look at Table 2 would show that the total number of respondents who answered no was 10 and those who answered yes totaled 35.

According to the majority of the respondents, (90 % of industry participants and 85% of the non-industry), the EMR would make them more participative or hands-on in managing their personal health. All respondents gave a yes or no answer for this item.

One hundred percent of the respondents have access to the internet.

Only one respondent or 3. 3% expressed that he/she is not comfortable in using technology gadgets from the industry participants. In contrast, 100% of respondents from the non-industry group are comfortable using technology such as computers, smart phones and tablets.

Additional time for tutorial will lessen the interest in the EMR of only 16. 76 % of respondents from the industry group. A third of those in the industry group (35%) are saying that having to spend additional hours to learn the tutorial about the EMR would definitely lessen their interest.

The results of Question No. 9 which are presented in Table 7 that the majority of the respondents are not willing to pay for additional fees to maintain access to their medical information in electronic format. Those who said no from the non-industry respondents comprise 75% of their group while the in the industry group, only 31 % was willing to pay an out of pocket fee to access their electronic records.

Table 8 shows interesting results between the two categories. In the industry group, more respondents answered yes to the question while in the non-industry group, more respondents answered no. The results showed that 55% of those from the non-industry believe that their personal information is not secure when placed in the electronic medical record system. The ones from within the industry feel otherwise because 69% thinks that the security of their personal information is not threatened by the electronic medical record system. However, despite being within the industry, there are still respondents who are threatened by the security issue and this is manifested by the 31% of the respondents who answered no to the 10th question.