

The Innovative Semi-Analytical Screen Survey Tool and Intermittent Screen Review Sampling Method Used Amid COVID-19 Pandemic

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Abstract

Hence the social life is changing and social interaction is amplified by technology. Therefore, social research would change its approach/es concomitantly. We are living in the age of technology where many people are interacting through social media generally referred to as a screen. Therefore, it is creating the need for innovative screen research methods to study and give meaning to screen interaction. Due to lock-down and restrictions on physical interaction during the COVID-19 pandemic, the screen interaction is intensified. Particularly the community-based organizations, businesses, and academia were observed prone towards using screen interaction approaches. Similarly an International Non-Governmental Organization hereinafter (INGO) in Erbil, Iraq. Started a Facebook page to interact with its beneficiaries to listen to their urgent needs and feedback to project activities. Based on that monitoring and evaluation unit observed a need to monitor screen interaction between organization and community. Hence, the innovative approaches of screen survey and screen sampling were identified. To conduct an intermittent screen survey it was important to select a relevant sampling method. In general, there are two schools of sampling in social sciences. Probability sampling and non-probability sampling. Under probability sampling, each individual has the right to be selected as a participant in a study. Under non-probability sampling, participants are selected based on certain criteria that are relevant to the domain of study. Both schools of sampling have many types and sub-types selected as per the specifications of a study. Therefore, the Intermittent Screen Review Sampling (ISRS) method was developed based on precedent theoretical work. The screen survey refers to the collection and analysis of responses of viewers of any specific social media page. Where respondents are not asked to participate or share their feelings or thoughts. Respondents voluntarily appear on the screen and interact with any post and reflect their thoughts. Henceforth, the surveyors collect these displayed thoughts intermittently, do some analytical work, and produce meaning out of these emojis, shares, memes, and comments. Quantitative and qualitative analyses were conducted within the context of the post/s shared by authorized person/s on a social media official page. Thereafter, the results were presented in quantities and narrations. This research paper is developed to communicate these innovative approaches of semi-analytical screen survey and intermittent screen review sampling at a wider level. This research would pave a way for further screen studies and innovations that are the needs of our screen generation.

Keywords: screen survey, screen sampling, social media, operational research

1. Literature Review

Studying online is more easy and economical. Millions of students around the world access online literature every day. Hence, the electronic use of knowledge is increasing. Therefore, new methods of structuring the knowledge are needed to be introduced. Increasing the use of electronic text requires some important changes to make it comfortable for users. The most frequent issue with electronic text is its frequently moving nature (Kreutzer and Kircz, 2013). Hence, we are in a transitory phase of moving towards screen generation. There are some pieces of evidence to show that young students in universities still prefer the printed books. Because they feel that these books are more detailed and easy to read as compared to screen literature. (Walsh, 2016) the universities that want to equip their students with critical thinking are required to develop libraries with printed books because long textbooks are detailed and in-depth. There was another study published in the same year that is contrary to discussed evidence that has supported the printed books. (Nicholas, 2016) published a research paper that suggests that there is no difference in learning by reading the literature in printed form or on screen. Albeit, it is not only about screen reading. Screen interaction is also increased among the young generation. Referring to the work of (DeWeese, 2014), students have their cell phones with them always and keep texting for many hours. Among the cell phone users, 93% of students respond to texts swiftly. The majority of students who were users of Facebook feel disconnected in their social circle. Hence, the use of the screen and social media is increasing everywhere but there is some evidence showing negative impacts of screen usage on the mental and physical health of

children and youth. For children 2 to 5 years it is important to limit the use of the screen and should avoid using it one hour before going to bed (Canadian Pediatric Society, 2017). The use of cell phones and the internet is not restricted by family income. Middle-class families are also frequent users of the screen and social media. A study was conducted by an American organization (Campaign for Commercial Free Childhood, n.d.), the study says that the youth of middle-class families are frequent users of cellular phones. Due to the increased number of users, social media became the most powerful tool to communicate with the masses. It is being realized by business and academia. (Eskandari and Sharifabadi, 2021) universities need to promote communication on social media to reach out to students around the world. There are many studies to support evidence-based suggestions for academia to communicate through social media. The use of the screen and the internet is not only getting popularity in studying, communicating and amusement. The concepts of online research and survey are also increasing. Hence, it is an easy, economical, and safe way to access information remotely. Internet devices have made it easy to interact globally within seconds. Young people around the world are active to use the internet and internet devices. These young users of the internet are agile and comfortable to respond to screen surveys. (Callegaro, 2010) while designing an online survey we need to make it completable for mobile devices. Hence the majority of respondents would prefer to use cellular phones to respond to the survey. Albeit, web surveys require special skills in developing data collection tools. The study suggests that putting fewer and specific options increases the number of respondents and quality of responses (Toepoel et al, 2009). Albeit, the screen interaction still to fuse with the existing culture and personality development. Real-self, self-perception, and self-disclosure in the age of social media are frequently under-debate topics. Referring to the work of (Edwards et al, 2021) people often interact with more than one person at a time on social media sites. With remote interaction based on likes and dislikes of different persons as they share on social media has changed the scope of self-disclosure. Before remote interaction through social media sites, self-disclosure occurred within small communities. Hence, the changing means of communication has consecutively changed the means of interaction and cultural perception. Though the COVID-19 pandemic has a variety of diverse effects on health, socio-psychological life, and economic activities. At the same time, it has added in remote communication and the use of screens around the world. Many institutions have not only started work on developing remote marketing but remote research of products is also increased. (Skedsmo and Huber, 2020) universities have started online remote assessment of students. Hence, it is a new approach therefore universities are facing many challenges to organize online assessments of students. A tool of self-assessment could serve a better purpose in the online evaluation. Albeit, designing the tools for web-based surveys is still a challenging task for social researchers. Referring to the work of (Gonzalez-Banales and Rodenes, 2007), for a surveyor, it is important to know the characteristics of respondents before developing a semi-structured online questionnaire. Apart from developing the questionnaire, the consideration of research ethics while the online survey is also an important task. (Nonnecke and Pearce, 2003) while conducting a screen survey researcher may violate privacy policies set by the online communities. Hence, this study was focused on the review of expressions of viewers to the Facebook post of an organization. Therefore, strong consideration was paid in designing the data collection tool. The innovative semi-analytical screen survey tool was developed. The responses were not collected from the individuals. However, the expressions of viewers on-screen were recorded. Those were already given to the Facebook post therefore informed consent was not applicable. To consider confidentiality individual names were not recorded. To avoid focusing on individuals an innovative intermittent screen-review sampling method was used. Details of designing these innovative tools and appropriate use thereof are outlined in the following chapters of this research paper.

2. Field Experiment

The experiment was conducted using a survey research approached. (Frank, 2007) the survey is the most often used approach of social research to empirically describe the social and psychological characteristics. Hence, the experimented survey tool was not only quantitative rather it was a mixture of qualitative and quantitative data. However, under survey research, it is not necessary to focus on quantities only. Referring to the work of (Anilkumar, 2014), the surveys are conducted to describe, record, analyze, and interpret the information provided by respondents. Therefore, the survey could be quantitative, qualitative, or a mixture of both types of data. Hence, the survey was conducted on-screen, and recorded data were related to expressions of viewers in comments and emojis. Therefore, the data collection tool was semi-structured to provide room for data collectors to record all possible expressions of viewers against the post. Most often the survey tools are semi-structured with possible questions and options against each question. Hence, for the surveyor, it is important to have precedent knowledge of respondents and the topic under study (Nicolas, 2000).

Sampling design;

Intermittent Screen Review Sampling hereinafter (ISRS) is theoretically related to the Experience Sampling Method (ESM). Referring to the work of (Reed and Mihaly, 2014), an experience sampling method is asking people to provide their self-reports at random occasions during the waking hours. Albeit, the ISRS is different from ESM in the domain of focus. Under ISRS we study the self-reports of the individual as they share voluntarily on-screen/social media. Albeit,

under ISRS we don't focus on individuals, the domain of our study is the social media page/screen at a specific period. Hence, we don't refer to ISRS as random sampling rather we used the term intermittent that refers the randomness as per time scale. Under ISRS we study a defined official social media page intermittently during a week or a day for 15 to 30 minutes per period and study all the responses as a cluster. Under ISRS after collecting all responses during a period we analyze them in averages, percentages, and numbers. To develop an ISRS sampling grid we don't use the number of individuals rather we use the number of monitoring periods. Theoretically, the ISRS has somehow relevance with purposive sampling. Referring to the work of (Plays, 2008), purposive sampling is used when respondents are pre-defined. Hence, under the screen survey, our respondents were the user of our services. Albeit, if social media post is open for everyone and random people also interact with the post. Those are not the users of the project's services then these would be considered random. Hence in that case sampling would not be falling under the theory of purposive sampling. Therefore considering the rare cases, we may say that ISRS is a semi-purposive sampling method. Like purposive sampling, ISRS is also used in the field of operational research. Referring to the work of (Kulej, 2011), the operational research approach is used to study a project or operation in its context.

ISRS Sampling Grid;

Name of screen/social media page	Specific period of the survey	Number of surveys	The overall period of all surveys
Facebook	15-30	4	One week
LinkedIn	15-30	2	One week
Twitter	15-30	3	One week
Instagram	15-30	2	One week

Development of Screen Survey Tool;

Section-1 Introduction.

Semi-Analytical Screen Survey Tool for Remote Monitoring of Official Social Media Page/s			
	Date (DD/MM/YY)	Time (00:00hrs)	Name of surveyor
	Designation	Location/Office	
Name of Social site	(Facebook, LinkedIn, Twitter, Instagram, etc)		
Name of Page	(Full name of the official page)		
Link	(http://example.com)		

Section-1 covers the basic information about the organization's official social media page and the name of the social media site. The information about the surveyor, date and time of the survey, and office of the surveyor, and the link for the social media page. This information is not to be reported. This would be used as evidence of survey activity. Hence, the people voluntarily post their responses on social media. Therefore, it is not important to ask for consent. Albeit, the survey report would not disclose the names of reviewers along with their reaction to the post being surveyed. The survey report will focus on quantities and narrations of screen expressions rather than denoting these as individual responses.

Section-2 Relevance with the project.

Project name	(The project responsible/ authorized for posting official contain.)
Indicator	(Specific indicator related to that post.)
Content of post	(Copy original post, if the post is a video or photo then given narration.)

Section-2 of the screen-survey tool covers the specific information about the project and the indicator against which the

information was posted on social site/s. This information would be part of the survey report. Hence, for any operational study, it is important to display the results against indicators of operation or project. Albeit, in this research paper analysis of section-2, is not presented because it is the official property of INGO for which the survey was being conducted.

Section-3 Viewers’ Interaction.

# of likes	(Total number of likes at the moment when the post was surveyed.)										
# dislikes	(Total number of dislikes at the moment when the post was surveyed.)										
Explain the types and number of emojis											
Emoji											
Number											
Emoji											
Number											
# Comments	(Total number of positive, negative, and interrogative comments, at the moment when the post was surveyed.)										

Section-3 contains the quantitative data in numbers that would be analyzed in percentage or average. This section is designed to collect data regarding likes, dislikes, comments, and emojis expressed to the specific post under study. Some emojis are default at each social site but the people are using smartphones and they often post different emojis in comments. Hence, it is important to collect all emojis including those posted in comments.

Section-4 Semi-analysis of comments.

# of supportive comments	(Total number of supportive comments at the moment when the post was surveyed.)
# of comments against the post	(Total number of discouraging comments at the moment when the post was surveyed.)
# of query	(Total number of questions asked to explain the post, at the moment when the post was surveyed.)
Explain key supportive comments	(Please do not use copy-paste considering the ethics of social research. Narrate in your own words and summarize what was the focus of supportive comments.)
Explain key comments against the content of the post	(Please do not use copy-paste considering the ethics of social research. Narrate in your own words and summarize what was the focus of negative comments.)
Explain key questions raised	(Please do not use copy-paste considering the ethics of social research. Narrate in your own words and summarize what was the focus of interrogative comments.)

Section-4 is a semi-analysis of comments expressed by reviewers. This semi-analysis would be further put into analysis to produce contextual meaning against the post. These narrations would be used to write the discussion chapter of the survey report. Albeit, these comments are not narrated and analyzed in this research paper considering the organization’s communication policy.

3. Data Analysis

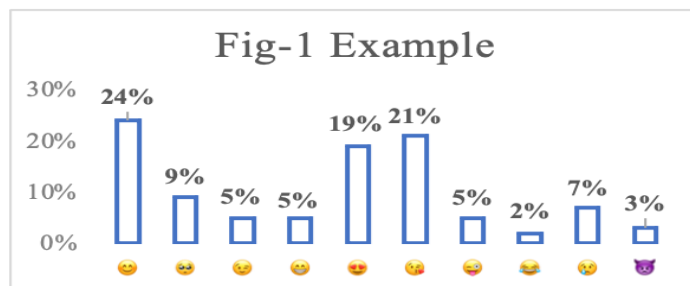


Figure-1 depicts the bigger pillar for smiley emoji and smaller pillar for laughter emoji expressed on screen. After smiley, the most frequent emojis expressed to the post were loving and kiss. The overall analysis of emojis in figure-1 is showing the supportive screen-interaction of viewers to the specific post under study at the official Facebook page of the organization.

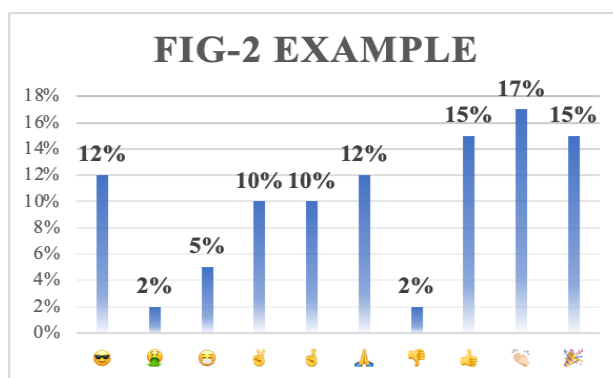


Figure-2 display the variety of less expressed emojis. As per figure-2, 17% of expressed emojis were clapping to the post that was the highest percentage as surveyed at a specific period. Albeit, 2% of expressed emojis were vomiting and thumb-down. The overall analysis of emojis postulated that screen-contentment was higher as surveyed at a specific unit of time using the ISRS method. The middle ranged emojis were victory and fingers-crossed. That means nearly half of screen-viewers are anticipating for better future against the shared post on the official Facebook page of the organization.

4. Conclusion

Under this study, the data were not solicited from individuals however the data were already expressed by individuals. The surveyor has gathered and analyzed the shared data. Gathered data were specifically reported as screen expressions. Experimented semi-analytical screen survey tool was proved good enough to study screen-interaction among post and viewers. Social media has created a novel medium of live interaction among people. Hence, social media has developed a reflexive form of interpersonal interaction. Therefore, a screen survey approach was applied using the intermittent screen review sampling approach. Where responses/expressions of viewers were analyzed in cluster and primary focused unit of study was a unit of time. Albeit, the authenticity and/or reliability of expressions by viewers was as fragile as the realness of social media or the screen itself. In this particular study, the screen survey and screen sampling were used in replacement of hotline numbers to communicate with project users. This approach would undergo further adaptations with frequent utilization by different researchers across the world. Albeit, this would be denoted as the commencement of somehow novel screen survey and screen sampling methods for screen studies henceforth.

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