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Data collection by proxy and efficient decision-making in organizations: methodological issues

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THEME: EMBRACING
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VICTOR OLUWAGBEMIGA (MNSE, RENG, COREN, MUAS) &
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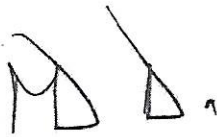
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FOREWORD

This international conference which is the first international conference at AFIT provides a forum for researchers from both the academia and industry to share their recent research contributions and exchange knowledge with the common goal of shaping the future. Additionally, it provides attendees with unique opportunities to expand their network beyond their immediate professional environment and serves as a unique window to work with other accomplished individuals from diverse areas but particularly with emphasis on Science, Technology and Engineering disciplines.

In this conference, a total of 35 well-written and rigorously peer-reviewed papers have been slated for presentation at different sessions of the conference. The various papers seek to among others identify key challenges associated with technological diffusion and sustenance in both developing and developed countries. The theme and sub-themes of this conference reflects the global technological needs required to enhance service deliveries and industrializations.

It is hoped that, the meticulously selected papers for publications and presentations would increase the knowledgebase and intellectual capacities of readers and listeners.



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DATA COLLECTION BY PROXY AND EFFICIENT DECISION-MAKING IN ORGANIZATIONS: METHODOLOGICAL ISSUES

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Keywords:

Data Collection, Data Collected, Decision Making, Decision Process.

ABSTRACT

Conduct of researches associated with fieldwork is challenging due to uncertainties that has to do with lack of instruments. In humanities, social science and sciences, fieldwork is of paramount importance because researches in these areas rely on descriptions and validations of experimental primary data source. Recently, field-based researches have even faced more challenges especially with the advent of corona virus pandemic that has necessitated remote engagements, forcing people to live and work from their locations. This has led to outsourcing of data collection process with difficulty in validating the veracity of the data acquired. Therefore, this research assesses the limitations of existing data collection methods and proposed strategies with its impact on the decision-making process.

1. INTRODUCTION

"Data collection is a phase of scientific research for which the researcher must define the technique and / or tools that will be used mainly in empirical research. They constitute means of understanding the perception and seeking information contained in the discourse of the research subjects [1]. It is an essential phase of an empirical study or research work during which the researcher collects information that will be analyzed to confirm (or not) initial hypotheses, and respond to a problem. It can be done using a number of techniques and helps the researcher understand the phenomenon, fact, or topic they are studying. Among other techniques, we can cite: interview, observation and field investigation. Among these techniques, observation and investigation requires a field of study. However, it happens in certain circumstances that there is no more ground on which the researcher can carry out his research and it is this aspect that is of interest in the context of this paper: The question borders mainly on how to conduct fieldwork-based research when there is no field to execute data collection or when the field is dangerous? [2]. In conflict zones and more recently with the advent of the corona virus pandemic outbreak, researchers have found other means of data collection whihc mainly deals with

outsourcing the data collection process to private organizations. However, in the decision-making process described by Falque and Bougon [3], "it is the information available that guides the decision" The researches documented in [4], [5] questioned the credibility of data acquired through outsourcing. The questions are : what credit can be given to the information resulting from such research? What would be their impact on the decision-making process? What would be the methodological challenges? These are the questions this research seeks to address. To execute this research work, an exploratory research approach based on participant observation and surveys of researchers were analyzed with particular emphasis on period of the pandemic. From a theoretical point of view, the model(s) of delegation of data collection in the field will be reviewed with respect to effectiveness on decision making process.

2. RELATED WORK

The term field in itself is not neutral [6]. As Bertrand Pulman [7] rightly points out, it is borrowed from military vocabulary and therefore primarily designates a place where various clashes

take place. Far from raising any ambiguity, Pulman [7] draws our attention to a fundamental dimension linked to empirical research. Entering a field on which we have the ambition to conduct ethnographic researches leads to contact, even in conflict, with possible or potential respondents but also with cultural codes that we do not have. Confrontation is therefore inevitable. It has several facets. It involves entering into a confrontation with people, ideas, visions of the world. But more precisely, it asks to curb the paradox between distance and proximity and requires constant work on oneself, which can be a matter of confrontation in itself.

In the decision-making process, it is the information available that guides the process and choice for solving a decision-making problem [8]. Of the four decision models recommended by Falque and Bougon [9], the rational approach is preferred because, it allow information to be more efficient (as appropriate as possible to the problem at hand) by stripping it of all external constraints. The rational approach based on an economic view would require that when a problem is posed, all possible options are identified, prioritized, evaluated in terms of consequences and then optimized. However, some authors [10] have expressed reservations in achieving the objectives if the infringement is truncated, incomplete or erroneous due to differences or simply unwillingness of the actors. The satisfactory choice, on the other hand, is a familiar pattern, determined by the anticipation of future events by the experience of past ones. In other words, we use experience to try to anticipate the future. Indeed, Tsoukias [11] estimated that if decision makers are in doubt about the consequences of an action, they can comply with the criteria given by the model and conversely, the unforeseen results of a decision will be used to redefine the criteria for decision-making. However, in this approach, it is clear that the problem arises at the level of the collection of this information. If the source or origin of the information is not certain, the information will be truncated and the results will be biased. At the moment, it is not the sum of experiences that is strength but rather the ability of individuals to make use of them [12].

3. RESEARCH METHODOLOGY

In their work, Falque and Bougon [13] have already questioned this notion of "rationality" in decision-making. So it is true that, to decide we need relevant information. The relevance of information is defined in its ability to solve the problem that triggered its research [14]. However, we never have "complete" information. When making the decision, according to the rational approach, the decision-maker should assess each option by associating it with an acceptable level of risk. However, in order to be completely achieve the rationalization, the information must be perfect. Hence the notion of "bounded rationality" named by Herbert Simon [15]. In the broad sense of the term, rationality may relate to the way in which the individual, subjected to certain conditions and constraints, will analyze and act to achieve the aim.

The descriptive approach starts from the fact that to decide, you have to understand and to understand, you have to observe and analyze. One way or another, intelligence relies on the process of observation. Decision-making then takes place after understanding its environment. But what about when one cannot observe and entrust the task of observing to someone else? What results can we expect? How effective would such a decision be?

The study mobilizes a group of twenty (20) teacher-researchers who continued their research during the high period of confinement, between March and June 2020. But also teacher-researchers in conflict zones in northern Cameroon and in the so-called "Anglophone's zone" (North-West and South-West) of Cameroon were included in the study. These are divided into two (2) groups: those who were unable to move because of the confinement and those who could not move because of the fragility of the research field. The two groups have opted for the delegation of data collection to organizations specializing in information collection such as "Media Intelligence (MI)". MI is a company that "put in place a decisional information-tracking-currency which allows one to build the most complete and updated database in diverse business sectors including finance, media and telecommunications in order to guarantee the competitiveness of clients". The

questionnaire survey method was opted for in this study [16]. Its epistemological anchoring is in line with the exploratory study of the research aim, which is to understand the process of delegating data collection and their effectiveness in decision-making [17]. This investigation is set up when all countries have decreed containment as a means of preventing contamination and spread of the corona virus.

However, the questionnaire survey technique cannot be used on its own because of possible biasness about the "real facts". Indeed, [18] thinks that the answers expressed by an individual are independent and more importantly, they are dependent on the subject of the question which is directed by the interviewer. All depending on what the latter wants to highlight or research on. In order to meet scientific criteria and reduce influence effects, the questionnaire method was supplemented by individual interviews [19], [20] and observation. The questionnaire was completed online using a form created on "google form" and made up of 12 questions consisting of 10 closed and 2 open ended questions which gives the respondent the opportunity to present opinions. The 2 open ended questions led the researchers to deepen their questioning in the analysis of the phenomenon (the effectiveness of data collection by delegation in decision-making) by confronting them with observation and allowing discussion before conclusions.

In the 1970s, researchers [21], (Douglas & Johnson, [22], [23], [24] discovered possible effects of the participant observation method. These include: - The risk of becoming "native". Indeed, the researcher immersed in the group risks losing his objectivity and no longer wanting to criticize the social group in order to maintain links; the risk of influencing the behavior of the observed social group, Being able to observe oneself can lead the members of a group to change their behavior in order to adapt to the study. Furthermore, the risk of being dominated by personal preferences in data collection also plays a part. To ensure reliable data, "triangulation" is advocated for in data collection. This method would ensure "that a researcher does not allow himself/herself to be dominated by personal preferences in the manner of observing and

recording experiences" [25]. For Cohen and Manion[26], triangulation consists of "implementing several approaches to collect data for the study of human behavior. The multiple-method approach thus attempts to reach the complexity of human behavior by studying it from more than one point of view "[27] with regard to the complexity of human character. The latter, for various reasons, can direct the information to be collected and thus, the results can be bias. This method involves multiple members of the research team collecting data on the same event to ensure variety of perspectives in the observations. To do this, certain research colleagues were consulted to help with the observation by entrusting them with some of the respondents. Once this, data was collected by colleagues and compared with those that initially collected. The cross-referencing of data from the participant observation and the interviews was done on a database software, following the model of a classic data entry. On one hand, the identification of the group of researchers surveyed the data and on the other, the different reactions. A numeric field has been created for each sub-topic. A numeric code assigned to each response element will thus reduce the data collected. The behaviors judged to be identical between the different observations are grouped together in the same categories and therefore the same code. These then represent the different reactions / behaviors of the individuals observed. Here, the analysis consisted of identifying the trends in reactions relating to the various research themes and to aggregate them into unambiguous categories [28]. The aggregation of the behaviors carried out by a descriptive statistical analysis, provided the tables of frequencies of the modalities of the various corresponding variables.

4. RESULTS AND DISCUSSION

20 feedbacks were received out of the 20 expected responses for a percentage of 100%. Below is the breakdown of some of the answers to the closed questions.

Question 1 was designed to determine which faculty or school the respondent came from. The different universities concerned are: University of Yaoundé 1, University of Yaoundé 2, University of Maroua, University of Bamenda, University of Buca.

Question 2 allows you to know the type of difficulty in the field: the answers emerge: - Terrorism and the war against Boko-haram in northern Cameroon, - The unrest in the North West and South West of Cameroon, containment induced by the corona 19 pandemic.

Question 3 makes it possible to know in what form the researcher was able to carry out his research in the field. Two main ideas emerged from the responses: - Online survey (9/20) or 45%, Data collection delegation (11/20) or 55%.

Question 4 showed the satisfaction rate of the responses received. The majority of researchers who have opted for online surveys are satisfied with the results. "When asked why this success rate, it turns out that the online questionnaire researchers were satisfied because it was they themselves who designed the questionnaire and oriented the questions according to expectations. On the other hand, the others, not being in the field, could not adjust the questionnaire and the choice of the sample was too complex in view of the situation.

The study highlighted the difficulty in delegating data collection and the relevance of the information collected. Relevance is measured by the capacity of the information to solve the problem that triggered the information search. Since it is the decision-maker who judges the relevance of the information, it is logical that it is the latter who guides its collection. However, the understanding of the problem is not necessarily shared (sharing the problem does not mean that its understanding is shared) [29]. Everyone analyzes the problem according to their skills and abilities. This is influenced by external parameters such as the environment. Therefore, the researcher must at all times adjust to his environment.

Eric Jean [30] highlights some issues related to online data collection :

4. 1. ETHICS

Kraut et al.[31] believe that, the use of the Web can change the nature of risks and the researcher's ability to assess them. For example, it may be more difficult to gauge people's reaction to the study when collection takes place online. Likewise, identifying participants and providing assistance when needed may require specific measures to be put in place. The researcher must pay particular

attention to the collection process in order to adapt it to the requirements of the regulatory body concerned, particularly with regard to data confidentiality and security [32]. This implies that the use of the Internet requires an adjustment of the collection procedures, in particular for the consent of the participants and the assistance offered, particularly when the participation is anonymous.

4. 2. DESIGN

The Internet and the many computer tools available make it possible to carry out large surveys at little cost. This democratization of the process has led to a proliferation of online questionnaires and it can be very difficult to distinguish scientific studies from other surveys. Therefore, the design of the web questionnaire must be careful and adapted to the research objectives [33]. In a context of increasing online surveys, the success of this method depends on the willingness of the people contacted to participate in the research and their motivation to complete the questionnaire. One of the elements taken into account in the decision-making process is the expected duration of the questionnaire.

4. 3. SAMPLING

A major concern is the representativeness of the sample and the generalization of research results. When a collection is distributed freely on the Internet, it is practically impossible to calculate the number of people who were informed about the research but not participated. Even when invitations are emailed to every potential attendee, tracking the invitations (messages sent, received, opened) is technically difficult. Additionally, when the sample is made up of volunteers, participants may be more interested, informed, or concerned about the subject of the study than non-participants. As with mail-in questionnaires, using the Web does not ensure that the respondent who completed the questionnaire is the individual solicited or an eligible person [34]. Even when an access code is provided, it is very difficult to certify that the participant is the original recipient.

4. 4. MEASURE

The use of an online questionnaire necessarily raises the question of the equivalence of a measuring instrument when it was originally designed in paper-and-pencil format [35]. In this

regard, some research has shown that the use of the Internet makes it possible to preserve the psychometric qualities of various measuring instruments used in psychology and management. However, the transfer of a paper-and-pencil version to the Web limits the researcher's ability to exercise control over external elements that may influence the conduct of the test. It is therefore prudent not to take for granted the maintenance of one's psychometric qualities. Equivalence should be demonstrated when deemed necessary by the researcher.

The other way to think about collecting primary data in difficult settings is through third parties. In areas that are difficult to access, this practice is fairly widespread in anthropology, yet this device raises a number of methodological and ethical questions: how to build such a partnership? How far can the researcher go in handling data collected by a third party? How to value this collective work at its true value, without frustrating the work of collection or undervaluing the analysis? The lines of thought are still blank on the subject. However, the anthropological approach as well as the decision-making based on a significant personal investment in terms of data production, the evolution of collection practices, especially when dealing with dangerous and / or difficult to access areas, must be documented.

4. 5. DECISION-MAKING

Data analysis and management is a process that tends to transform data by giving it meaning in information that humans can use to make effective decisions. It is known that data is just the starting point. Data needs to be analyzed, transformed into information and made accessible to the user. The data must also meet varying needs and profiles and be understandable by various audiences. The value of data lies in the story it tells and the source must be relevant and reliable. After collection, the data must be evaluated. Assessment is a process that aims to determine as systematically and objectively as possible the relevance of the aim, the efficiency of the resources used, the effectiveness of the design and implementation works in the process, the sustainability of the results and / or the impact of a program or intervention. The evaluation aims to provide valuable management data, judging from the value of a decision. Data

should be used primarily to inform decision-making, which takes place at several levels - from the programmatic level to the policy level. Decisions are made at all levels of a program and by all program stakeholders. Therefore, each stakeholder requires different information and data in order to be able to make informed decisions. It is important to have discussions with all parties and stakeholders from the beginning of the programme so as to fully understand all decisions taken and the information required to guide those decisions.

5. CONCLUSION

It emerges from all of these that the "field" turns out to be methodologically and epistemologically, of primary importance for the social sciences when they are conceived of as empirical sciences. It forces respect for what it is. This is not just for ethical reasons, which would be fairly flat moralism, but for fundamentally epistemological reasons. It depends on the correctness of understanding and claim to hold a learned discourse on the social. This has many consequences in the way of seeing scientific production, its procedures and objects are of ontological status.

If the notion of proxy investigation deserves some attention, it is not only because it makes it possible to solve, in part, certain problems of access to information produced in the field but relates to the decision-making process. Indeed, in recent years, the physical distance between "the field" and "the university" has been dramatically reduced by the tremendous development of electronic means of instantaneous communication.

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